

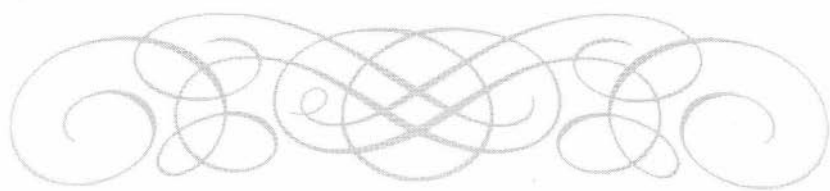
John Brookfield

The Grip Master's Manual



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IronMind Enterprises, Inc.
Nevada City, California

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The Grip Master's Manual

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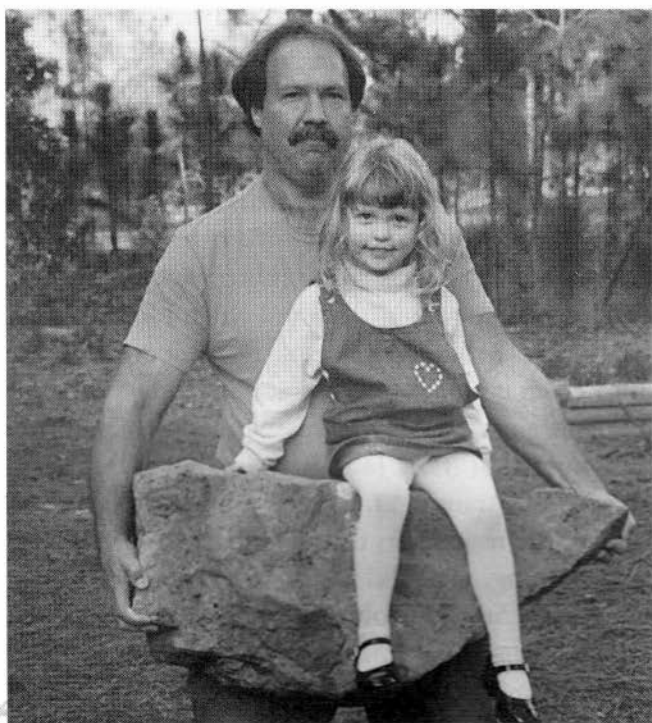
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This book is dedicated to
my Lord and Savior Jesus Christ.

And whatsoever ye do, do it heartily, as to the Lord, and not unto men.

—Col. 3:23 (KJV)



John Brookfield and daughter Heather.

About the Author

One day, a little over a decade ago, I got a call from someone named John Brookfield, who introduced himself as a professional strongman. John said he had heard that we sold heavy-duty hand grippers, and since he was something of a grip specialist and had set the goal for himself of developing the world's strongest set of hands, he wanted to get some of our grippers. John went on to become the second person in the world we officially recognized as having closed our No. 3 Captains of Crush® gripper, but much more than that, he has established himself in our minds as a foremost authority on grip training. Of course, John is no armchair expert, as he comfortably inhabits the top echelons in the principal forms of grip strength, and without question he also has uncanny wrist strength: quite simply, John is the best in the world that we know of when it comes to bending short objects, such as spikes. John has put on countless shows in his professional strongman career, and in a field that has had more than one charlatan, John is the real McCoy.

Despite all of his accomplishments in the strength world, there are three other things that immediately come to mind when I think of John Brookfield. First, John is absolutely one of the most creative minds you will ever run into when it comes to grip training, and while some people are content to pursue a monkey-see-monkey-do approach, or to gripe instead of grip, or to talk instead of train, John is always out there developing something new and is steadily training, training, training. This passion, we have always felt, is one of the real secrets to John's success, and through this book on advanced grip training, as he did with *Mastery of Hand Strength* and *Training with Cables for Strength*, John will share many of his ideas with you. When you read *The Grip Master's Manual*, you have a rare chance to learn from someone who knows what he's talking about and who practices what he preaches.

Second, when he comes up with something new, John doesn't require a million dollar budget for his equipment, and I have kidded him that for a guy who gets so much use from duct tape, he should get a fat advertising contract from a big tape manufacturer. The good news here is that you won't have to break your budget to train the Brookfield way, so lack of money will never be an excuse for you.

Third, John has the integrity to admit when he's wrong, as he did about originally saying that it was impossible to burst soda or beer cans. Realizing that it could be done, he himself became extremely proficient at it—and he'll tell you how to do it here. I feel this speaks volumes about John's character, and makes it even easier for us to tip our hats in John's direction.

Pull up a chair and make yourself comfortable, because as we've always said, John will make you feel as if you're sitting around the kitchen table talking to him, and get ready to take your grip to new heights by putting his ideas to work in your own training.

Best of luck.

Randall J. Strossen, Ph.D.

President

IronMind Enterprises, Inc.

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IMPORTANT!!!

Lifting weights and related grip activities are potentially dangerous, and you use the training information in this book solely at your own risk. Always use your head when you are training: learn what to do and how to do it properly and always follow the generally accepted principles of safe training.

You alone know your own physical condition and capabilities and whether or not the activities in this book are appropriate for you. If you have any questions, please consult your doctor.

Table of Contents

Introduction	xii
Chapter 1: Getting ready	1
. Training frequency: how much and how often	2
. Challenging the myth	6
. Hand health: helping hands	9
. Toughening the hands: dos and don'ts	12
. General training for functional strength	15
Chapter 2: Advanced lower arm and grip training	25
. Weight toss: a secret weapon for arm and wrist strength	26
. Roll-ups: developing your entire range of motion	30
. Ball rotation: taking your grip to a new level	33
. Bar twirling 101: great wrist, hand, and thumb developer	38
. One-finger lifting: history and how-to	42
. The art of sand blasting: unique total lower arm training	46
. The investments: reaping big rewards in hand strength	49
. Standing finger tip lifting: impressive work	54
. Lever lifts plus grip work: a new strength equation	56
. Hand blasts: developing the explosion	60
. Work those extensors: for total hand strength	63
. Grip work with tubing: building bending strength	68
. Captains of Crush® grippers: climbing the mountain	71
. Other grip devices: making them work	75
Chapter 3: Advanced grip challenges	79
. Just for fun: can you do this?	80
. Bursting soda cans: making a big splash	83
. Tearing tennis balls: serving up lower-arm strength	87
Chapter 4: Steel bending	91
. Bending steel bars: the elite grip master's tool	94
. Scroll work: bending bars into artistic shapes	101
. Iron coiling: world record style	105
. Horseshoe bending: mastering a classic feat	109
. Card tearing: dealing yourself a strong hand	113
. Bending nails: conquering the 60-penny	115
Summary	120

Introduction

The *Grip Master's Manual* is the culmination of my twenty-plus years of experience when it comes to developing functional lower arm strength. Included are a wide variety of advanced grip-building exercises that you probably have not heard of before or tried in your own routines. Most of the exercises and drills in this book have been invented by me, through my own trial and error. As many of you know through my writing, I try every conceivable idea to gain strength and endurance, and I field test every exercise myself for a while before I show anyone else. These exercises and drills are tested for results and safety. Only after they have passed my tests, do I bring them to you to enhance your performance.

These new exercises are fun and challenging, and it is important to have exercises in any routine that are different from the normal ones. If you don't stay motivated with new challenges in your routines, you quickly become bored, and once you become bored, your progress slows down. A combination of proper training and the right attitude will give an athlete the consistent results that we all desire.

To make progress, you must have a passion for life and the goals you set. You must be excited about working toward your goals and stay motivated. This is why I have presented different challenges in this book. These challenges are not only difficult, but also fun to work toward. I get so many calls and letters from people telling me how they have just accomplished or are right on the verge of accomplishing one of their hand strength goals, and they need a few words of encouragement. A lot of people have the need for hand strength because of their job or profession, or for rehabilitation. A lot of people also have a plain passion and excitement for making their hands stronger. Whatever your reason, I have tried to make this book fun and exciting as well as useful for meeting your goals, no matter what they are, with hand strength. Remember, if you give life your very best, it will give you its very best. Even more important is to remember God's principle of sowing and reaping. You must plant a crop to have a harvest.

The village blacksmith: symbol of functional strength

If one looks back throughout history at different symbols which represent

day-to-day strength and ruggedness, many come to mind, for example lumberjacks dressed in work boots, jeans, and flannel shirts, swinging their mighty axes. These men are usually portrayed with grizzly beards and huge, calloused hands. Another example is the traditional fisherman with his weathered face and hands. He is often pictured casting his net into the water or pulling on his lines. These are but two of the many, many examples of rugged symbols of our past. I use the word "past" because in all but rare cases, these men are from bygone days. Most everyone knows that chain saws are used by loggers now, and even in a lot of cases, saws have been replaced by heavy equipment. Fishing has also become somewhat modernized, and traditional fishing is something of another time. One has to go to a remote country to find these symbols of raw and robust strength today.

Although I just named two symbols of strength, there are others which could be mentioned, and I saved the best for last. If we asked one hundred people to pick which old-time profession represented strength and ruggedness to them, I would be willing to bet that most would pick our topic of discussion. If you have not figured out who our mystery guest is yet, I will remove his veil and you can now see that he is the village blacksmith. Those of you who didn't guess him are probably slapping yourself upside your head for not thinking of him.

The village blacksmith is a symbol of our past who will not likely be forgotten. Whether we see him on television in an old Western, or in a painting on the wall in some old lodge or inn somewhere, he never fails to inspire awe, and his spirit lives on. The blacksmith is usually pictured wearing either a long-sleeved shirt with the sleeves rolled up to where you can see part of his biceps, or a tank shirt or muscle shirt. Quite often he is standing over his anvil beating on a piece of steel with his hammer, while holding the steel tightly with his tongs. Usually in the background, you can see his fire for heating the steel.

Another common tableau portrays the blacksmith next to a huge draft or work horse, shoeing the animal. This was a popular job for the old-time blacksmith: he did it all. Now those who shoe horses are called farriers, and you can find farriers in any area where there are horses. However, in the old days, the blacksmith did the shoeing of horses and also the making of anything involving steel. He made the horseshoes and the nails, as well as countless other items that the townspeople needed for their everyday activi-

ties. The blacksmith worked on all types of tools for the farmer, along with parts for the plow and parts for the wagon.

The blacksmith made all these things by taking a piece of steel, heating it, and then placing it on the anvil, gripping it tightly with his tongs in one hand and banging on it with his hammer in the other hand until the piece of steel was shaped to his satisfaction. That basically was his job all day long: taking pieces of steel, sometimes large and other times small, and shaping them over his anvil, using his hammer with one hand while holding the steel tightly in his tongs with the other hand. The blacksmith used his arms all day long, which resulted in his exceptional arm development, and his lower arms were getting most of the stress.

A little research reveals that most hammers used by the blacksmiths for their steel-shaping on the anvil were four pounds in weight, with shafts around eighteen to twenty inches in length. A hammer's weight and leverage exerted quite a bit of stress on the blacksmith's hand and forearm while he was tapping or striking a piece of steel over the anvil. Some of you may wonder why a smaller or regular hammer couldn't have been used. Most of the time it would take a much larger hammer to work on the steel without striking too hard and taking too much time. And a larger hammer head was used in most cases to properly shape the steel. Using a blacksmith's hammer every day over a period of time would, without a doubt, tremendously develop the entire lower arm.

Some of you may be wondering, what about the blacksmith's other hand? While in most cases the blacksmith probably used the same hand to do the hammering every day, he was also getting a different type of workout with the other hand. Think about the picture of the blacksmith hammering with one hand while holding the steel tightly in his tongs with the other hand. The tongs were used to keep the hot steel from burning him, of course, and they were used to hold the steel in place while shaping the steel with the hammer. The tongs acted as a vise to secure the steel, and they were gripped tightly by the blacksmith every time he used his hammer to shape the steel. Gripping the tongs placed constant stress on his lower arm as the steel was hammered. This constant squeezing of the tongs by the second hand developed a great crushing grip over time. There is no doubt that the blacksmiths of old used their hands to the utmost.

At this point you may be asking, are there any more blacksmiths around today? There are a few so-called blacksmith shops around—one happens to be in my hometown. However, this one, like most, is simply a welding or steel shop and does no traditional blacksmithing at all. Often times farriers are called blacksmiths, although as I noted above, farriers shoe horses and nothing else. Well, back to the question, are there any traditional blacksmiths still in business? I have met a few part-time ones who do it for a hobby or for occasional fairs or craft shows, but it is extremely hard to find one who practices in the traditional fashion. A few live in Canada and are considered traditional blacksmiths because they live in remote areas where the old methods are still used to some degree.

One such blacksmith's name some of you may actually recognize—that is Gregg Ernst. Gregg is from Nova Scotia and was a farmer by profession; a few years ago he took over a blacksmith shop where traditional methods are still being used. He lives in a village that has a lot of tourism. Some of his blacksmithing is done for the actual needs of the local people and some is done for the entertainment of the tourists. Gregg competed in the World's Strongest Man competition on several occasions a number of years ago. I remember watching the year that the contest was held in Iceland, and Gregg easily won the stone-carrying event, carrying the famous Husafelt Stone to the end of the runway. Gregg is also known for his back lifts. He has lifted pianos, oxen, and cars, using the traditional back-lift style. Although retired from strongman events, Gregg still trains by lifting rocks and barrels. Of course, his blacksmithing gives him added strength in his lower arms: when it comes to developing hand and wrist strength, many of the old methods are the best.

There are some new gadgets that can be used to enhance strength, and I sometimes use and promote them as well, but we must also look to the past to see what worked and produced results. If you look at all the tests of strength in the past and thereafter, you will surely see one thing: the clean and jerk record is far greater today than it was years ago. Powerlifting records have gone up steadily over the years. However, tests of grip strength by the old-timers seem to be better than those of our contemporary strength athletes. In this chapter I will leave you with one question, and I will let you be the judge. Who knows more about lower arm strength, the man standing over the barbell or the blacksmith of old, who had to use his hands every day of his life to survive and to help others withstand their daily hardships?

CHAPTER 1

Getting ready



Training frequency: how much and how often

I get a lot of letters and telephone calls from people asking for advice on many aspects of grip training and feats of strength. The question that comes up often and surprises me the most is how often should you train? It is always asked, whether it is how often should you train on the grippers, or at nail bending, or on regular forearm work. There is a very easy answer to the question, but it can be very difficult to explain or to get people to find the answer for themselves. The answer is different for each person who asks the question. I try to help people understand that they are the only ones who truly know.

We have always been taught to lift weights either every other day or three times per week. I guess, as a blanket statement, this is a fairly safe guideline to go by for the beginner or novice training with weights. I remember my high school football coach always saying, you'd better not lift those weights more than three times per week or you will tear down your muscles. Boy, those were words to live by, advice which we have been told since day one. I don't mean to belittle this advice and I must also say, once again, that for the general public, this is a fairly safe answer. At this point, let's look at several examples of training frequency used by different athletes who have made progress.

The Bulgarian weightlifting team certainly doesn't live by an "a lot of rest" approach. Each lifter is pushed to his maximum each and every day, even several times per day; each lifter is expected to surpass his personal best at all times. Also, as I understand it, a lot of the lifting is done in training without the use of lifting belts and knee wraps. By the way, this approach has worked well for many lifters, and they have advanced to the world-class level and set records. The whole strategy seems to be based on the sink or swim approach. So that's basically what happens—a lifter either rises to the top or

he is dropped. While this all-or-nothing training may sound excessive to you, it is practiced a whole lot more often than you might think—either intentionally, as in this case, or without realizing it.

Another arena where maximum capacity training is used on purpose is in special military units around the world. Trainees are often subjected to physical and mental punishment for weeks or even months at a time. Their bodies must adjust or simply break down. A variety of factors contribute to the outcome of success or failure with this type of training; we will look at these factors a little bit later.

We have looked at two examples of excessive training that have been intentional. Now let's look at a couple of unintentional ways that the body can be put in a situation of great stress without rest. Some of our readers may look back to their high school days and recall baling hay for the local farmer to make a few dollars during the summer. Oh, by the way, this is not the method of hay baling where huge round bales are made. I'm talking about the old hand-lifted bales with the twine on them. You may remember lifting the bales all day long, either onto the wagon or off, or maybe carrying them into the barn. Well, if you have ever done this all day for a day or two, you know that it can be fun, although a little bit tiring. However, if you have ever had to do it for the entire summer, day after day, sometimes from sunrise to sunset, you know it can be a form of torture. It can quickly put great stress on many parts of the body without time to recover.

I noticed when young men were hired for the summer to bale hay day after day, some of them stuck with it while others quit. The farmers would always say of the quitter, he is lazy; in the same regard they would say of the boy who did it all summer, he is a good worker. On the surface these statements might be true, but I think there is much more here than meets the eye. If you do a little research, you will often find that the boys who quit were not lazy. They quit because they picked up a nagging injury or strain in their back or shoulder, or they quit because they got fatigued and couldn't ever recover. They stayed tired day after day and had to quit.

Hay baling is one example of a physical activity which uses the whole body. Another activity where a certain part of the body can get overused without much rest is actually a profession: massage therapy. A busy massage therapist might have to do six or eight massages a day. Even the best therapists with

the best technique have tremendous stress put on their hands. I am in contact with several massage therapists, and they all complain about pain in their hands and wrists. Some seem to have constant discomfort, while others have discomfort only from time to time. However, they all bring up in conversation how their hands ache.

We have looked at two training situations which overstress the body intentionally and two situations which can overstress the body unintentionally. How it is induced doesn't matter—only the end result matters. We have also seen some people who have worked through the overstress and accomplished their goals, while others in the same situation developed an injury or simply had to quit from fatigue. Conversely, I have also met those who appear to undertrain and achieve great results as well. I actually know a couple of strongmen who only train one day per week. They don't even seem to train very hard in their weekly workout, yet they manage to stay on top of their game. I personally would have a hard time training this way because of the lack of motivation, if nothing else. But a few make consistent gains in this fashion. I won't spend any more time on this type because they are few and far between.

These two extremes work for some, but let's now look at what works for most. Many powerlifters and weightlifters use a three-day-a-week training session. For example, one day a week they lift very heavy weights, and for the other two weekly workouts, they lift moderate amounts of weight. This training system is used by a lot of experienced strength trainers who achieve good results. Many of these athletes have stayed with this routine throughout their lives, and it has worked well for them.

At this point you're probably wondering what I recommend, and why I said at the beginning of the chapter that the answer is extremely simple. Well, it is, and here is the answer, and this is also why we examined three completely different types of training, all of which produce results. Everybody is different and what works for one might not work for the other. You must experiment and come to understand your own body to discover how much is the right amount for you. Also different body parts may require different training intensities. Your shoulders might not withstand as much stress as your triceps, or in our case, the hands might not respond as well as another body part to extreme stress.

Experienced strength athletes generally do understand how much is the right amount to train and also how often. Experience will tell you not only how frequently you should train, but also the intensity of the resistance and the number of sets or repetitions you should do. If you don't know what is right for yourself, you must experiment and listen to your body, and after a while you will know what works for you.

I will give you five tips that will help you. These tips are so simple that one, or oftentimes all five, are overlooked. By using these tips, you will be able to train harder, more often, and with more resistance. Here they are, and each one requires only a sentence or two.

- 1) Drink more water and stay properly hydrated. This will increase your endurance and strength. There are few people walking around who are not dehydrated, so drink more water.
- 2) Eat a balanced diet. You may laugh at my saying this, but look at what you eat, and most of you will see great room for improvement.
- 3) Get the proper amount of rest and relaxation. This tip is one that all of us could make improvements on.
- 4) Judiciously use supplements and vitamins. I personally don't use either, but I do feel they will enhance any performance.
- 5) Treat yourself to a massage from time to time. This will increase the blood flow and remove lactic acid build-up.

As simple as these five tips are, you may find that by implementing them you move to the next level. While you're learning how much is the right amount of repetitions, sets, weight, and frequency for your own body, it is especially important to have your body properly tuned up and running on all cylinders.



Challenging the myth

I want to expose one of the greatest myths not only of hand strength, but of strength overall. Since our subject is hand strength, you may have already guessed what this myth is. If you have not made a guess, the answer is hand size in conjunction with hand strength. The majority of people believe that the larger the hands, the stronger the hands. Why do so many people believe this and how did this myth get started?

I believe that the myth started a long time ago with the manly art of handshaking. Some people even relate how strong a person's grip is by his handshake. Everyone remembers Uncle Robert with the huge paw that squeezed the life out of your hand when shaking it. Now Uncle Robert's hand may be strong and it may not be. The reason I say this is because some people try to squeeze extra hard while shaking your hand, while others, myself included, adjust their handshake to the other person's handshake. What I mean by adjusting a handshake is this: if the other person grips your hand softly, you respond by giving a somewhat gentle handshake in return. The same thing applies to a medium handshake. And of course, the same also applies to the heavy-handed fellow who tries to turn your hand into dust. A lot of people judge one's hand strength by the firmer the handshake, the stronger the hand.

My friend Tom has one of the strongest natural handshakes I have ever experienced. Judging by his handshake you would think he would be good at feats of grip strength, but this is not the case. In fact, he has a relatively poor pinch-grip and he is unable to close the No. 1 Captains of Crush® gripper. Tom can squeeze around 120 pounds on a hand dynamometer, which is only average. With his large hand, Tom appears to squeeze a lot harder than he really does in a handshake. First of all, like Uncle Robert, he can fully engulf your hand. A larger-handed person has somewhat of an advantage because he can completely wrap his hand around the other person's smaller hand—which gives him superior leverage. Let's face it, for the average person on the street, the handshake is his gauge to hand strength.

Another test of hand strength that has supported the myth of the larger, stronger hand is one found mostly in the strength world: lifting thick-handled barbells and dumbbells off the floor. This has become a popular way to train the grip among strength athletes worldwide. Although it is a good way to train, it is a poor way to judge a man's grip strength. Most of you know the reason why I say this. The man with the larger hand can wrap his hand farther and deeper around the bar, so that it is, in fact, going underneath the bar. In some cases, he might even be able to completely wrap his hand around the bar so that his fingers and thumb meet, the way the average person's do on a regular bar, giving the larger-handed man a huge advantage in leverage. Lifting the bar from underneath, he doesn't have to exert or squeeze nearly the amount of force on the bar as the smaller-handed man, who is actually lifting with his hand on top of the bar.

Just think about that: it is possible for a man with a small hand to actually exert more pounds of pressure on a thick-handled bar and not lift it, and a man with large hands to exert less pressure on the bar and actually lift it, due to his advantage of being able to lever the bar from underneath. This situation can also occur with certain types of pinch-gripping, especially when the pinch grip requires a wide, open-handed pinch grip.

Shaking hands and lifting thick objects off the floor have become gauges of hand strength. This is not to say that some large-handed people don't have good grips, because many of them do. You will also find that trying to close heavy-duty hand grippers can enter into this arena as well. For example, a small-handed person may have a hard time getting a good grip on a gripper from the starting position, while the large-handed person has the proper position or leverage right away. This difference can be adjusted for by the smaller-handed person positioning his hand on the gripper in a different way, by using his other hand to help. There is nothing wrong with doing this. You wrap your hand around the gripper, using your other hand to slightly push on the handles, allowing your squeezing hand to get in the right starting position. Once in this position, you can use your strength properly; otherwise, you are squeezing at a slight angle and at a huge disadvantage.

Let's look at a few examples of men with great grips on both sides of the fence. How about Phil Pfister. Phil has competed in strongman events for the past few years. He has been America's best performer in recent World's

Strongest Man competitions, placing fourth in 1998. He excels in heavy lifting and carrying events, like stone lifting and the farmer's walk. Phil has some of the largest hands I have ever seen—they almost look unnatural from some angles. The reason I bring up Phil Pfister is that he has huge hands as well as a very strong grip. These large hands do help him at times, but my point here is that Phil would have a world-class grip no matter what the size of his hands was.

Another example of a large-handed man with strong hands is Slim Farman, or Slim "the Hammerman," as he is called. Slim is one of the greatest strongmen ever. He excels at all types of steel bending and is the undisputed champion when it comes to leverage lifting with his mighty sledgehammers. Slim has very large hands, but he would still be one of the greatest strongmen ever, regardless of the size of his hands. We have now looked at two large-handed hand strength champions; let's look at the other side.

Dennis Rogers is a close friend of mine, and he has been a professional strongman for years. Dennis weighs about 147 pounds and has very small hands. Despite his small hands, he excels in all types of grip strength: he has a great crushing grip, he is a strong pinch-gripper, and he is one of the best ever when it comes to bending objects and tearing phone books and poker cards. Dennis's hands are very small, his fingers as well; however, his fingers are like pliers. He has developed most of his strength through proper training. He did not have a naturally strong pair of hands. He trained doing feats of strength and different types of hand strength exercises. He is a classic example of not having large hands, but having strong hands.

The other example of strong hands but small hands I will use is myself: I have small hands and have excelled in all types of hand strength. I also use myself as an example because whom do the readers have more information on than myself? You all know my background, that I started with hands that were my weakest link and were built to my strongest, despite my having small hands. It is important to know you can become a true grip master despite the size of your hands.



Hand health: helping hands

Although a lot of readers and fans of grip strength think purely about raw power and incredible feats of strength, this actually only scratches the surface. The feats of strength that I have performed for so many years do require great strength and endurance, but the reason I have been able to improve consistently over the years is that I have always promoted good hand health: I have been blessed and have never had an injury. At just about every exhibition I have ever done, someone has asked me if my hands hurt after the show. They think that surely someone who bends nails and horseshoes and breaks chisels with his bare hands must have arthritis in his hands and wrists. The honest answer is that I have never had any pains or aches in any part of my lower arms. I can attribute this to the Good Lord's blessing, and to practicing good hand health. Hand health may be an idea that you have never considered before, but longevity in any sport or activity should be our goal.

When people tell me that they have injured or strained their hands lifting weights, playing sports, or sometimes doing strongman events or feats of strength, it doesn't surprise me at all. Many athletes, including strength athletes, develop stress-related injuries or even chronic pain in their hands or wrists. Often this pain or discomfort is temporary and will go away in time. Other times the pain comes from arthritis or carpal tunnel syndrome and can be more serious.

If you have pain in your hands and wrists that persists for some time, you should consult a physician to see what the problem is. I truly believe that if people who use their hands a lot would take steps to promote good hand health, ninety percent of the hand and wrist problems would not exist. A lot of people think that if their hands are strong, their hands are properly conditioned as well. This is not at all true. If you look at carpenters or bricklayers, for example, they seem to have fairly strong hands; yet many of them suffer from regular pain or discomfort in their hands. A lot of people who have strong grips and well-developed forearms have poorly-conditioned hands and mediocre to poor hand health.

By now you are probably wondering what I mean by good hand health. Hand health is the same as any other form of health, like a healthy heart or healthy skin. For something to be healthy over a period of time, it must be well cared for and exercised. Hands, for example, seem to be one of the first things to break down as people age. One of the main reasons is that the hands are always in use and rarely get any time to rest.

Often pain comes not from merely using our hands, but *how* we use our hands. And with the hands, people often ignore the warning signs that something is wrong. We can certainly attend to the matter after pain is experienced. However, we want to practice good hand health so that pain or discomfort is not experienced in the first place. As I have made my point about how many people have pain in their hands, it is time to show you how you can avoid the majority of it.

The key reason I believe most people have trouble in their hands is that they have poor muscle control of their entire hand—not poor strength, but poor muscle control. If you have good muscle control, you also have good circulation or blood flow. When you can maintain good circulation, you also greatly decrease your chance of injury. By learning to use your entire hand with improved muscle control, you decrease your chance of injury and actually develop much greater strength.

In the last few years, I have almost completely turned to exercises where my entire hand is forced to pull its own weight. When I say my entire hand, I mean all four fingers on each hand and both thumbs. This book is full of new exercises that require all the fingers and thumbs to be active and that force them to develop superior dexterity and muscle control. My whole hand strength and endurance have improved significantly over the last couple of years because of these new exercises.

Most people are not able to use their entire hand. Even men who have great hand strength don't use their hands even close to their potential. Movements like rolling up the towel and working the steel balls and shots in your hand force every finger and thumb to work equally (see Chapter 2, Roll-ups and Ball rotation). They have made my hands stronger, and with the enhanced circulation and blood flow, made them healthier and more resistant to injury. My goal is to teach you not only to train and develop the strength of the hand, but also to condition it properly and keep it injury-free. The best

way to do this is to learn how to use the entire hand, whether you're using all your fingers and thumb together in unison, or you're using each finger individually. I hope I have convinced you of the importance of hand health even if it's something you have not given much thought to. You must invest in hand health to reach your goals in lower-arm strength.

Let's look at the steps to achieving better hand health. First, it is vital that you start doing at least one exercise that requires all the fingers and the thumb to work equally to develop strength and dexterity. I would suggest that you use the strength balls (see Chapter 2, Ball rotation). The balls will force you to use all four fingers and the thumb, and will feel awkward for some of you at first. After you have gotten used to exercising with the balls, your hands will begin to have a different feel to them, because you will have better circulation in your entire hand. You will also have made your last two fingers stronger and able to function individually. Once this is achieved, your entire hand is stronger and more versatile.

As you progress, try working with the small shots presented in Chapter 2, The investments. Using these heavier balls will accomplish two things. They will make all the fingers and the thumb work, developing hand strength and dexterity. And, because of the added weight of the balls, they give the hand a form of massage as they move and rotate in the palm. This massaging motion promotes blood flow and circulation and contributes to hand health as an added benefit.

While the heavier balls give you a light massage as they rotate in your hand, you might take the benefits of massage one step further and either have your hands massaged or massage them yourself. Even though I don't get a lot of massages myself, I strongly believe in the benefits of massage. The good thing about the hands is that they don't require a professional to massage them. You can use one hand to massage the other. Many of you already know the proper way to do this; or you may want to look at a massage book or get a quick lesson from a professional. This is a simple thing to learn, and I will let you research this on your own.

The other aspect of hand health I would like to touch on is training the extensors, the muscles that are used to open your hand. The extensors must be exercised to achieve optimum hand health. Properly exercised, the extensors will increase your strength on other grip exercises and will give your hand

balance overall, which helps to prevent hand injuries and hand pain. For exercises to strengthen the extensors, please take a look at the appropriate sections in Chapter 2: Work those extensors; the Power Web in Other grip devices; the exercise with the weight plate in The investments; and The art of sand blasting, where you force your hand into the bucket of sand and work against the sand as you open your hand. You may even want to look back at *Mastery of Hand Strength* in which a glass cookie jar is used to develop the extensors.

We have learned that hand health is essential for long-term strength goals. First, train the entire hand for muscle control and dexterity. Second, work to improve its blood flow and circulation. The investment is very simple: use the steel balls to develop the entire hand as well as its dexterity. The heavier shots can be used to massage the hand, as can traditional massage. Also, work the extensors to keep the hand properly balanced. If you make this investment at the onset of your grip training and continue with it as you climb the mountain the realm of the grip master, you should enjoy good hand health for many years to come.



Toughening the hands: do's and don'ts

It may seem that there is a fine line between toughening the hands for grip training and feats of strength, and exercising proper hand health. You may wonder how I maintain good hand health with the stress on my hands from the steel bending that I am always doing. You can have excellent hand health for the long term and also have tremendous hand toughness to tackle any feat of strength.

It is important to understand that the outside of the hands is quite different from the inside of the hands. I have developed calluses on my hands that help me with bending heavy steel, and these have come very naturally

through the years. People often tell me that their hands hurt so badly when they try to bend a nail that they must stop. This is actually very normal. The skin on the hands as well as the soft tissue of the hands are not used to this type of pressure. You must try with the nail a little bit each day, and soon you will be able to withstand it, as you toughen the skin on the hands as well as prepare the soft tissue for this new activity. This type of training does not place your hands in a dangerous position, since you are not stressing the structure or alignment of your hands.

Another sensitive spot is the soft skin between your thumb and index finger. If you have ever done much pinch-gripping with barbell plates or block weights, you probably already know what I'm talking about. This area is very soft and loose. When you lift objects by pinch-gripping, you have a good chance of cutting or tearing open the skin in this spot, as I have done on occasion. The more you lift objects with the pinch-grip technique, the more this spot will toughen with time.

Developing strength and dexterity using the hand health exercises will improve your blood flow and circulation, and as we all know, the better your circulation, the less chance of injury you will have. With better circulation, you can also become more explosive as well as stronger. Continuous and regular grip training will, little by little, make your hands tougher and prepared for any of the grip movements you may encounter. The combination of grip training coupled with hand health will make your hands very versatile. Now let me show you what to stay away from for your long-term hand health.

You may know that I drive nails through wood with my hands. In Chapter 2, The art of sand blasting describes my training process, starting with finger tip push-ups and graduating to driving my fingers deeply into steel shot, so you know that I have placed a lot of stress on my hands. Driving my hands into steel shot was done only for a short while as an experiment and also a goal, but this practice placed way too much stress on the structural alignment of my hand for the long term. As for driving nails into wood with my hands—one of the most impressive feats of strength that can be done in a crowd's eyes that always gets a great round of applause—I don't practice it regularly, just enough to perform it with expertise in my strongman show.

My point is, don't put your hand in a continuously stressful situation. You must watch out for training that stresses the structure of your hands. Once you can drive nails with your hands, do it only enough so that you are comfortable performing it in front of a crowd—you simply maintain your skill level with nail driving. The constant banging of your hand onto the wood over a long period of time can cause arthritis and other problems. While it is fun to practice and improve your skill level, as well as master some of the advanced techniques, use ones like nail driving as a feat of strength, not as a daily activity.

Another very important point I wish to make is about the perils of hand-hardening. If you have never heard of this term, hand-hardening is a method used usually in karate to strengthen the hands. While I don't want to belabor the issue of karate-style hand-hardening techniques, I do want you to have a clear understanding of just why this method can be a hazard to your hand health and hand strength for the long term. On occasion I break bricks with my hands in some of my programs, and I used to do a lot of breaking of objects. It is true that the practice of hand-hardening can lead to the ability to smash bricks and boards, as well as other objects with the hands. However, these methods can be self-defeating over time.

If you engage in hand-hardening training, you will most likely injure your hands. This can happen two ways. First, you may overstress them, pounding away on the *makiwara* boards. Since the joints of the hands are not designed to handle this kind of stress, it may break cartilage, tear ligaments, or badly irritate the soft tissue. Second, if you don't receive crippling injuries, which can lead to surgery or long-term layoffs from training, you may develop a condition called pre-arthritic hands, a loosening of the joints, characterized also by bone and nerve damage. Permanent swelling of the soft tissue can also result from hand-hardening, and hand-hardening can cause premature aging of the hands, which can't be reversed. I have dealt with a lot of martial artists who have developed chronic pain and irreversible conditions due to long-term hand-hardening.

I have shared with you some good, solid advice in this chapter, advice that comes from years of training—my own and that of other experienced athletes. If you practice your lower-arm routines, you will find that your hands will become very tough and able. Once again, our goal is a combination of hand strength and hand health.

One final word is that you may want to try some liniment from time to time. I don't personally use liniment on a continuing basis. However, I have heard from many athletes who rub it into their hands after a hard workout, and their testimony is that it helps them recover more quickly. You may also want to have your hands massaged from time to time, which will help get rid of lactic acid build-up and improve your blood flow and recovery time. Take care of your hands and they will take care of you.



General training for overall functional strength

Strength focus:

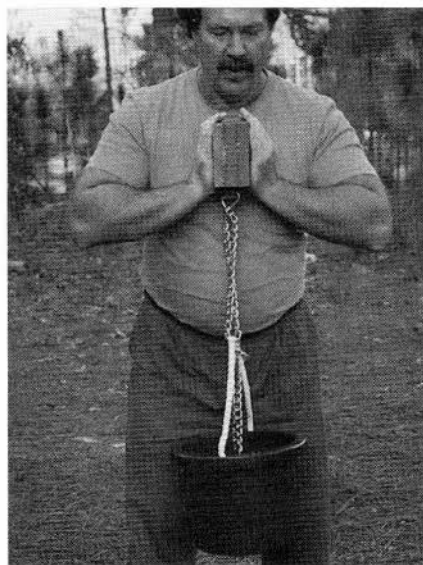
-
- *functional strength for whole body*
 - *emphasis on the upper body and arms*
-

In this section you will find three special exercises, along with a short course in brick lifting, that are excellent for building functional strength for the grip and bending feats in this book. The three exercises and the brick lifting are used to work the muscles in a way that is often overlooked in conventional weightlifting; for example, a set of strong arms is vital for the grip master and strongman, and in fact, this asset may be his most important tool. In most grip or bending feats of strength, the leverage or power exerted is not counteracting the force of gravity as it is in Olympic lifting and powerlifting. In steel bending, for instance, the arms must be able to exert great pressure on the bar, horseshoe, or nail in order to start and complete the bend.

With this in mind, use these three special exercises and the brick lifts to enhance your entire body strength: if you incorporate any or all of these into your workout, along with some of the special hand and forearm exercises presented, you will greatly improve your upper-body power and functional strength, especially in the arms.

Chest press with weight

The first exercise is very unique—so unique that you have never seen it before, and the reason for this is I have never shown it to anyone before. It is a very good way to develop the crushing strength in your chest, shoulders, and triceps needed for any steel bending feat, as well as nail driving feats. It is easy to practice this exercise at home, and there are different ways to set this one up, but here is the way I suggest. Start with a piece of treated or hardened pine about twelve inches long, six inches wide, and two inches thick, or to make it easier, a treated 2 x 6 board about a foot long, or long enough for you to spread out your hand flat and not grip the sides. Place a hook in the two-inch side of the wood at the center point, and run a wire, small chain, or small rope through the hook, attaching it to a loading pin with weights, or a bucket of gravel, or anything you want to use for weight.



Chest press with weight.

Place your hands with your palms flat against the sides of the wood, and push inward, raising the weight off the ground. You can hold the weight up for a certain amount of time, do reps, or even try to raise a lot of weight off the ground by pressing inward on the wood. This will develop pure crushing strength in your upper body. You will find this exercise fun and challenging.



Pole climbing

The second special exercise is extremely difficult, but it offers big rewards for its practice. Like many of my exercises, this one also doesn't have a name; but if you decide to use it, it will make a lasting impression on your life. To start, you will need two poles about twelve feet long. The poles can be metal or wooden; bamboo works well because it is smooth in texture. I prefer metal poles, but if you choose wood, be sure that it is smooth so you won't get a splinter or bad cut from the roughness of the wood. Once you choose your poles, stick them in the ground about a foot deep and two feet apart. Unless you live in a location where the soil is really hard, you will probably want to put a little concrete in the holes to secure the poles.

Once you secure the poles, you are ready to begin, and if you have not already figured out what you are going to do with the poles, here is your answer. Your objective is to climb up the poles, grasping one pole in one hand and the other pole in the other hand, using just your hands and not letting your feet touch the poles. This is an extremely tough exercise if you have a lot of body weight. It is tougher than rope climbing on your upper body and also much tougher on your grip since the poles are smooth and not coarse, with ridges like a rope. Try to climb all the way to the top and then lower yourself back down using the same technique. If you find you can't climb up the poles, grasp the poles in the starting position and pull yourself up as if you were doing a chin-up; repeat this movement, which will give you the foundation to advance to the climbing technique.

Climbing the poles may be the best exercise I have ever found to develop all of the pulling muscles of the upper body. If you have a lot of body weight, it may seem like too much work, but just imagine the gains in strength you will have made once you can climb up the poles. If you advance and wish to make the exercise more difficult, you can wear a pack on your back and add weight to it, or even try something I used to do on occasion. When I felt really motivated, I would rub a little oil or soap on my hands and try to climb the poles. This, of course, would work my hands and forearms to the utmost. If you are serious about becoming a grip master or strongman, especially a great steel bender, I strongly suggest that you give this pole climbing method a try.

Stone lifting

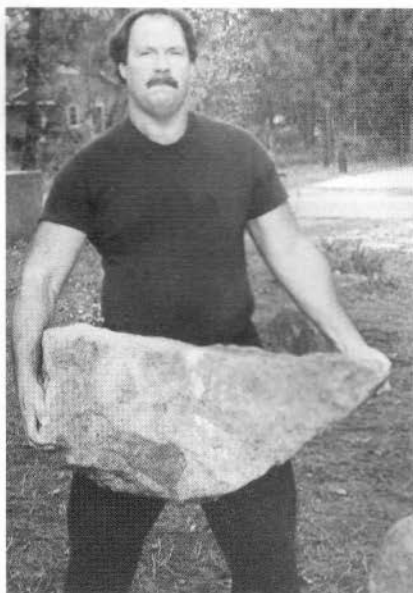
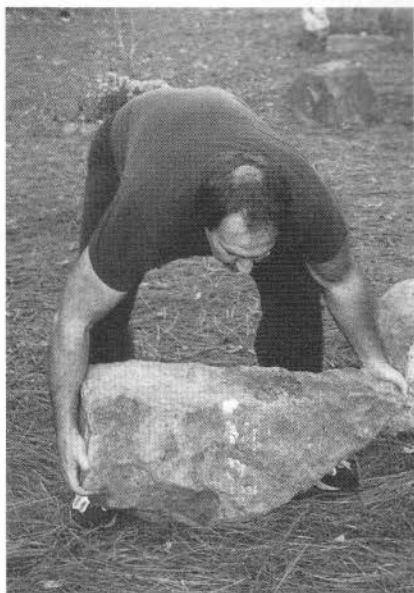
The third exercise is one that you have probably heard of, or even tried yourself on occasion if you are a true strength fan: lifting heavy stones off the ground. No, not deadlifting a barbell, but stones. Stones will give you much more real strength than a barbell for two reasons. First of all, you have to lift with a somewhat rounded back to get a stone off the ground. This rounded-back movement simulates real life, whereas a barbell is usually lifted with a straight back and legs greatly bent, which by the way, is actually proper body mechanics and the safest way to lift an object off the ground.

In real life, however, lifting in the proper position does not occur often, and you are forced to lift with a somewhat rounded back. This happens, for example, when you pull something like a stone off the ground because the stone is out in front of you and you are not able to get your feet directly underneath it. A rounded-back style of lifting develops great strength which can be used in the strongman game. *I must warn you that it is highly important to start slow and light when pulling stones from the ground.* Never use a jerking movement, but use a slow, steady pull to protect your back. The rounded-back movement will greatly enhance your lower back strength as well as that of your hips and legs.

The other reason that lifting the stone is better than training with a barbell is that it develops your arm strength. You will find that your arms are somewhat bent when deadlifting stones because of their shape. When you lift a barbell, your arms are straight and you are just holding onto the bar, but with the stone you have to hug and pull it towards your body to lift and hold onto it.

Also, when deadlifting stones, your wrists are usually bent to keep the stone from falling. The result is much stronger wrists, and your arms, back, and lower body are gaining strength, too. Just remember to start slowly when deadlifting stones off the ground, and don't try to lift too heavy until you have built a good strong foundation.

These three special exercises, combined with some of the grip and forearm exercises presented, will build a solid foundation of functional strength to perform many real feats of strength; they are worth their weight in gold.



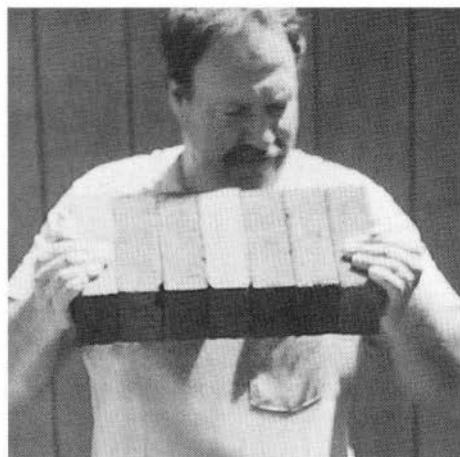
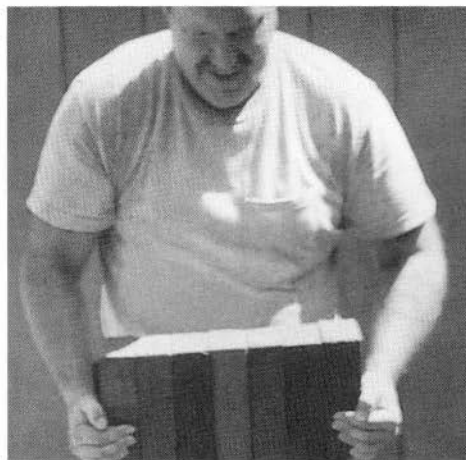
Stone lifting.

Brick lifting

As many of you know, I am a firm believer in brick lifting to develop upper body strength. An asset of brick lifting is that it doesn't tire out your legs in the process, so you can train with it on the days you are resting your legs and lower back. The possibilities for brick lifting are almost unlimited, and three excellent brick lifts are presented here, all of which are very productive for gaining usable functional strength in the upper body.

The first, curling with bricks, is a jewel of an exercise that will work the lower arms as well as the entire upper body. You will probably want to start with about ten bricks the first time, so that you get a good workout without straining. Start by placing the bricks in a row, with the large flat sides together and touching. You can place them on a table or bench or even on

the ground. Gripping the ends of the row, lift the bricks by pressing inward to hold them tightly together. Remember, the weight of the bricks is not so critical as is the pressure being exerted inward to lift the bricks and keep them from falling to the ground. Once they are lifted, hold them at about waist level, as if you were going to perform a biceps curl with a barbell. In that position, start to slowly curl the bricks up to your chest while constantly pressing inward on the row of bricks. Once at chest level, slowly lower the bricks back to the starting position. Repeat the curling-type motion until you are tired and must set the bricks down.

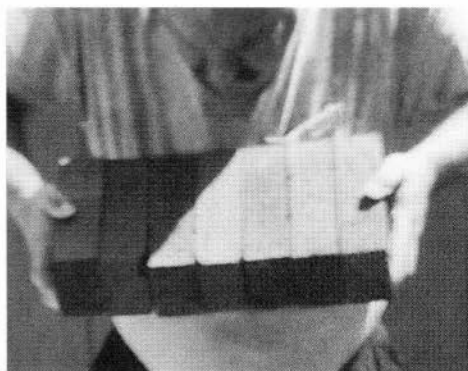


Curling with bricks.

Curling with bricks is a tremendous movement that will give you functional strength in your chest, shoulders, upper back and upper and lower arms. While it may seem awkward at first, you will learn to love it. As you get stronger, you can increase the number of bricks in the row. If you wish, you can use heavier bricks instead of making the row longer. This is one of my personal all-time favorite exercises for gaining real world strength.

The second exercise, upright rowing with bricks, is very difficult at first and may feel awkward. However, if you continue to work at it, the rewards will be worth the effort. As always with brick lifting, all you need are some bricks and a bench or table. At first you might just want to try a few bricks—around eight or ten—to get a feel for the movement.

Start by laying the bricks in a row, large flat sides together, on top of your table with your hands placed over the top of the ends of the bricks. Your fingers should be pointing towards the ground. Once in this position, crush the bricks inward as you pull upward toward your chin. It may be difficult, as noted earlier, to crush the bricks inward as you pull them upward—which is one reason why brick lifting in this fashion is so productive for functional strength. Continue to pull the bricks up to your chin and then lower them down to the starting position, with your arms down at your sides. This movement is just like traditional upright rowing only you are having to exert a lot of pressure inward on the bricks to keep them from falling.



Upright rows with bricks.

Upright rowing with bricks is very challenging, and you are developing tremendous crushing and pulling strength in your upper body that will be useful for many activities; it is especially productive for the stone lifter, wrestler and football player. Whether you are tackling an opponent on the football field, or holding an adversary on the wrestling mat, or hugging a huge stone to your chest, brick lifting is for you.

As with any of the brick lifts, continue to add bricks as you get stronger. Also, strive to make the movement slower. As you already know if you have ever lifted bricks, you automatically have to go slowly to keep the bricks from falling, but you can slow the exercises down more and even use slight pauses at certain points to improve your strength gains. Your wrist strength will increase over time, as the wrists always have to be working to keep the bricks from slipping and crashing to the ground.

This third and highly specialized exercise, the brick rotation, will take your lower-arm and upper-body strength to new heights. As with all the brick lifts, you will have to decide how many bricks to use, but to start, you might use around ten or twelve, to get used to the movement. Place the bricks on a table or bench with the large flat sides together so that they are touching in a level row. Grasp the ends of the row of bricks and squeeze inward as you lift the bricks off the table or bench. Once you are holding the bricks horizontally in front of you and have control of them, start to slowly turn the bricks counterclockwise until they are vertical or straight up and down in a stack; now slowly rotate the stack of bricks back to the starting position. Then rotate the bricks clockwise until the bricks are vertical or straight up and down in a stack once again. Continue these rotations counterclockwise and clockwise until you are fatigued.



Brick rotation.

Be sure to rotate the bricks slowly throughout the entire movement, always pressing inward on the bricks. You will have to exert a lot of pressure to keep them from slipping and sliding. And, of course, the slower you go, the harder the movement will be. If you hold the bricks farther away from your body, the rotation is also more difficult; it doesn't really matter if you use more bricks and hold them close to your body, or use fewer bricks and hold them away from your body. My suggestion is that you start the exercise with the bricks close to your body and as you get stronger, gradually hold them farther away throughout the rotation until you can do the entire exercise with the bricks all the way out in front of you.

A motivating exercise that is extremely helpful for football players, wrestlers and martial artists, the brick rotation works the upper body with extra stress on the arms, wrists and fingers.

Other training

Along with the big three and the brick lifts, movements like chin-ups, dips and various types of push-ups are very effective, especially for larger athletes working against their own body weight. If you are of lighter body weight, add weight to increase the workload. Push-ups and chin-ups help maintain good general muscle tone. Push-ups and dips develop and tone the pushing muscles of the upper body, while chin-ups develop and tone the pulling muscles, like the biceps and lats. Chin-ups are also excellent for working the forearms and grip. These exercises are sleeping giants and when put to work, they can aid tremendously in your quest for upper-body and overall strength.

Another elementary point is the importance of your heart and lungs. Aerobic training is vital, but often neglected and overlooked by strength builders. I know that there are some who do the strongman events like keg loading and stone carrying, and while it has its place in certain sports like football, where all-out bursts of energy come into play, this is not true aerobic training. True aerobic training must be sustained at least twenty minutes without stopping to rest or slowing down to catch your breath, and that's twenty minutes each day, at least five days a week. Running, swimming, hard cycling, to mention a few, are activities that provide a good aerobic workout.

While aerobic training may be hard for people with a lot of body weight, it is essential for your health as well as your performance. If running is too hard, you can start with a brisk walk; as you improve, move into a walk-run session, where you walk a little and jog a little. As you adapt, increase the running, with less walking, and after a while, you will be able to run the entire way. If running is hard on your back or knees, try a stair climber in a health club. The stair climber gives a good workout without putting too much stress on your joints.

Aerobic training is not only important for your general health, it improves your performance in any sport or activity. The better your heart and lungs work, the better your circulation works. The better your circulation works, the more blood you get pumping into the muscles and you become more explosive. I can actually say, through experience, that I am stronger when my aerobic conditioning is at its peak. Also, if you are aerobically trained, the longer you can last, the greater is your endurance in your sport. Finally, you have a much better chance for an injury-free career when you are aerobically fit.



CHAPTER 2

Advanced lower arm and grip training



The exercises that take you out of your element and put you into their element, or take you out of your comfort zone, so to speak, are the ones that truly help you prosper in the world of true strength and fitness.

I am always looking for different ways and methods to increase my functional strength and stamina, and my total athletic prowess. Over the years, I have tried countless exercises and principles to see which ones work and which ones don't. I have examined all the so-called functional training ideas of the so-called experts of the field. You know, those guys with all the diplomas on the wall, but in most cases, no actual real-life experience. I have also experienced some barbaric training methods, which are great for developing mental toughness and discipline. All in all, I have tried hundreds of different drills to find the most useful on the strength battlefield. The exercises that take you out of your element and put you into their element, or take you out of your comfort zone, so to speak, are the ones that truly help you prosper in the world of true strength and fitness.

In my search for even better exercises to develop functional strength, I have found a handful which I believe, based on my own gains, are superior for developing hand strength as well as overall strength and stamina for any activity. They are presented in this chapter on lower arm and grip training and are your ticket to the realm of the grip master.

Weight toss: a secret weapon

Strength focus:

- upper and lower body

- explosive power in wrists and forearms

The weight toss develops endurance and pure power in the upper body. When used to its utmost, it can also develop the hips, legs, and abdomen. I used this exercise for about six months, and I gained one full inch of useful

muscle on my upper arms in the first month. If you have read *Mastery of Hand Strength*, you'll remember that I had a complete chapter on block weights. These weights are the round or octagonal heads which have been cut off fixed-weight dumbbells. I have a nice assortment of them now which I use for various training.

I discovered the weight toss exercise one day when playing around in my back yard. I took one of the weights and threw it up slightly and caught it with the other hand, then threw it back to the first hand, then back and forth again and again, as if I were juggling the block weight. I was getting a tremendous blood flow or pump in both arms, and my chest and shoulders were starting to fatigue as well.

From there I experimented with different-sized weights, throwing them to different heights. It took a lot of hand-eye coordination to catch the weight properly each time. I started out tossing a roundish 25-pound weight for a few weeks, tossing it up to about eye level over and over until my biceps would get so fatigued, they felt as if they couldn't continue. I would rest and then do another set. I trained with this exercise two or three days in a row, then took a day off to recover.

To my amazement, after just a couple of weeks, my biceps had started to change their appearance. They were getting larger, but they were also more defined and were actually developing a peak or head. My biceps have always been strong, but due to a lack of attention to my diet, they have never had a peak or head. I moved up to tossing a 34-pound York dumbbell head and after a couple of weeks, I felt stronger and had more size and shape in my upper arms. I decided to take a measurement and was truly surprised to find that my biceps had gone from 18-1/4 to 19-1/4 inches, a whole inch in one month—and my strength and endurance felt as if they had gone up even more than my size.

This was only the beginning: a 40-pound weight was next. Throwing the 40-pound weight up and from hand to hand was starting to get tough. Not only was the weight heavier, it was also larger, which meant it was harder to catch, creating even greater stress in my wrists. With this 40-pound ball, my hips, legs, and stomach started to get in the act. To toss this size weight, I had to generate strength out of the trunk.

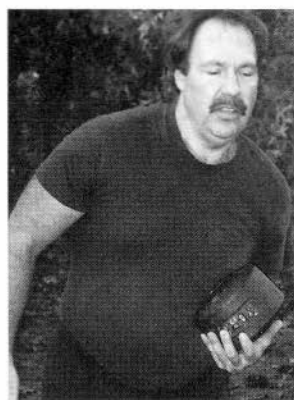
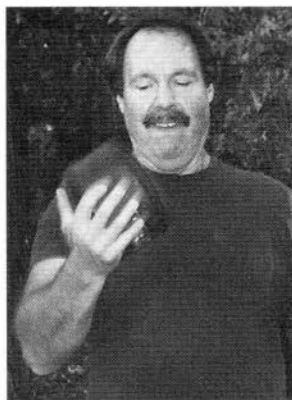
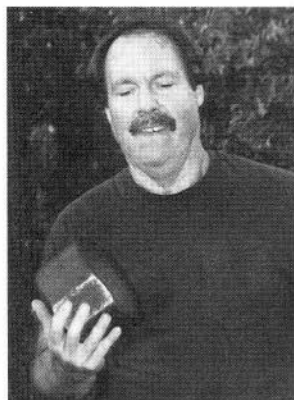
My next opponent was, as Richard Sorin calls it, the Blob. The Blob is a 50-pound block weight which is actually one end of a York 100-pound dumbbell. The Blob put me to the ultimate test. It not only almost tore my biceps out of the socket, but also fatigued my shoulders, lower back, and legs. I could not believe what a complete body thrashing I was getting, throwing this 50-pound weight up and back and forth. In reality I was getting the best of everything. Just think about it: I was using my entire upper body to throw the weight up in the air. I was driving with my legs because of the pressure I had to exert to toss the weight. I was using my waist because of the slight twisting and turning motion required to catch and toss the weight. I was also developing wrist and hand strength from the force of both tossing the weight and catching it.

I perhaps have saved the best for last when it comes to training advantages. When you toss a 50-pound weight up slightly in the air with your right hand and then catch it with your left, you are exerting a negative movement on your left hand, and then this repeats itself from left to right, and then back again, giving you positive and negative resistance. Just think how much actual force you are stopping when the tossed weight hits the hand catching the weight. This exercise forces new growth in the muscles and develops explosive power.

Another thing I quickly learned was that the larger the weight, the harder it is. For example, the 50-pound weight is only twice as heavy as the 25-pound weight, but due to the size difference, the 50-pound weight felt much more difficult in comparison. I have moved up to a 75-pound concrete golf ball, which is so difficult, words can't describe it. It is not only heavy, it's also extremely awkward.

Now that I have described the exercise and its advantages, let's get you started. I would suggest, regardless of your strength level, that you start with a 20- to 25-pound block weight. If you don't have a block weight, you may want to purchase one. Find a 45- to 55-pound dumbbell that is either roundish like the York, or octagonal like most on the market. Cut off the end and you have your block weight. If you can't find one the right size or you are unable to purchase one, look for some rocks that are user friendly for tossing. Or you can make yourself some concrete balls for this purpose.

Once you find your tools, you are ready to start. One thing I would like to mention: while some of you may want to juggle the weights, I strongly suggest that you do not juggle. Use only one weight at a time, tossing it up and catching it in the same manner as a juggler, but don't juggle with two or more weights. The reason is that your effort should be on throwing the weight up hard and catching it, and doing this over and over until you are completely tired. Also, if you are using an object that is heavy enough, you won't be able to concentrate on juggling.



Block weight toss.

Hold your weight in your right hand and throw it up to about eye level and slightly to your left. As the weight drops, catch it in your left hand. Now throw the weight up and slightly to your right with your left hand. Continue this hand-to-hand process until you are completely tired. Don't let it bother you if you can't catch the weight at first—you will quickly get the hang of it. As you get stronger, go to heavier, larger weights or rocks. If you have a hard time getting different block weights, you can just toss the weight higher and higher to get more resistance. You will find out in a hurry that this is an exercise you will want to stick with if you truly want to achieve great strength and endurance.

I highly recommend this drill to arm wrestlers, martial artists, and weight throwers of all types. Remember, start this exercise slowly to get a feel for it. Also, remember that a great deal of stress is placed on the biceps. After a while, you may not only feel you can whip the world, but you may actually want to.



Roll-ups: develop your entire range of motion

Strength focus:

- closing the Captains of Crush® grippers
- building strength in the last two fingers
- developing your grip in three positions
- muscle control and dexterity

A number of years ago I was given a European strength training course by my cousin, who had found it at a garage sale somewhere and thought I would be interested in it. The course, written by an old-time wrestler I had never heard of, was very well put together, and included barrel lifting, cable pulling, and neck isometrics. It was real strength training, to say the least. This gentleman seemed to discuss every topic and every part of the body.

When it came to grip strength, he first mentioned its importance, and he then showed just one exercise that he recommended. This exercise was to take a couple of pages of a newspaper, hold them in one hand, and roll them up in a ball by manipulating them with your fingers. While it may not look like much, this exercise makes all the fingers work on their own, promoting dexterity. You will also find that it will give you a pretty good pump or blood flow in your hand and forearm if you continue to work at it for even a short period.

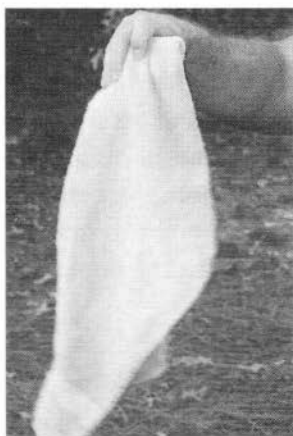
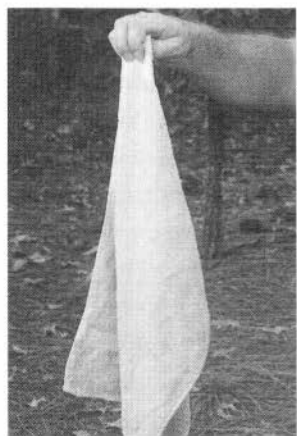
Although this exercise does not provide enough resistance to develop any real strength, it is a good toner. As you have probably already guessed, I took this simple exercise and made it into something very unique.

First of all, I got rid of the newspaper and replaced it with a towel. After some experimenting I determined that a hand towel was the best size—actually a golf towel is perfect because of the hole that is already in it. You can

find one at a local store in the sporting goods department, or at a golf course in the pro shop. You will also need a piece of rope about one-eighth of an inch in thickness, along with a small plastic bucket. When I say small, I mean small like the kind of bucket that your children use when they play in the sand at the beach. I will explain the bucket and rope later, but for now, let's get started with the drill.

This exercise, which I call roll-ups, is simply the pinnacle when it comes to building hand strength. It also develops muscle control and dexterity in all four digits, as well as the thumb. It is important to develop the two smallest fingers of the hand. Some of you may wonder about the importance of the last two fingers, but let me explain that it is the last two fingers that mainly close that last little bit on IronMind's Captains of Crush® grippers. I honestly feel that if more of you could utilize the last two fingers of your hand, there would be a lot more people getting past that final sticking point I hear so much about. This special exercise with the towel will give those two fingers a new feeling with their newly acquired dexterity.

To get started on this world-class exercise, grasp your golf towel with the fingers of one hand at the top point of the towel. Now begin to manipulate and roll the towel up into a ball. This is done, of course, strictly by the



Towel roll-up.

movement of the fingers and the thumb. You will see that when the towel is rolled up into a ball (in your hand), the golf towel is about the right size. A larger towel would be too big to grip. You will also notice that rolling up the golf towel in this manner is not so easy, and that you get a tremendous blood flow in your entire lower arm. At first it may be difficult to roll up the towel, but stick with it and you will soon have enough dexterity to perform it. Continue to train with only the towel for a few workouts until your hand gets used to the technique.

After a few workouts, you will understand why roll-ups are worth sticking with and that the potential to gain useful hand strength from this exercise is virtually unlimited. Now, I'm sure many of you are already saying to yourselves that the resistance it takes to roll up the towel will quickly be mastered, and you are right. However, once you have gotten the feel for the movement and your muscles are used to the exercise, you can get down to the real work.

Run a piece of small rope through the hole of your golf towel and tie it to the handle of the plastic bucket we spoke of earlier. You will probably want to do the movement a few times with the bucket attached to the towel before you go on, for many of you will find that even the empty bucket is challenging enough at first. When you are ready, move on to the next level.

Put a handful of sand into the bucket. As before, manipulate the towel with your fingers until the towel is rolled up into a ball in your hand. Perform this several times or until fatigued, then work the other hand. You may find this exercise to be very motivating and very frustrating at the same time. From this point, you will add a handful of sand to the bucket every workout: a simple handful of sand will be more than enough to challenge the best of you. It will not take much extra weight to make a huge difference on this movement; just keep adding sand to the bucket.

I would estimate that if you can roll up about seven pounds of weight on your towel, you have a world-class grip. Doing roll-ups will dramatically increase your hand strength and dexterity, and as I mentioned earlier, will bring the last two fingers of your hand to life. The result will be a lot of new-found strength when training on the Captains of Crush grippers, especially for the last little bit required to completely close the grippers.

A final important point is that if you look at the positions your hand is in while performing roll-ups, you will find that you are developing strength with, first, your fingers close together or almost touching. Halfway through the movement, your hand is working partly open; and at the final point when the towel is rolled up completely, your hand is working in a wide, open-handed grip. Your hand is being worked at every possible point from narrow grip to medium grip to wide grip: you are getting the best of all worlds. It is important to work your hand in all these different positions.

Going back to the hand grippers, some people are stronger at the start of the movement, with their hands opened wide, and some seem to be stronger in the middle, or even the finishing part of the movement. I can guarantee you that by applying roll-ups to your routine, you will soon find that you will develop strength through your entire range of motion on the grippers.

Please do not overtrain or increase the weight too fast. Just keep adding a little sand to the bucket every workout or two, and you will soon have a hand up on the competition.



Ball rotation: taking your grip to a new level

Strength focus:

- total lower-arm strength

- hand dexterity and endurance

- thumb development

It has been my way of life to find different ways to challenge my mind and body. I have, of course, found that the more goals you accomplish, the more confident you become—and the more confident you become, the harder the goals you desire to accomplish. I have not been able to break out of this cycle even when I have tried.

For example, I have watched television programs in which someone was performing a unique feat, and I instantly wanted to try to duplicate the feat or even better it. More times than not, I was able to perform the feat the first time. Some of you probably wonder how that is possible. It is possible to accomplish a difficult feat by concentrating all your efforts towards the task. If you are thinking about how hard the task is, you will have a great chance of failing at whatever the task is; whereas, if you are just thinking of carrying out the task itself, you will have no mental blocks. I try to choose exercises that not only make me stronger physically, but also strengthen my spirit and powers of concentration. I also look for exercises that have no pinnacle, or in other words, ones that have no limit when it comes to improving.

Ball rotation is one such exercise that offers almost endless potential for increasing your total-lower arm strength and enhancing your dexterity. Many of you have probably seen or even used the Chinese balls, sometimes called meditation balls, strength balls, health balls, or even *kung fu* balls, that relate back to ancient times. They usually come in a box of two, and many of them have chimes in them to promote relaxation. The objective is to roll the two balls either clockwise or counterclockwise in your hand with the palms facing up, which massages the hand, promotes dexterity, and lightly exercises the fingers.

By now, many of you are thinking *what does this have to do with building any real hand strength?* If you are thinking this, you are absolutely right: this exercise is good for relaxation and for warming up the fingers or cooling them down. The method that I have developed with these balls will make your hands much stronger even if you're not doing any other grip training at all. When I have been practicing the following system that I invented, every aspect of my hand strength has gone up, even though I have not been doing any other hand exercises at that time.

First of all, let me tell you a little about how I found this method. I have been familiar with the health balls for years and have used them in the usual fashion on and off as a cool-down for my grip strength exercises. After my workout, I would sit in my easy chair and roll them around in the palm of my hand until my fingers felt slightly fatigued. I started to experiment with the balls going in different directions. I also found a rare video from China where a man was using three or even four balls at a time. I started using

three, and then four balls in the same way, and even though I found this challenging and a lot of fun, I still wasn't really gaining any hand strength or endurance.

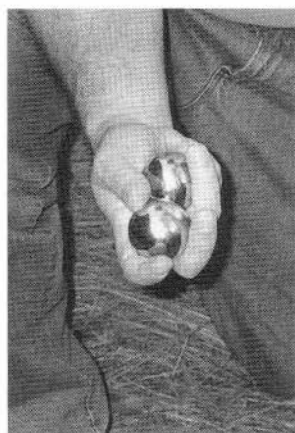
Then it hit me: what if you use the balls in the same manner as before, but do the movements with your palms facing down instead of up. The balls are facing towards the ground instead of resting in the palm of your hand. It took me a while before I could rotate the two balls with my palms facing down for any length of time. My hands would quickly fatigue and even cramp. After working on this for a while, I was able to manipulate the balls very quickly for several minutes at a time. I knew right away that I had stumbled onto something big. This was not only challenging but extremely fatiguing to the hand; and on top of that, it worked all four fingers to their utmost, as well as the thumb. I got extremely excited with my new-found discovery.

Once I had mastered this movement, it was time to progress to a new level. From there, I went to a movement I wasn't sure was possible: rotate *three* balls in one hand with my palm facing downward. This difficult feat of dexterity required extreme strength and endurance. After a couple of months spent mastering three balls upside down, my hands seemed to be changed in their appearance: they looked much more sinewy. I had also reached an endurance level that I had never experienced before, which was odd for me since I had already developed what I thought was an endurance level in a class by itself.

While using three balls upside down a couple of times per week as a warm-up, I have once again moved to a more demanding level. I wondered what it would be like if the balls were heavier as well as larger. I made some calls and found some solid lead balls at my friend's hardware store. These balls were almost two pounds apiece in weight and about half the size of a pool ball. The heavier balls were much harder than the lighter ones when handled with the palms-down technique because I had to keep more constant pressure on the balls to rotate them throughout the movement.

Taping the lead balls with duct tape made them harder to manipulate, requiring more finger pressure with the extra friction. As I got stronger and more used to the heavier balls, I continued to add duct tape around the balls, making them thicker—and more difficult to work with. I cannot even begin

to tell you how much strength and endurance it requires to manipulate these taped, heavy balls, and how much strength and endurance this exercise will develop if you stick with it.



Rotating two and three Chinese balls in the hands-up position.



Rotating two two-pound lead balls covered with duct tape.

At this point, I hope you are convinced that this is a great exercise for building functional hand strength, so let's get started. First, you need a set of the balls. Some of you may already have a set or know where to purchase some. The local Chinese restaurant in your area may sell them at the counter. I know this may sound silly, but there are three Chinese restaurants in my hometown, and two of them actually have the balls in a glass case at the cash register. You can also check any store that sells Chinese artifacts, and some catalogs feature these balls.

Once you have the balls, start by getting prepared for the palms-down exercise. You first need to get a feel for the balls while using them in the traditional palms-up fashion. Start with two balls resting in the palm of your hand. Keeping your palm up, rotate or roll the balls in your hand toward your thumb using your fingers to keep the balls moving. Remember, regardless of which hand the balls are in, always rotate or roll the balls toward your thumb. Most of you will find this traditional method easy to master. If it feels a little bit awkward at first, stick with it, and after a week or so you will get the hang of it.

Now you are ready for step two. Grasp the balls in your hand the same way as before, but hold your hand in the side position as if you are going to shake someone's hand. As before, start to rotate the balls toward your thumb. You will find this position much more difficult, and you may not be able to do it at first, but continue to practice until you can. You will also notice that in this position, your hand will get tired and start to cramp. Practice this step until you can move the balls quickly for at least a minute. When you can handle the balls with your hand turned to the side without getting fatigued, you are ready to move to the upside-down or palms-down method.

To start, grasp the balls in your hand with your palm down. Once again, start to rotate the balls towards your thumb. You will quickly notice you have your hands full with this one. This position demands much of your strength and endurance and greatly tasks your dexterity. Be sure to keep your hand upside down while doing the movement. You will have a tendency to try to cheat and turn your hand back to the side, but concentrate to do it strictly. After you get a feel for this technique and can handle the movement for over a minute, try to increase the speed that you rotate the balls in your hand. Going faster will give you a greater burn than when the movement is slower. Once you are ready to move to the next level, use three balls in your hand.

As before, start with the three balls resting in your hand with your palm up to get used to the movement, rotating the balls toward your thumb. You will find a big difference when adding the third ball. As you get the hang of it, turn your hand to the side as you did with two balls, again rotating the balls always toward your thumb. Then move to the palm-down position. Once you can handle rotating the three balls upside down, you are in the grip master category, and you should pat yourself on the back. Also, if you have reached this level, you can rest assured that you have gained a huge amount of functional hand strength, useful in any endeavor.

If you would like to go to a higher level, see how long you can rotate the three balls upside down; or see if you can rotate three balls upside down in each hand while taking your morning run.



Bar twirling: great wrist, hand, and thumb developer

Strength focus:

- finger and thumb dexterity and muscle control

- overall hand, wrist and forearm development

- wrist flexibility

- closing the Captains of Crush grippers

- bending steel

I have always been a big fan of the old-time strongmen and find it very interesting to read about their different training methods. Many strongmen of the past trained at the bent press and a handful of other lifts and exercises that the average gym rat of today has not even heard of, let alone experienced. One thing that really separates these strongmen of old from the lifters of today is that the old-timers understood the importance of a strong pair of hands. They generally used thick-handled barbells and dumbbells for their lifting. They also pinch-gripped a lot of weight plates and used wrist rollers.

Years ago I read a short article about Mac Bachelor. Mac was a bartender from Los Angeles who was undefeated as an arm wrestler and known for amazing hand strength. He excelled at all types of grip strength, from card tearing, to nail bending, to crushing bottle caps between his fingers. In the article, he talked about different ways to develop hand strength. He referred to a friend of his, saying that this gentleman developed a huge pair of forearms by holding a thick steel bar in his hand and rotating his wrist back and forth. I considered for a moment whether this would actually work, and as I had some thick bars like that, I decided to try it out for myself.

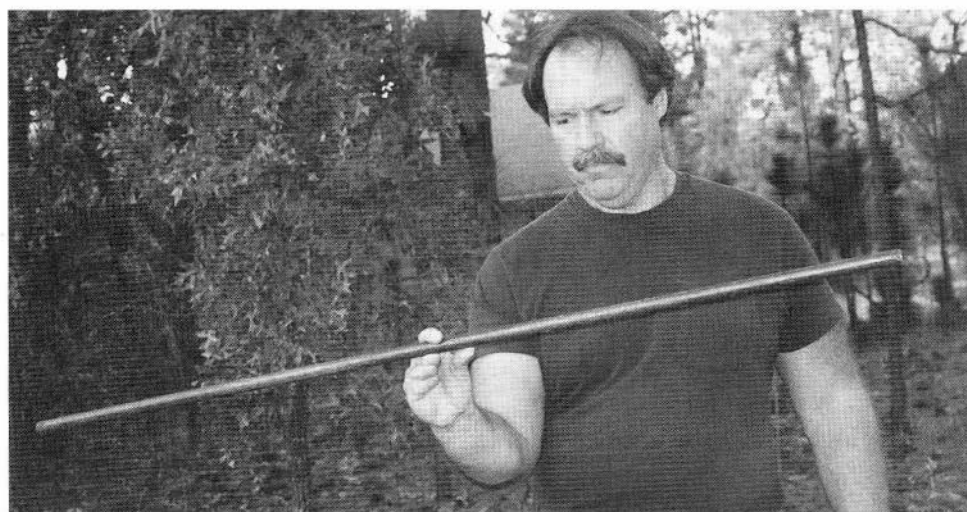
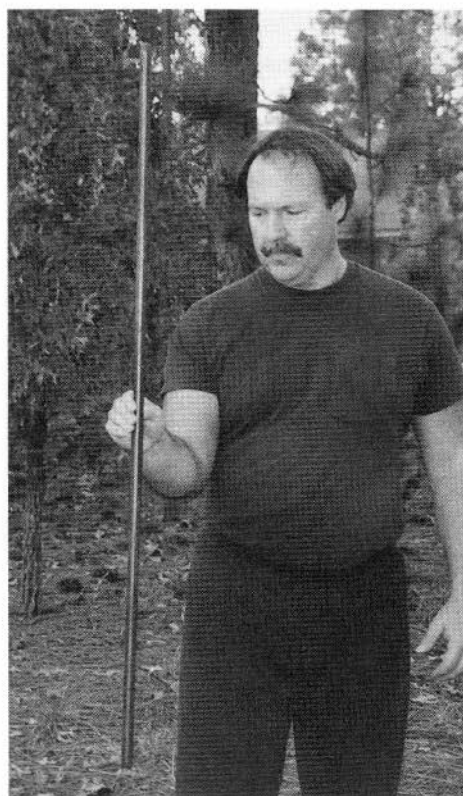
I grasped the bar and began to rotate my wrist as the article mentioned. I felt a little bit of fatigue in my forearms but nothing great, so I decided to go to a thicker, heavier bar. Again I tried it out, but I still didn't feel anything that I was impressed with. I have experimented with literally hundreds of

different types of exercises, a great many of these being grip exercises. This was not one I normally would have tried again—except the next day I went out to my shed to try it again anyway, looking to see what other types of bars I had.

All of a sudden I had a unique idea: what if I used a thinner but much longer bar. I grabbed a three-quarter round bar about four feet in length. Instead of rotating the bar back and forth, I took the thinner bar and turned or twirled it around my fingers like a baton twirler. I instantly knew I had found an exceptional hand strength exercise, and after just a few minutes' practice, recognized that its potential for developing hand strength was one hundred percent unlimited. I used this three-quarter round four-foot bar for several sets in each hand, twirling it about forty seconds per set. The amount of pressure this put on my hand was incredible. The movement cramped my hand up very quickly, and my thumb almost hurt from so much blood flow to the area. I can honestly say that this exercise worked my thumbs better than any hand exercise I have ever done. On top of that, the entire hand, wrist, and forearm got a tremendous workout. Bar twirling can develop top-notch dexterity very quickly.

Any of you who have ever spoken to me or read anything written by me on grip strength know that I am a huge promoter of dexterity and muscle control of the fingers. If you increase the dexterity of your entire hand, your grip will improve dramatically on anything you do that requires hand strength. The reason for this is very simple: when you increase the dexterity in your fingers, you learn to use your entire hand. Your last two fingers come into play, which increases their strength and control and allows you to use the strength of the entire hand. This might sound strange, but for the most part, the last two fingers are only slightly used by most people.

When you have strength and control in your two last fingers, you will be able to pinch grip heavier weights, lift thicker-handled dumbbells, and last but not least, you will be better able to close the IronMind Captains of Crush® grippers. You see, the last little bit it takes to close the grippers is the problem that a great many of you are experiencing. If you look at the position of your hand while trying to close the gripper completely, you will quickly see that it isn't the first two fingers that are finishing the squeeze—it is the last two fingers doing most of the work at the finish. I don't mean to get off the subject of the steel bar twirling; I just want you to understand the benefits of this exercise.



Twirling a steel bar.

After I used the three-quarter bar for a few workouts, I moved up to a seven-eighths round bar for about three weeks. Then I went to a one-inch round bar about four feet in length—a real challenge to my hand strength. I would rotate or twirl it with my fingers for about sixty seconds in one hand and then move to the other hand. I have been doing this exercise for several months now, and it not only has increased my hand strength and dexterity, it has increased the flexibility in my wrists as well, which has helped me with my steel bending. I strongly suggest that you give this jewel of an exercise a try.

To get started, you may want to try this little test. Even though many of you can move right into the movement with a steel bar, twirl a dowel rod or a screw-in broom or mop handle first to get a feel for the exercise. If you can twirl the stick easily, go on to the bar. But if the stick feels awkward, don't worry; you will catch on to the movement very quickly. To start, hold your stick in your hand between your fingers and your thumb. Now, keeping your arm close to your body, twirl or rotate the stick in a clockwise rotation. I want you to keep your arm close to your body because as you move up to a heavy bar, your shoulder will quickly fatigue. Holding the bar at arm's length would defeat the purpose of the exercise, since we are working the lower arms. Once you can twirl the stick comfortably with each hand, move up to the steel bar.

Start with a five-eighths round steel bar about four feet in length, which should give you plenty of resistance. Also it is very important to twirl or rotate the bar slowly, in fact *very slowly*—not fast like a baton twirler or a martial artist using a staff or bow. When you rotate the bar quickly, some of the resistance is diminished by the speed of the bar; but when you rotate slowly, you are manipulating the weight of the bar with pure hand strength. Rotate the bar slowly in a clockwise movement until your hand is tired, and then transfer the bar to your other hand and do the same. You will also want to rotate the bar in the opposite direction, or counterclockwise. You will find that this direction has a different feel from the clockwise rotation, and works the wrist and forearm from a different angle. Remember to do the rotations slowly, feeling the weight of the bar. Once you have gotten stronger, move up to a heavier bar, like a three-quarter round four-foot bar, and then to a seven-eighths bar, and then to an inch bar, and so on.

This motivating and helpful exercise will give you a great advantage when it comes to complete hand strength. Continue to increase the resistance and

also the length of time that you twirl the bar in each direction. If you're feeling really strong, you may want to try to twirl an Olympic bar in this manner. I was told by Vic Boff, the president of the Oldtime Barbell and Strongman Association, that the great Karl Norberg could twirl an Olympic bar. I tried this myself and was able to do it with great difficulty; however, I went back to my smaller bars so I could perform the exercise precisely and for a longer period of time. The key to this exercise is to use a weight you can manipulate and control strictly with your fingers.



One-finger lifting: history and how-to

Strength focus:
- individual fingers

In this high tech world, very little information is kept secret or is virtually unknown, especially with the Internet. Topics basically inaccessible fifteen years ago can now be accessed and studied more easily. We are also exposed to cultures and ideas which were once kept hidden. Many of the training methods of the Soviets and East Germans can now be studied and applied through books and videos. In fact, just about any subject in the strength and fitness world is available knowledge for those who seek the answers.

However, our topic today is about as elusive as the Loch Ness monster or the werewolves of London. This mysterious beast is the manly art of one-finger lifting—you know, where some huge, bearded man dressed in an old-time outfit, like a leopard-skin loincloth, is lifting a huge weight or object off the ground with nothing but one finger. One-finger lifting is probably the most unknown and most impressive feat of strength people can conceive of in their minds: whether they are fans of strength or the world's premier strength athletes, people are in awe of lifting huge weights off the ground with just one finger.

Hans Steyrer, the great German strongman, lifted 500 pounds off the ground using just the middle finger of his right hand. Or what about the famous Canadian, Louis Cyr, who lifted 552-1/2 pounds off the ground using only his middle finger. These two performers accomplished these lifts in the late nineteenth century, and finger lifting continued into the twentieth century, as Warren Lincoln Travis, from New York City, lifted 667 pounds with his middle finger in 1907; Jack Walsh lifted 670 pounds; and R. S. Weeks lifted a whopping 760 pounds off the ground with just his middle finger, in Myrtle Beach, South Carolina in 1942.

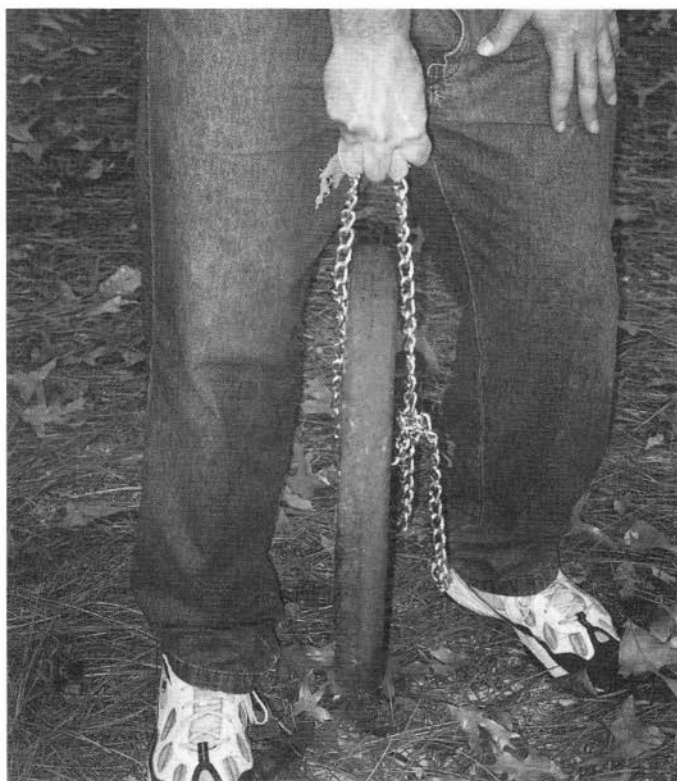
A handful of other strongmen also could lift in excess of 500 pounds with one finger. One such performer who must be mentioned for this list to be complete is the old-time circus performer Philip Brumbach. Brumbach did lifts individually with each of his fingers. He could lift over 600 pounds with his middle finger, but what I found most amazing is that he could lift over 400 pounds using only his pinkie, or little finger. Imagine having that much force being exerted on the joint of your little finger.

The strongmen of old, even though not so large and muscular as the men of today, had superior strength in the tendons and ligaments because of their unique training. Tendon and ligament strength, obviously, is of great importance when it comes to finger lifting—not only for the success of the lift, but also for protecting the finger during the lift.

How can such great poundage can be pulled off the ground with just one finger? First of all, let's examine the lift and break down the steps. The weight is raised only slightly off the ground, and it is mainly the legs and hips that actually lift the weight off the ground. Most of you out there have plenty of strength to lift 500 pounds or more in this manner, using only your legs and hips. After all, your back is basically straight and your legs are almost locked out when you are in the right position.

Next, let's look at the gear or equipment we will need. Most of the famous lifters used a padded finger ring similar to the metal one that IronMind sells or the ones that can be found at many hardware stores. You may wish to put a little duct tape around the ring for slight padding. Be sure that the ring

you use is large enough and has plenty of movement for the finger. I personally don't use a finger ring, but a piece of chain, one that is about the size of a handcuff chain. I have been told that the chain is more painful to the finger than the ring. I'm not sure that is the case—I have always used the chain for the simple reason that the day I decided to try one-finger lifting, I didn't have a ring. The only thing I could find to use in my building was a piece of chain about as thick as a handcuff chain. It is really up to you which you use; either one will work.



One-finger lift with middle finger.

After obtaining your chain or ring, you will need a couple of clamps or hooks to connect your chain or ring to your weight. If you have a loading pin or weight stack and plates, that would be perfect. If you don't have a loading pin, you can run a chain or rope through your weight plates, so that all your

plates are hooked together. Then connect your clamp or hook set-up to your weight set-up, and you are ready to lift. Adjust your own set-up so that the length works for you: you will want to have it set so that your back is almost straight and your legs are only slightly bent. If you're standing straight up, it won't work because you won't be able to get any leverage; likewise, if you're bent too far forward, you will put your back in a bind and will be out of position to perform the lift properly.

Straddle the weight, making sure that the weight or object you lift is directly underneath you. Your other hand is on your thigh in order to balance yourself and to keep your back in the right position. Once you have everything in the proper place, slip your finger through the metal ring or link of chain, positioning the ring or chain about halfway up your finger, between the first and second joint from the end of your finger. Please be sure to use your middle finger the first time. It is the strongest and is also in a perfectly straight line with your hand, making it the safest one to use.

I must strongly caution you that *finger lifting is potentially dangerous*, and you must start with a very light weight regardless of your strength level. If you try to lift too heavy at first, you may damage the tendon of your finger. Even if you wish to try some heavy finger lifts, you should practice lifting some light weights for a while to strengthen the tendons in your finger and toughen up your hand. You may want to lift the weight for a few reps or simply hold the weight off the ground for a few seconds. These movements will greatly increase the strength of the finger. Also remember that your finger is like a hook holding the weight. If your finger is not strong enough to hold the weight, the weight will not leave the ground. And, as you may discover, when you lift a weight but cannot withstand the force, your finger opens or straightens. The result is a dropped weight.

You may notice that in the photo I have a piece of cloth between my finger and the chain. I am not doing this to be a sissy boy; I am doing it to show you the best and safest way to finger lift. If you drop the weight because your finger opens up under the strain, you will probably lose some skin on your finger as the chain quickly slips and scrapes along your finger. So, please take my advice and use a piece of cloth with the chain. If you use the metal ring, you may want to pad it slightly with tape, as I mentioned before, to protect yourself from the same outcome.

Some of you might like to know how much I can finger lift. I would be glad to share this with you, especially since it was my next point. The most weight I have ever lifted with my middle finger is around 400 pounds; and the most I have ever lifted on my pinkie, or little finger, is 200 pounds. Although these are very respectable lifts, they are not my limit lifts, and I have never cared to go higher purely for safety reasons. Even though I have always trained my hands hard, I have always taken good care of them too. So please enjoy the finger lifting, as it is exciting to perform, but remember that you are trying to lift a great weight with a small joint. In addition to lifting, you might also have fun pulling weights with one finger, like doing a seated row on a pulley system. As you progress, you may try to pull a car, or even something larger, with one finger.

One-finger lifting is a feat of strength that has amazed strength athletes and fans throughout history. Proceed with caution, and you just may amaze yourself.



The art of sand blasting: unique total lower arm training

Strength focus:

- hand strength and endurance

- opening and closing movement at the same time

- extensors and thumbs

I have found it very interesting to read about methods of physical training throughout the world. Each country's athletes seem to have unique ways to develop their bodies for their sports and activities, and different ways to test and show their strength. For example, the Basques of Spain have their stone-lifting contests, pulling the stones off the ground to the shoulder. Other countries, like Scotland and Iceland, emphasize lifting certain challenge stones onto a stone wall or barrel. All three of these countries have a rich heritage of testing one's strength with large stones. Other examples are finger-pulling contests, once a popular test of one's strength in Austria; wrestling bouts in

India; and traditional Olympic-style weightlifting in much of Eastern Europe. The one test we will examine here comes from ancient China.

This practice dates back as far as you can look, its origins coming from the ancient *kung fu* masters of the Shaolin temples and is still used today to strengthen one's hands. If any of you have watched the *kung fu* movies on Saturday night, you may have seen a form of this exercise: driving one's fingers into a bucket of sand. The objective of the movement is to force your hand as deep as possible into the sand, which is accomplished by speed, explosiveness, and the strength of the hand. *Kung fu* artists continued to train by thrusting their fingers deep into the sand until they moved to another level. In fact, there were five steps in building the strength and toughness of their hands.

The first step was to perform push-ups on the finger tips. Once students could perform finger-tip push-ups with ease, they would advance to the next level, which was to perform push-ups on their forefingers, or to bounce up and down on their finger tips. Once this exercise was mastered, the student would then fill a bucket with Chinese green beans and drive his fingers as deeply as possible into the beans. When the student could drive deep into the beans, he would then graduate to our topic, a bucket of sand. The student would train by jabbing his fingers as deeply into the sand as possible.

The fifth and final level was to drive the fingers as deeply as possible into a bucket of iron or steel shot. This final level is quite tough and abusive to the hands and could take quite a while to reach given the stress on the hands. Following this five-step system would perhaps develop the toughness of the fingers and hands more than the strength of them. After all, this method of training was mainly used by the *kung fu* trainee to develop finger strength so that he could penetrate deeper into an opponent with his strikes. The system of strikes used the fingers in various forms or styles, instead of the fist, to strike and thrust, which is why driving the hand into different substances, like beans, sand, and steel shot, was so important to the trainee. Some of these styles are called the tiger, eagle claw, praying mantis, and the white crane.

Even though the *kung fu* system of training is rather interesting and fun, when going through the different steps the hand is mainly used with the fingers straight or held in the same position throughout the movement. In

other words, there is no range of motion, closing and opening the hand. I followed this system and found it exciting as I was able to drive my hand deeper and deeper into buckets of sand and steel shot. It was through this process that I discovered yet another noteworthy hand strengthener. While working with the sand one day, I forced my hand into the sand to the point where my fingers were buried slightly past the last knuckle, or where half of my hand was underneath the sand. Instead of thrusting my hand up and down, I kept my hand in this same half-buried position and started squeezing the sand, closing my hand against the resistance of the sand and also forcing it open against the resistance of the sand. As I closed my hand and then opened it under pressure, my hand was undertaking a tremendous work load.

I started to experiment with different angles and different depths. Having my hand completely buried in the sand about to wrist level provided the most resistance. The sand is packed a little tighter at this depth, resulting in more tension on the hand. At this level I continued to forcibly open and then close my hand against the sand, and it didn't take long to achieve a great pump in my entire hand and lower arm. My hand was actually wanting to cramp a little when I stopped.

In *Mastery of Hand Strength* I discussed the importance of doing exercises that open the hand as well as close it. This opening of the hand, working the extensors, is almost entirely overlooked and is of great value in any activity requiring hand strength. In sand blasting, as I call it, you are getting the best of both worlds, working both movements—closing and opening the hand—in the same exercise. This is the first time I ever did both movements together, and after doing this exercise for a while, I experienced a new feeling in my hand and forearm and noticed that my endurance had greatly improved. I highly recommend it to those wanting to improve their hand strength and endurance in a short period of time.

To get started, all you need is a bucket and some sand. I would suggest a five-gallon bucket, which can be purchased at any hardware store or lumber yard. Fill your bucket with sand. Where I live, the soil is almost pure sand so I don't have to go far to fill my bucket. If you live close to the coast, the beach sand will be fine. However, if you don't have access to the beach, try your neighborhood hardware store. It should be easy to purchase a bag of

sand to fill up your bucket. Fill your bucket almost to the top, and you are ready to begin.

Place your bucket on the ground and either get on your knees or sit on a stool. I personally like to use a stool for comfort—which allows you to concentrate on the exercise instead of the discomfort to your knees. Force your hand into the sand to about wrist level. If you have any difficulty getting your hand deep enough into the sand, twist your hand or claw into the sand, forcing your hand deeper at the same time, up to your wrist. Start to close your hand tightly into a fist against the resistance of the sand. Now open your hand as wide as you can against the resistance of the sand. Continue to repeat this movement over and over until you get fatigued. As you improve on this exercise, concentrate on opening and closing your hand with more explosiveness. You will quickly see the benefits of this exercise. As with all exercises, be sure to work both hands equally.

Sand blasting will give you one of the greatest pumps you have ever experienced in your life, and the strength and endurance it builds is very functional. You will also find that sand blasting works the thumb as well as the extensors, just another one of its many benefits.



The investments: reaping big rewards in hand strength

Strength focus:

- overall hand strength

- muscle control and dexterity

- individual fingers and thumb

- extensors

Many of the new exercises in this book develop not only great hand strength, but also muscle control and dexterity in the entire hand. This, of course, promotes excellent hand health as well. I call the two exercises in this section “the investments” because you are making an investment in the

strength, muscle control, and dexterity of your entire hand, along with your overall hand health.

Levering barbell plates with finger tips

For the first one, levering a barbell plate with your finger tips, you need a table or a work bench, a towel, and a barbell plate. If you are average in your grip strength, you will probably want to use a 10-lb. plate. If you are really strong in your grip, you may use a 25-lb. plate. You will have to experiment with the proper poundage, as with any exercise. Place the towel on the table or bench, folded double, and place the barbell plate on top of the towel. The towel is used to prevent the plate from sliding around, as well as scratching the table top. Place your forearm and hand flat on the table with your palm facing upward. Slide your finger tips underneath the edge of the plate and start to raise one end of the weight using only your finger tips.

You can vary the movement as you progress: you can raise and hold the weight with all your fingers, you can raise the plate with just two fingers, or you can even raise it with one finger at a time. Be sure that if you try the one-finger method, you don't strain any tendons or ligaments. Start slowly and don't try too much weight for your own strength level. Also, I would suggest that you sit in a chair instead of stand. This will make the rest of your body comfortable, and you will be able to concentrate on the exercise.

As you progress and get used to the movement, try to go from one finger to the other. In other words, lift the barbell plate and hold it with one finger; then, without lowering the plate, go from one finger to the next, back and forth, as though you were playing a piano. You will also find this extremely challenging and motivating, as any true exercise should be. Remember to keep your wrist flat on the table, and try to keep your hand flat as well. Your hand will have a tendency to rise, but try to keep it flat; after a while this won't be a problem. As with all exercises, be sure to train both hands equally. As you go up in weight and add another plate, put a peg or short dumbbell bar through the hole of the plates to keep them from slipping.

Some of you who are familiar with the Titan's Telegraph Key from IronMind Enterprises might say that levering barbell plates with your fingers is a similar movement with different hand placement. This is a reasonable observation;



Levering weights with one or more fingers.

however, this exercise doesn't remotely feel like the Titan's Telegraph Key. The muscles, tendons, and ligaments are being trained quite differently. I strongly urge you to use this exercise in your training routine; it will greatly improve your total hand strength and hand health.

One huge advantage of levering barbell plates is that it can also work the extensors—the muscles used to open the hand. These muscles are hardly ever even mentioned, let alone properly trained. I have found that by training the extensors, the entire hand gets stronger. Yes, greater strength for pinch-gripping or even closing a heavier gripper can be obtained by adding some extensor training to your routine. In *Mastery of Hand Strength*, I presented a few exercises that increase your hand-opening strength. I have

always known that exercises to develop the extensors were important, but I'm learning just how critical this is. Training the extensors increases strength, helps prevent injury, and promotes hand health.

To exercise the extensors with this movement, the same rules apply as before. The only difference is that you will use a much lighter weight. Start the same way as before by placing the barbell plate on the table on top of the towel. This time, place your arm on the table with your palm facing down and slide your finger tips under the edge of the plate. Lift the plate by raising your fingers upward. This may be extremely difficult at first, but keep trying until it feels comfortable to you. As you improve, you can raise the plate with individual fingers, as in the original exercise, and eventually hold the plate up while moving from one finger to the next. Once again, remember to use a lot less weight when working the extensors. You'll find that levering weights will be worth its weight in gold for enhancing your overall lower arm strength and conditioning.

Shot rotation

The second exercise which I refer to as an investment is using shots as therapy balls. Whether you call them meditation balls, strength balls, Chinese balls, or health spheres, it doesn't matter. In the section called Ball rotation (in Chapter 2), the technique of using steel balls to exercise the fingers and thumbs is similar to this exercise, except here we are using shots instead of smaller balls. I showed you how, as you progress, you can actually do the exercises with your hand turned upside down, with your palms facing the floor. The exercises with the shots are similar; however, they are too heavy for you to turn your hand upside down—they have to be used with your palms up.

As many of you know, shots vary in weight from the Olympic sixteen-pounder to smaller shots for women or younger athletes. I have a couple of six-pounders that I normally use in my hand. These are the best size for me as my hands are not large enough to handle anything much bigger, especially after I put a few layers of duct tape around them. The tape is used to keep the balls from moving easily. Yes, that's right, I want more friction to work against, and the duct tape helps create this increased friction. Also, when you purchase shots, be sure to ask for iron field shots, as they work just as

well as chrome ones and are less expensive. Remember to buy a pair of shots—I would suggest the five-pounders, which will work well for a man with an average-sized hand. Unless you have a huge hand, I would stay away from anything bigger than the six-pounders. Once you have your shots and have wrapped them up in duct tape to create more friction, you are ready to start.

Hold the two shots in your hand with your palm upward. I suggest that you sit down with your forearm across your knee as though you were going to do a wrist curl, because with the weight of the two shots in your hand, your wrist and forearm will actually be getting a workout, along with your fingers. Start to move the shots in a clockwise direction if you're using your right hand, and a counterclockwise direction if they're in your left hand. To make this easier to remember, rotate the shots toward the thumb, no matter which hand they are in. Start this way and get a feel for the movement. Once your hand has gotten stronger and gained more dexterity, you can then try to rotate the shots toward your thumb without their touching each other. This is an advanced way to handle them, and requires more hand strength as well as more control; however, the rewards will be great.

The other technique I use with the shots is to rotate them in the opposite direction. In other words, no matter which hand you use, the shots will be rotated away from the thumb. You will probably find rotating them away from the thumbs to be much more difficult, but keep trying to master it. As I said a moment ago, the rewards will be worth your efforts. As always, be sure to train both hands equally.



Standing finger tip lifting: impressive work

Strength focus:
- finger tip strength

I will share with you another exercise that is very unique and one you have probably never seen before. You also know that anything that I ever show you has been field-tested by me over a period of time. You can rest assured that if I ever show you an exercise, it has personally helped me achieve my grip strength goals. While it is true that I do some exercises more than others, any I show you will give you great results if you stick with them.

This gem of an exercise is pressing objects using your finger tips. Of course, it would be difficult as well as dangerous to try this with a barbell, and this is where some of our favorite objects come into play, in the form of our old reliables, rocks and barrels. I found one day while I was fooling around in my rock garden that pressing a rock overhead is a tremendous way to develop the fingers. Pressing an object in a standing position is completely different from doing finger-tip push-ups: it works the lower arms in a much different way and provides as much resistance as you can handle.

You will need to start with a small rock to get a feel for this exercise. You will not be able to press nearly as much weight as usual this way either—this is not a movement where you want to try to use a lot of weight. *It must be controlled and done in a very safe manner.* As far as the weight of the rock goes, you will have to experiment to find the right weight; just be sure not to go too heavy and strain your fingers. Most types of rocks will work, even with their unique shapes; you must be able to balance the stone fairly easily.

To start, lift the rock to your upper-chest or neck level. Start to position your hands so that they are directly under the rock. When you can balance the rock on your hands, press it using your finger tips. If you are having

trouble positioning the rock and it feels too awkward, you are using too much weight and you must go to a smaller rock for safety.

When standing and pressing rocks, *never lift or hold the rock directly overhead*. You must always have it a little bit forward, which will be the natural way the rock will go anyway, but as an extra precaution, just make sure that the rock is a little forward and never directly over your head. Once you have found the right-sized rock and have gotten a feel for this exercise, you will find it to be extremely productive. I will let you figure out how many repetitions you should do. I personally press for around twelve to fifteen reps.



Standing finger-tip pressing.
Note the position of the rock, forward and in front of,
not over, the head.

I mentioned using a rock first, so now let's look at using a small barrel; actually a keg might be the best. You can use regular barrels, but they tend to be large and awkward. A classic beer keg is perfect. An empty one weighs about 31 pounds, so you might want to add some liquid for extra weight. As with the rock, once you find the right amount of weight, clean the keg to your chest or neck. Place your hands in the right position for proper balance underneath the keg and press the keg upward using your finger tips. Once again, you need to use caution and not have the barrel directly over your head. Also, be sure that you don't use too much weight: this is a training exercise, not a challenge. Once you have practiced a few times, you will be able to balance the keg without much difficulty. As with any exercise, as you get stronger pressing the keg upward, you can add more liquid to the keg.

I have talked about pressing rocks and kegs using your finger tips. I will suggest one more object to use for this exercise, which may be easier because it is convenient and available: the ordinary barbell plate. Take a regular 45-pound plate, or a 50-pound plate if you have one, and press it overhead using your finger tips. The plate will be quite easy to balance as well. For most of you, the 45- or 50-pound plate is probably a good starting weight. From there you can work toward the 100-pound plate, or into the rock or barrel exercise. Again, never press the plate directly over your head; it should be up and forward, to the front.

Some of you may be wondering if you can use fewer fingers for the exercise as you progress. My answer is no. You may have the strength and the motivation, but it would be unwise and unsafe. The objects might slip away from you if you use fewer than all your fingers and thumbs. Once again, this one is a training exercise, not a challenge or a feat of strength.



Lever lifts plus grip work: a new strength equation

Strength focus:

-
- lower arm development: wrist and forearm
 - pinch grip and crushing strength combined
-

This section covers a couple of unique lifts to develop your lower arms to an even greater degree. Many of you know about lever lifts. For example, the classic Weaver stick was very popular years ago, so popular that there used to be competitions among strongmen with the Weaver stick. The stick would lie on the table with a weight on one end, and the competitor would grasp the other end of the stick and attempt to lift the stick off the table with the weight attached. If his wrist were strong enough, the Weaver stick would come off the table. If it weren't, the weight would stay on the table. It was a very simple concept, but a very exacting exercise.

Of the many variations of the Weaver stick lift through the years, one of the most popular, especially among workmen, is hammer lifting. There are two basic hammer lifts. In one, the lifter holds a sledgehammer by the end of the handle out in front of himself. Usually with the arm straight, the lifter tilts or levers the head of the hammer back to his own forehead or nose, using just the strength in his wrist—this is the sledgehammer lift that you usually see. (While this lift is impressive, it is also dangerous and only for the professional.)

The other is a lever lift in which the sledgehammer lies flat on the ground, and the competitor attempts to lift it off the ground by grabbing the end of the handle, using only his wrist strength. The second lever lift is much more difficult than the first, requiring more wrist strength to compensate for the lack of leverage, and is the lift we will examine in this chapter. I will show you two variations I invented that will give you far better results than the basic lever lifts. These two great exercises will enhance your wrist and forearm strength, as well as develop your pinch grip and crushing strength.

Board pinch grip

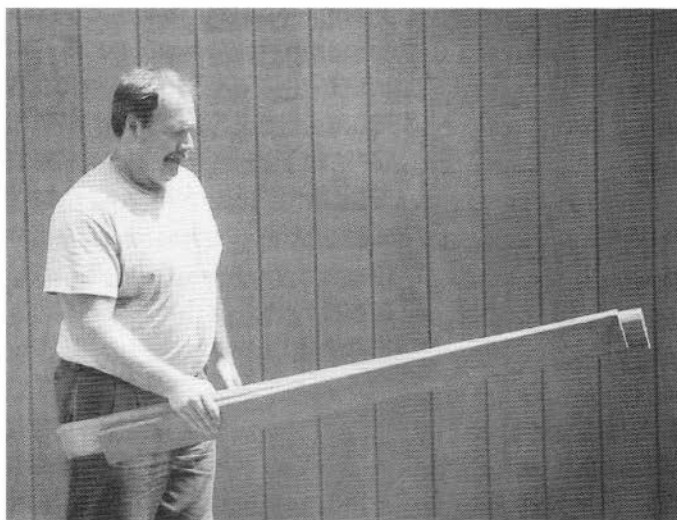
The first exercise develops your wrist and your pinch grip. I have done this one many different ways and will show you the simplest—and even though it's the simplest one, it does not take away from the great results that it will produce. You will need two 2 x 4s, about four feet in length, making sure that they are equal in length. It does not matter what type of wood the boards are; treated (hardened) or untreated wood doesn't matter either. Place the boards side by side, against one another, on the ground with the two-inch side on the ground and the four-inch side perpendicular to the ground. Grasp the two boards down at one end, with your hand over the top in pinch-grip style. Squeeze tightly, keeping the two boards together as you lever or lift them off the ground. This is done in the same fashion as the classic Weaver stick lift or sledgehammer lever off the ground. The only difference is that you are combining the lever lift with the pinch-grip lift, the best of both worlds.

You will quickly notice that you don't have much leverage to work with in the pinch-grip style. You have to keep a very tight pinch grip at the ends of the boards to maintain the lever lift. If you can't lift the boards, you can either use shorter boards to reduce the resistance, or you can grasp the two

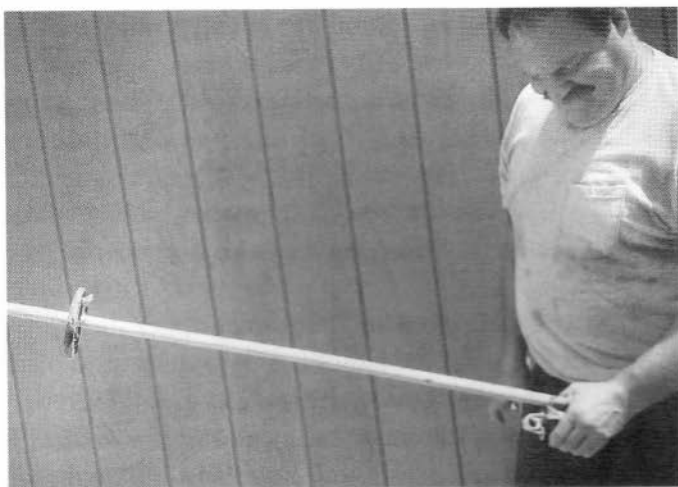
boards a little bit closer toward the middle to lighten the load somewhat. I suggest that you grasp the boards slightly closer to the middle. This way you still have the longer boards to use as you get stronger. As you experiment, you will find the proper length and position to grab the boards, and you will be ready to get down to business.

Lever the boards off the ground and hold them at about hip level. From there, you can do a couple of things. You can hold them for time in that same position, which will really give the lower arms a terrific workout. You can increase the time you hold them in this position, or you can place a half-brick or small weight on top of the boards toward the other end, making the lift and hold much heavier. Believe me, it doesn't take but a very small weight or half-brick placed toward the end to make a big difference.

Another way to train with the boards is to lever them to hip level as before, but when you get them into the holding position, lever them up with your wrist so that the boards are now vertical, in an up-and-down position, instead of horizontal as in the holding position. Continue to go back and forth from the horizontal position to the vertical, using only your wrist to lever the boards as you maintain your pinch grip. Holding and levering the boards using a pinch grip will give your lower arms a workout such as they have never felt before.



Combining the lever lift and pinch grip.



Combining the lever lift and crushing grip.

Lever lift with gripper

The other lever lift that I invented combines wrist with crushing grip strength. While toying around in my back yard one day, I thought of a fabulous little gadget that would work the forearms with the classic lever lift and at the same time build crushing strength. After a bit of experimentation, I found a thin-handled household broom handle—you know, the kind where the handle screws into the actual broom and is used to sweep the kitchen floor. It must be a thin handle, the thinner the better, not a heavy industrial broom handle. Once you have the proper handle, you need a hand gripper. You can use a Captains of Crush No. 1 gripper if your hand is strong; you must be able to close the No. 2 gripper without a lot of effort to use the No. 1 gripper on this project. If you can close only the No. 1, I suggest you use the Trainer. In fact, you may even want to use a regular sporting-goods-* store gripper, the kind you buy at a local store. These grippers will actually work fine to start with, even if you have strong hands. You may also want to look for a gripper that has handles a little bit closer together than normal. If you can't find one, however, don't worry about it.

Once you have your handle and gripper, place the gripper at the end of the broom handle and duct tape the broom handle tightly to the top handle of the gripper so that the two are attached; the tape must be tight. When the

two are together, place a light weight on the other end of the broom handle by running it through the hole of the weight. Grasp the gripper and squeeze it shut as you lift the weighted broom handle. Now you are combining the lever lift with the hand gripper. You will notice that you must be able to close and hold the gripper securely to be able to lever lift the weighted broom handle. You will have to experiment with the proper weight to use. Once you get a feel for this, attach a stronger gripper to the stick.

You will find that if you can't close and hold the gripper shut, it will be next to impossible to lever the weighted handle. You may want to place your handle over a bench or table instead of on the ground in this exercise. I think you will find the table at a better angle for the lever lift. You can lift and hold the stick for time, or you can lift and hold for a moment and then place the stick back on the table and then quickly lift it again, repeating the process. You will get great enjoyment from this exercise as well as great results, combining the lever lift with your crushing grip workout.



Hand blasts: developing the explosion

Strength focus:

- explosive power

- overall hand strength

I work with many people who are looking to develop an explosive grip for sports and other activities. A quick, powerful hand is an asset for all, and especially for wrestlers, football players, and martial artists. Explosive power is the most desirable type of power to have because it is very functional and useful. I will show you some unique ways to develop great hand strength combined with lightning quickness.

Many of the exercises in this book will develop a strong, powerful grip that can be used in a quick, explosive manner. Here we will take it one step further. These exercises not only produce great results, but also are a lot of fun. I highly recommend that you try them. If you read my first book, *Mastery of Hand Strength*, you may remember the section on handling block weights. Tossing block weights from hand to hand is a great way to develop explosive hand power, but we will now look at some other ways that I have never shown you before.

Ball toss

This first drill will develop your entire hand. All you need is a rubber-type ball; a tennis ball will do all right as will a racquet ball or other small ball. I would not use a ball any larger than a tennis ball, and you may want to use something even smaller to start. The small silicone ball mentioned in the section called Other grip devices (see Chapter 2) will work well for this exercise. Oh, by the way, we will not be sitting in a chair squeezing the ball. Instead, we will toss the ball into the air and then with one quick motion grab and squeeze the ball with all our might. That's right, toss the ball in front of you, or even have someone else toss the ball to you, and with all your speed and power, grab the ball out of the air, attempting to crush it.

You will love this one. This movement feels completely different from merely squeezing the ball, and in fact, it might even make your hands and forearms sore the first few times. At first, you may miss the ball or bat it away, but keep practicing, and you will soon grab it out of the air on every toss. You may be a little bit hesitant at first, but once you get a feel for this exercise, you will be able to give it your all. After you do it for a while, you will be able to feel the strength that you have gained as the ball is completely crushed in your grasp. Also, be sure to increase your speed in going for the ball.

Try using different-sized balls. Each size will feel a bit different, and each will develop your hand at a slightly different angle. Be sure that you grab the ball as quickly and with as much force as possible. You will have to experiment to find the right size and right type of ball for your own strength and hand size. As always, don't try to grab or grip something too wide for your hand, as this can cause your thumb to hyper-extend and stress the joint. After a few sessions you will find the right-sized ball for your needs.

Gripper toss

While the next drill for explosive hand strength is similar, this time we will be using a hand gripper—not a heavy-duty one, but just a regular sporting goods store variety, at least to start with. If you can find a regular gripper where the handles are close together, that would be great; if you can't, a regular one will do fine. Once you have chosen your gripper, toss it up in front of you just a few inches and try to grasp it and close it in the same motion.

The gripper will be more difficult than the round ball, and you will want to start off more slowly with the hand gripper. After you get used to it, increase your speed. You will quickly see that you will not get your hand on it the way you want to. It will be a little bit to the side when you grasp it, or you will grab too close to the top of the handles. Either way, it will seem much harder to close than the normal way. It may even seem many times harder to close. As you improve and get accustomed to this drill, be sure you use a quick, explosive motion as you grab the gripper. By the way, this is one of my favorite ways to train my hand, not only for results but also for just plain fun.

I can guarantee you that tossing and mashing a hand gripper is a challenge that you will enjoy and appreciate. The different angles at which you grasp the gripper will stress your hands in new ways and give them a grip-building advantage. A very productive drill, gripper tossing will greatly enhance not only your explosive grip, but your overall hand strength.

To answer the question that a lot of you have, yes, you can try to move up to the Captains of Crush grippers on this drill, although it won't be easy getting the right grip on them. Start with the Trainer and go from there. This drill will be a great motivator for you, with amazing results. If you are able to toss the No. 1 gripper into the air and grasp it and close it in the same motion, be sure to let me know because this will be quite an accomplishment.

Rapid hand action

I will share one more drill that will build your explosive hand strength and strengthen your extensors as well. Be sure to do this exercise last; it will give you a tremendous pump into your lower arms. At first it may not look very hard to do, but if you do it correctly with the right effort, you will quickly

develop great respect for it. You can do this exercise one hand at a time or both hands together—it doesn't really matter. I usually do it one hand at a time. Hold your hand out in front of you wide open, and open and close your hand as quickly and explosively as you can for ninety seconds. Be sure to completely open your hand each time, and be sure to close it completely each time. Do this hard for the entire ninety seconds, working it as quickly as possible, trying to beat yourself each time. The challenge is to do more reps each and every time you do this drill. Be sure to train both hands equally. This rapid hand action drill is one of the most deceptive-looking exercises you will ever find. While it doesn't look very difficult, it will give you one of the greatest burns imaginable. Each time you do this exercise, strive to be more explosive and use more power.

Innovation is important in everything you do when it comes to your training, and it is essential to staying motivated. The key is to have fun and challenging exercises in your routines. Be sure to try some of these new ways to develop explosive hand strength because they will not only give your hands more power, but also give you some dynamite results.



Work those extensors: for total hand strength

Strength focus:

- total hand strength

- increased size and muscularity in forearm

I have already mentioned the importance of developing the extensors, the muscles that open the hand, in a few places in this book. Many grip enthusiasts do not train the extensors at all; therefore, they have not tapped into their total hand health and hand strength—that's right, *total* hand strength. That's why I feel that including a section on developing the extensors is essential.

Some of you who are at a sticking point with your hand strength right now will notice a huge difference if you start exercising the extensors. Whether you are stuck on a Captains of Crush gripper or stuck trying to pinch-grip a

certain weight off the ground, this will breathe new life into your total hand strength. Another nice attraction or fringe benefit that you will notice after exercising the extensors for a short period is that your lower arm or forearm size will grow. There is no doubt about this: you will notice increased size and muscularity because you are awakening muscles that have never been truly exercised before. The burn you feel when the extensors are exercised is on the top of the lower forearms. It is quite a burn or pump when they are exercised properly. I believe that you will greatly enjoy these new-found muscles.

I noted that the Power Web (see Other grip devices in Chapter 2) can be used to exercise the extensors, as well as the exercises lifting the weights off the table using the fingers (see The investments in Chapter 2) and sand blasting, resisting sand in a bucket (see The art of sand blasting, Chapter 2). You can also use rubber bands and lifting jars (ref. *Mastery of Hand Strength*). All these are helpful, and I use all of them from time to time with good results.

My two favorites are coming up next and I hope you find these very enjoyable and productive as well. The good thing about these two exercises is that one uses range of motion and the other works as a static hold or resisting exercise. The second, holding exercise is extremely fun and can also be used in competition or to test your strength against someone else's. I often play a little game with myself with this exercise which I will share with you in a moment.

Hand resistance

Let's look at the first exercise, which brings range of motion into play. This movement can be done anywhere anytime because it requires no equipment. Hold your right hand closed in a fist with your left hand over the top of your fingers. Open your right hand all the way, resisting the opening of the hand with your left hand. Do not try to stop your right hand from opening with your left hand; simply slow the movement and create resistance. Continue to open and close the hand until you get fatigued. I usually do a lot of repetitions of this exercise. I don't count the repetitions, but I would guess that I do around thirty or more. Remember, do not try to stop the hand from opening with the other hand; simply resist the opening of the hand.



Hand resistance exercise.

After you do the hand resistance exercise a few times, it will feel very natural. It will give you a tremendous burn in the top of the forearms. You will also gain strength very rapidly if that muscle group has been inactive until now. You will enjoy the hand resistance movement and its benefits almost immediately. As always, be sure to exercise both hands equally. I do this exercise last, after all my other lower arm exercises. One reason I do this one last is the extreme burning sensation it produces when I do a couple of sets on each hand. If you include this exercise in your hand strength routine, it will produce great results in total hand strength and hand health.

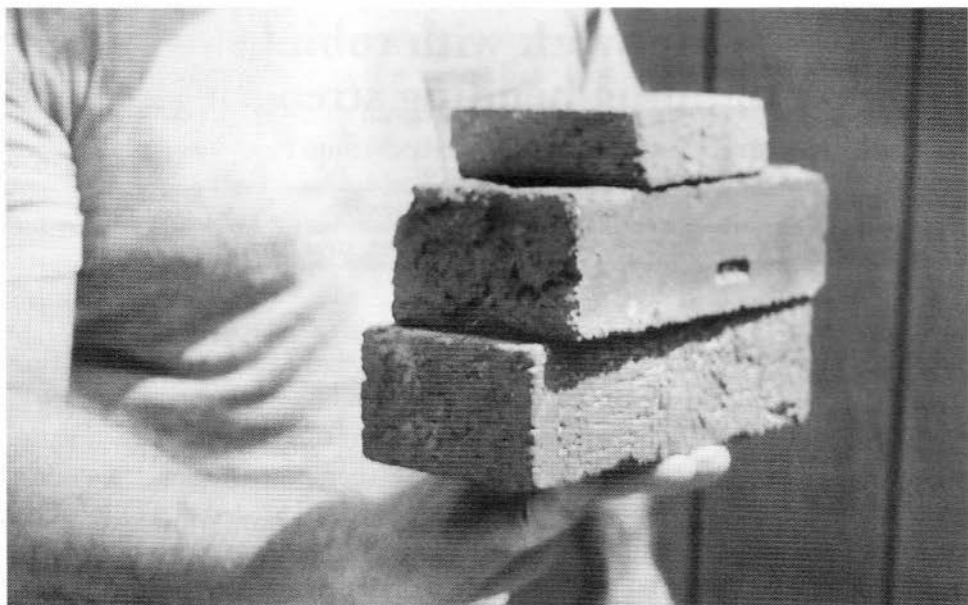
I encourage you to work the thumb in this way as well. It, of course, opens and extends. You can either include it in the same movement as your entire hand, or you can work it by itself, resisting the extension of the thumb using a couple of fingers of the other hand. Once again, remember to exercise both hands and both thumbs equally.

Extended finger hold

The second exercise is a holding exercise that can also be used as a game to match your strength against someone else's. You can use a variety of objects to perform this exercise; I suggest using solid half-bricks. These bricks can be purchased at a home improvement center, a lumber supply company, or perhaps a garden center. Half-bricks are red in color and solid, without any holes. Other bricks and objects can be used instead, but I like the half bricks because they make a short pile instead of a tall pile, which you will understand in just a moment.

Once you have a few bricks, you are ready to begin. Start by holding one hand in front of you with your palm down and your fingers extended straight out. Place one brick on top of your extended fingers, holding it there for about three seconds. Then place another brick on top of the first brick, and hold those two bricks for about three seconds. If you can still hold two bricks, add a third brick to the stack and hold for three seconds. From there, instead of going higher, take the third brick off the stack and hold the first two bricks for three seconds. Finally, take the second brick off and hold the first brick for about three seconds. At this point you have completed a cycle. You can either stop and rest, or you can continue by adding the second brick on top of the first again and then the third, repeating the

cycle. I usually continue going through the cycle over and over before I remove the bricks and rest. You must decide for yourself what is best for you.



Extended fingers holding exercise.

The three-second hold is just a suggestion. You can hold the bricks as long as you want. You can also stack more than three bricks on your hand if you like, but do not try to stack more than four bricks as they may be hard to balance and may fall over. I think you will find three to be enough when you repeat the cycle again and again. As you improve, see how many cycles you can go through before you have to rest. Extended finger holds are a lot of fun to do and will take your hand strength to the next level.



Grip work with tubing: building bending strength

Strength focus:

- overall lower arm strength

- bending strength: nails, horseshoes, steel bars, etc.

In this chapter I will give you yet another world-class way to train your grip strength using cables—not the cables at the gym that are attached to a stack of weights, but the old-fashioned cable set made of surgical tubing with handles on each end. They are pulled or stretched when exercising and give the practitioner a great upper-body workout along with improved flexibility and range of motion in the shoulders. In my opinion, cables are much better than weights when it comes to developing functional strength in the upper body.

To train our grip, we are going to use the cables a little bit differently than we normally would. While I did not invent these exercises, I modified them so that they could be used to greatly enhance one's lower-arm strength. These few exercises with tubing develop the type of hand strength that helps with bending nails and horseshoes, among other things. Even though some of the exercises can be done the traditional way when training with cables, our method has one big difference: we are not going to use any handles. That's right, detach the surgical tubing or cables from the handles of your cable set. If you do not have a cable set, you may want to buy some surgical tubing from IronMind Enterprises, Inc. or from a medical supply store. Old bicycle tire inner tubes will also work, although they have a tendency to dry out more quickly than surgical tubing, causing them to break faster with use.

Be sure to check the tubing and the tires for weak spots before you start. Do these exercises away from others, in case your cables or inner tubes should break, and wear a pair of safety glasses to protect your eyes.

Once you have your tubing, you are ready to start; not having handles attached to the tubing quickly changes the scheme of things. As you have probably already guessed, you are going to be gripping only the tubing in these exercises. You are not going to be putting your hands inside the loops or circle of the tubing, you are going to wrap your hands around the ends of the tubing on the outside, as if it were a bar. Holding the cables in this way makes them very difficult to hang on to, giving your hands a great workout. You will also get a good upper-body workout with these traditional cable exercises. If you have used cables before, you will have to lighten the load and use fewer cables in this manner. When grasping the tubing directly, instead of the handles, you won't have the leverage you would with the handles attached.

Start off with a few friendly exercises, beginning with the front chest pull, probably the most common exercise performed with cables. To start, grasp the ends of your tubing in each hand, with your palms down. Tightly grip the tubing while holding it straight out in front of your chest. Now stretch the tubing out in front of you so that your arms are outstretched at your sides, forming a crucifix; return to the original position in front of your chest. You will have to experiment with how many repetitions to do and also how much tubing is right for you. Gripping the tubing is a little different from other exercises you do for the hands: your hands are holding on to something quite small in diameter and are almost completely closed. This type of grip work will help you with feats of steel bending, like nails, horse-shoes, and short steel bars.

In a similar exercise, start by grasping the ends of the tubing, holding it over the top of your head. As you grip tightly, stretch the tubing outward as you pull the tubing down behind the back of your neck. Once again, you have formed a cross or a crucifix, but this time it is behind your neck. Return the tubing back to the starting position over the top of your head, and repeat the movement for reps. Again, you will have to experiment with how much tubing to use for this exercise. You may find that a different amount of tubing must be used for each exercise because of its unique demands.

The next exercise, called the archer, is also a popular one for traditional cable pulling. Start by grasping the ends of the tubing in each hand as before. Extend one arm straight out to the side and hold it straight throughout the movement. With the other arm, pull back the cables as far as possible, as

though you were pulling or drawing a bow. Be sure to keep a tight grip on the ends of the tubing so that it doesn't slip. Once the tubing is stretched, hold for a moment and then return to the starting position. Continue for reps. Now change to the other side, as if you were going to shoot the bow with your other hand. This is a fun exercise and will task your grip strength to the utmost.

Yet another good exercise that will enhance your grip strength is the hammer curl done one hand at a time. You will probably want to do this one seated unless you have extra-long tubing to use. Start by grasping one end of the tubing in one hand while holding the other end down with your foot (you can slip your foot through the tubing). Make sure the tubing is secure around your foot and won't slip. Hammer curl the tubing toward your upper chest or neck. Be sure to keep your foot tightly on the other end of the tubing at all times. Return to the starting position, and repeat until you fatigue your hand; then train the other hand with the hammer curls. This is a very taxing movement when grasping the tubing by the ends and will give you a new challenge that will yield good results.

The last exercise is my favorite and will help those would-be nail benders out there. You may want to use more tubing for this one. If you don't have enough tubing, just overlap the tubing or double it up. It won't matter if the tubing is short because this exercise requires an extremely short range of motion. Start by grasping the cables in the middle so that your hands are touching, palms facing downward. From here, turn your hands downward and inward as though you were trying to bend a nail. You must hold tightly onto the tubing as you turn your hands downward at each end so that your palms are facing each other. Try not to let the tubing slip or move at all in your hands throughout the movement. Continue the movement for reps until fatigued.



Captains of Crush® grippers: climbing the mountain

Strength focus:

- closing the Captains of Crush grippers

- crushing grip

- last two fingers

When it comes to frequently asked questions, there are many. I have touched on a few in other chapters of the book, ranging from training frequency, to how to find the right materials at the local hardware store. I have heard most of them, and one of the biggest and most logical questions is, how do I climb to the top of the mountain with the Captains of Crush® grippers? Let's face it, that is a great question.

The answer is progressive resistance—and this is also the major problem. Unlike most exercises where one can add a few pounds at a time, the grippers have big steps between the different strengths. For the readers out there who are not familiar with IronMind's Captains of Crush grippers, there are five of them and they are in the form of a hand gripper similar to the ones you might buy your son at a sporting goods store to build up his grip strength for football or baseball. The major difference is that the sporting goods store grippers are made of lightweight materials and only require around thirty to fifty pounds of pressure to close the handles together. This is not to say that these grippers are not effective, because they are.

The Captains of Crush grippers are made with a heavy-duty steel coil for longer life as well as to provide a much stronger squeeze to close them. They are by far the greatest grippers ever made, not only for developing strength but also for testing one's grip strength. Once again, for the readers who have not owned one or at least squeezed one, here are the five models and each

one's strength, that is, the approximate amount of pressure required to *fully close* it:

- Trainer: 100 pounds
- No. 1: 140 pounds
- No. 2: 195 pounds
- No. 3: 280 pounds
- No. 4: 365 pounds

You will notice that I said “fully close” in regard to the amount of pressure listed by each gripper. Many people will say that they closed a certain gripper when they actually did not: the handles must be completely touching to count. You might ask, why is this such a big deal to touch the handles together? For training, it isn't a big deal because we all know that squeezing a gripper, even if we are not touching the handles together each time, is still building up our grip strength.

However, these grippers have become not only a way to train for grip strength, but a way to test one's grip strength. By saying, I can close such and such a gripper, people can gauge their strength against other people's strength. This is why grip enthusiasts want to climb to the top of the mountain when it comes to closing the Captains of Crush grippers. These grippers have become a test of strength around the globe for all types of athletes.

If you are not familiar with the grippers and you are looking at the information about them, here is a guide to go by, based on tests done on a variety of men with hand dynamometers. A dynamometer is a medical device used to test people's hand strength. You squeeze the handles, and the dynamometer registers how many pounds of pressure you are squeezing. Results have shown that the average man tested exerts 115 pounds of crushing strength with his hand. Remember, this is the *average* taken. No particular type of men were sought out for this test. If you look back to our Captains of Crush grippers, the Trainer requires about 100 pounds of pressure to fully close, and the No. 1 gripper requires 140 pounds to close. It is noteworthy that even the No. 1 is out of reach for the average man, and shows how strong these grippers are and why they have become such a test of strength.

Looking back at our scale once again, we see that there is quite a bit of difference between the poundage of the grippers required to fully close them. This

is what raises all the questions, and sometimes frustration, when it comes to people trying to graduate from one gripper to the next. There is anywhere from 40 pounds, and all the way up to 85 pounds of pressure between the grippers. If this were a squat or a deadlift, where heavy weights are usually lifted, the 40 to 85 pounds might not be that hard for some, although somewhat difficult for others. But just think, we are dealing with someone's hand muscles, not his back or legs. Also, remember this is just one hand we're talking about, unlike a lifter using both legs in the squat or the deadlift. Anyone who has ever used these grippers and tried to climb the mountain to the top knows all too well what I'm talking about.

At this point, let's look at a couple of techniques that I can assure you will help dramatically. We all agree that after we have closed a certain gripper we all want to move to the next one. What often happens is that the next gripper seems to be out of reach. We can usually get the gripper to move part-way, but that last little bit to close the gripper is just too much. Some people also wear out their hands trying to close a gripper that is just too heavy for them.

Strap holds

My first suggestion is one that I invented and has now become common practice, called strap holds. In the July 1996 issue (Vol. 4, No. 2) of *MILO: A Journal for Serious Strength Athletes*, I first presented this method in an article titled "Closing the Gap." Start with the gripper that you can already close. Find a bucket, a piece of wire or strong twine, and an old belt or piece of leather. Cut the belt or leather so that it is about three inches long; the width does not matter, and in fact, the width of most belts is perfect. Poke a hole in your leather or belt about the size of the hole that is usually found in a belt, or if you're using a belt, cut it so you can use the hole that is already there. Take your wire or twine and put it through the hole in your leather. Once this is done, run your wire or twine to the bucket and tie the bucket to your leather. Then take a couple of bricks, a 10-lb. weight, or a couple of shovelfuls of dirt, and place them in the bucket. It doesn't really matter what you use in the bucket; it is a small amount of weight that you need.

Squeeze the ends of the gripper you can close tightly onto the piece of leather and see if you can lift the weighted bucket. The closed handles of the gripper will be acting like pliers holding tightly onto the leather. You will have to squeeze your gripper much harder to lift the bucket off the ground than you

would normally squeeze your gripper. Of course, as you add weight to your bucket, you will have to squeeze even harder. By continuing to add weight to the bucket, you will find that you will be able to graduate to the next gripper much more quickly than simply trying to squeeze a gripper you can't close. In fact, if you use this technique and stick with it, I can assure you that you will make consistent gains with your grippers.

Shot rotation

The second tip will help you graduate from one gripper to the next as well, and I strongly recommend using both tips to not only improve your ability to close the grippers, but also enhance your overall hand strength for any activity. If you look at your hand on the gripper, you will see that when you squeeze, the last two fingers play a major role in the last little bit of effort required to close the gripper. Most people are not aware of this, and they also don't have much control or strength in these fingers. If you train your last two fingers on exercises other than the grippers, you will develop a huge advantage on that last half-inch or so that has become a sticking point for so many of you. To develop muscle control with strength in these two digits, look at the section called The investments in Chapter 2 on handling the strength balls and the shots with your fingers. They will help you to develop strength and control in not only your last two digits, but your entire hand.

Two-finger plate lift

My third recommendation is to take a couple of small barbell plates and lift them pinch-grip style, grasping them on the smooth side *using only your last two fingers*. Be sure that you pinch grip them. Use extreme caution and don't try to use too much weight—a couple of ten-pound plates should be fine. Most people are not conditioned for lifting with the last two fingers, and you may at first wonder how these two fingers can be so weak. This exercise is a good eye-opener, and you will discover just how much hand strength and muscle control you can develop by doing these exercises. Once again, remember to start slowly with the two-digit pinch grip.

If you want to climb to the top of the mountain with the Captains of Crush grippers, and reach other hand strength goals as well, the exercise tips in this chapter are a direct path to the summit.



Other grip devices: making them work

Strength focus:

- individual fingers and last two fingers

- extensors

- twisting motion, for card tearing

- wrist and forearm development

In this section, I'd like to examine a handful of items on the market which are used to develop lower-arm strength, because so many people ask me questions about them. At least half the people I talk to want to know if I have ever used such-and-such piece of equipment or such-and-such gadget that supposedly develops your lower-arm strength.

Many of you know that I generally don't use any store-bought grip devices. However, I have found a few that I actually like and have used in my routines from time to time. Although I say I like them, I still had to change the way I used them. For example, most of the store-bought grip gadgets don't have enough resistance to give me the results I want, but if they are properly modified, they can become a useful tool for training.

First of all, let's look briefly at hand grippers, the kind that can be purchased at any sporting goods store or other local store. All of you probably know that these grippers aren't very strong. They are a good starter for your son while he is in junior high school, but after that, more resistance is required, and that's where the IronMind Captains of Crush grippers come in. Even though the store-bought grippers are not tough enough to build much strength, I have found a good use for them. From time to time I pick up one of these grippers and squeeze it with one finger at a time, or with my last two fingers. Used this way, the grippers can enhance your hand strength to a great degree, by helping you develop better control in your individual fingers. This is a simple way to use the grippers and make them work for you.

The next store-bought gadget we will examine is the little pocket-sized Grip Master. It comes in four strengths and has four "keys," one for each finger. The object is to press down the keys with your fingers to build finger strength. You can either hold them down for time, or you can do repetitions. While it is a fairly neat little gadget, there is not enough pressure to build any real strength, even with the heavy-duty model. It can be good for strengthening the little finger, because most people don't use this finger. Overall, though, for someone who has moderate hand strength, the Grip Master simply isn't enough.

I have developed one little variable to change all this. All you have to do is take one small piece of wood, like a popsicle stick or a tongue depressor, or a piece of metal, and place it so that it covers all of the buttons or keys. Pressing on the wood depresses all four keys at once, so you now have increased the resistance by a factor of four and need four times the strength to train each finger by itself. As you can imagine, that's quite a turn of events. My modified Grip Master has helped build strength in my individual fingers, especially my last two fingers. You can tape the piece of wood to the grip master if you like, or you can just place it over the top of the keys when you are ready to use it. Another good thing about this device is that you can carry it around in your pocket and use it anywhere you go. It is kind of like pressing the keys on a piano and would help piano players and other musicians as well as those trying to enhance their grips.

Another device for training the hand is the Power Web. The Power Web can be found at most athletic supply stores, as well as companies which sell physical therapy or rehab supplies. The Power Web is round, made of strong stretchable plastic, and it comes in several different strengths. It comes with its own carrying case, along with a training booklet showing all the different exercises which can be done, and is a neat little device, although it has the same problem as the other two exercisers already mentioned. The problem, once again, is that there is not enough resistance to build any true strength.

I have the heaviest-duty Power Web that the company makes and have performed all of the exercises in the manual. All of them were interesting but too light in resistance. However, I found through experimentation that the Power Web could be used to train the extensors of the hand, the extensors, of course, being the muscles that open the hand and extend the fingers. All you

have to do is place your fingers into the web and work against it, with your fingers resisting the webbing. Close your hand about halfway and then open your hand against the resistance, being sure to keep your finger tips in the web to get the added pressure you need. This is a great way to build strength in the extensors, which we all need for total hand development. As always, work both hands equally.

We have examined three exercisers that in their normal function are not resistant enough to meet our criteria. However, with a little bit of innovation we have turned them into tools we can prosper from. Some of the best exercises I have found have come from items used for something completely different, but with a little innovation and adjustment I have discovered some of what I think are the greatest training exercises ever. This is why I am always encouraging you to experiment with different exercises and ideas to come up with the most useful, functional methods.

I will briefly touch on a couple of other off-the-shelf exercisers I have used. One is a little, round silicone-type ball not much larger than a golf ball. You can find these in a local store in the section with the weightlifting gloves and jump ropes. If you read the instructions, as you have probably already guessed, they will tell you to squeeze and knead the ball. I have found a great exercise with these little balls that will help strengthen the entire lower arms. On top of that, it will also help develop the type of twisting strength needed to tear a deck of cards in half, a feat of strength that interests a lot of readers.

To train for this, grasp the ball with both hands, with one hand under the ball and the other over the top of the ball, just as if you were going to open a jar with a twisting motion. Now twist the ball in opposite directions. Because the ball is so small, you will have to hang onto it quite tightly—it will be trying to slip out of your grasp as you twist. This movement will work not only the hands, but also the wrists and forearms. As you get stronger twisting the ball, try to pull the ball in opposite directions as you twist. This is extremely difficult and requires a tremendous grip to hang onto the ball as you twist and pull apart in unison. You will find this very challenging.

The final lower-arm trainer I will share with you is a wrist developer I ran across a couple of months ago. I have been using it on a regular basis and I like it. You slip your hand into it and bend the bar forward for reps, as

though you were doing wrist curls. The movement simulates an arm wrestler using the hook technique. You can also adjust this wrist developer to do a type of reverse wrist curl. Its best asset is that this training tool actually has quite a bit of resistance. I found myself getting a pretty good workout for my entire wrist and forearm with it just the way it was. You can also slightly increase or decrease the pressure by adjusting the position of the wrist guard. If you want to find one of these wrist developers, I found mine at the mall in an athletic store that sells mostly running shoes, but it also sells some types of exercise gear as well. I have also been told that some of the sporting goods stores sell this item as well. On the box, it just says Wrist Developer.

We have taken a look at some grip training devices. While I don't normally use these items, I have shared with you a few that I like to use from time to time with some simple adjustments.



CHAPTER 3

Advanced grip challenges

Just for fun—can you do this?

As in *Mastery of Hand Strength*, I have added a chapter to inspire and motivate you. Training must be invigorating to bring good results, so I will give you five goals to tackle. Those interested in developing a high level of grip strength seem to enjoy a good challenge, and some of you may already be able to accomplish several of these feats. They cover different levels of difficulty, and are presented in that order, starting with the easiest and ending with the most advanced and the hardest. Also, to answer your initial question, yes, I can perform all of these five challenges. If you can honestly accomplish all of them, be sure to let me know.

The first challenge, and also the easiest, is breaking keys with the thumbs. I often do this in my programs while I am balancing something on my chin or forehead. I got into key breaking a number of years ago. It certainly isn't the hardest feat of strength to come down the block, but it is just enough to be a handful. Key breaking is also inexpensive to practice: even though it usually costs more to go to the hardware store and have a key made for your house or automobile, you can usually purchase blank or uncut keys for a nominal amount. If you order a large number of blank keys, it will cost you even less per key. While there are many kinds of keys, most of the commonplace keys for your house or car are similar in size and strength.

Your goal here is to take an ordinary key and grasp it with both hands and break it with nothing except your thumb strength. You'll find that keys break in two ways: some will break fairly quickly as they start to bend, while others will have to be bent nearly double before they break in two. Either way, it is thumb strength that breaks them. You may ask if I use some type of padding or cloth. I do not because keys are so small, it is hard to get any grip on them if you don't do it bare-handed. Here it is, your first and easiest challenge: breaking a key using only your thumbs. When you have opened the door to this one, move on to the next.

The second challenge is breaking a 60-penny nail, or a one-quarter round six-inch piece of steel—no, not bending, but breaking the piece of steel. I suggest you try the one-quarter round six-inch piece of steel instead of the 60-penny nail for two reasons. The first is that the 60-penny nail will probably be stronger and harder to break. If you ever look closely at a one-quarter round piece of steel, you will notice that it is slightly less thick than a 60-penny nail. The second—and more important—reason is that the piece of steel is safer, without a point to jab into your hand. You can either obtain your steel from IronMind, purchasing the Bag of Nails or a set of the extra Level 4 nails, or you can go to a steel shop or welding shop, where you can find one-quarter round hot-rolled steel in twenty-foot lengths. Just have them cut it in a few sections so you can get it into your car or van. Once you get it home, you can cut it with either a hacksaw or a pair of bolt cutters into six-inch pieces.

Once you have your steel, the only other thing you need is a cloth to protect your hands. Whether or not you have ever bent nails before, breaking nails or steel is quite different from bending. With nail bending, you attempt to double the nail into a U-shape. To break steel, you must bend it back and forth slightly until the steel heats up. The faster you go and the more times you bend it, the quicker it breaks. It is a great test of strength, endurance, and sometimes the toughness of the hands.

You must also bend the nail or steel only slightly and not too far. You want to bend it to the same angle as that of a bow when it is drawn back and ready to shoot an arrow. Continue moving the steel back and forth at this angle, or to this degree, until it breaks. Your hands will get very tired, but you cannot stop, because once the steel gets hot, you must continue the pressure until it breaks. If you stop, the steel will cool off and all your work will be in vain. You will also notice that you have to grip the steel much more tightly when you are trying to break it than when you are trying to bend it. The reason is that you have to hold it more tightly to keep it from slipping or rotating in your hands as you are bending it back and forth. If you have ever tried this before, you know exactly what I'm talking about. Here is your second challenge: breaking a one-quarter round six-inch piece of steel. When you have taken this one apart, move onto the next.

The third challenge was actually a feat of strength that our first president of the United States was said to be able to do. That's right—George

Washington supposedly was able to crack open a walnut with his bare hands. This challenge doesn't need a lot of explanation. Take an ordinary walnut that can be purchased at almost any grocery store and crack or break it open with your finger strength. The best way to do this is to hold it between the index finger and thumb in a comfortable position, and squeeze it until it starts to crush and crack apart. You will find, as with any item, that some walnuts might be a little harder than others to crack, but generally speaking, they are pretty much the same in size and strength. Breaking open a walnut with your hands is your third challenge—when you've cracked this case, move onto the next.

Your fourth challenge is crushing an apple in flight with one hand. I know I had better explain this one. First of all, many of you grip masters out there can squeeze an apple with one hand and crush it into pulp. Crushing an apple this way does require a good grip, but not a world-class grip. I have found that a man who has a good strong grip can usually crush the apple in his hand. What I'm talking about is completely different when it comes to level of difficulty. The challenge is to toss an apple up in the air, or have someone else toss the apple toward you, and while the apple is in flight, you must crush it with one hand with one quick squeeze. This is done with one explosive movement and is similar to how an eagle quickly grasps its prey when it swoops down from the sky. Get an average-sized apple, toss it into the air, and crush it at the same moment you catch it, without any hesitation. You will find this challenge very difficult, very fun, and very motivating. When you've reduced this one to pulp, move on to the final and most difficult challenge.

The fifth and final challenge is one you have probably never heard of or seen. You may not find it as interesting as the others, but if you can accomplish it, you will have become a true grip master and will have taken your hand health to a new level. I can also say that I am the only person I have ever heard of who can do this. The challenge is to be able to make each of the muscles in your forearm and hand flex and relax so it can be seen by the naked eye—and without moving any other muscle in your body at the same time—yes, to demonstrate perfect muscle control. For example, turn your palms upward and make the hand muscles dance and move without moving anything or any other parts of your body, not even your fingers. I have recently been able to do this by training my entire hand with the strength and dexterity exercises I have shown you in this book. So here is your challenge: you

must develop a feel for all the muscles in your forearms and hands to the point that they can be controlled completely on an individual basis. When you have mastered your muscles, you will have reached the summit of the mountain.



Bursting soda cans: making a big splash while training

Strength focus:

- total hand strength

- endurance

I get many calls and letters from all types of people—from professional strength athletes to musicians to rodeo cowboys to people just wanting to rehabilitate their hands after an injury—complimenting me on *Mastery of Hand Strength*. I am honored to hear what great success they have had with my book and the results they have achieved by doing the exercises and applying the principles. I can honestly say that all the exercises and methods in the book came through hands-on training and trial and error. There were some exercises that were omitted for lack of space or because they might have been too dangerous for the tendons, or because they had not yet been invented.

In *The Grip Master's Manual*, I have included some new exercises that are at the top of my list and that I perform personally on a regular basis. Not long ago someone asked me if there was anything I would change or add to *Mastery of Hand Strength*. One thing is that I would add to the book if there had been more room. However, now with this new book, that goal has been met.

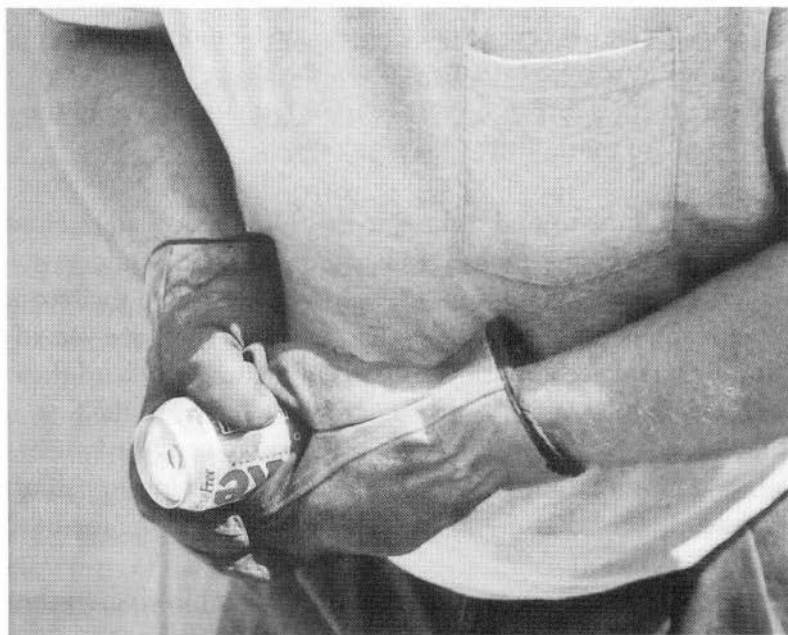
The other thing I have wanted to do since I wrote *Mastery of Hand Strength* is to talk again about soda can bursting. I may have been a bit unclear and not fully explained the subject the first time. First of all, I mentioned that people told me that they knew people who could squeeze the old metal cans with one hand until the top burst or blew off. I will stay with my statement on this: I do not believe that anyone can squeeze the old-type metal can with one hand until the top blows off. I don't even believe you can find this type of can anymore unless it is in someone's antique can collection.

What I would like to do in this chapter, however, is to show you two types of can bursting that I perform often in my program. You may want to try these either as a feat of strength or as a training tool, because they are fun as well as functional to practice.

I mentioned two, so let's look at the one that I mostly do in my performances. First of all, it is a must that work gloves are used. Soda cans burst with a lot of force, and the sharp metal can cause a severe cut if you don't wear gloves. The Coca Cola Bottling Company estimates that it takes about 600 pounds of pressure to burst one of their cans. I can believe this because it takes quite a push with the hands. In fact, this is a difficult feat of strength when performed properly. I say "properly," for I have seen a few charlatans or fakes do this feat of strength, and they put a crease or create a weak spot in the metal which causes the can to rupture when force is exerted. This weak spot or rupture is the same type you see on a tire when the air is leaking out. If you ever see someone do this, you will also notice that when the can bursts, the soda doesn't go very far; it just falls to the ground. When performed properly, there will be a loud pop, and the soda sprays a pretty good distance. I don't want to harp on how people fake this, but I do feel it needs to be mentioned.

Now let's get back to how to burst the can for real. Remember to always wear gloves. I also suggest that you use diet soda cans, to keep the sugar content off your clothes and the floor. The first time I burst a few cans, I used regular Coke, and the sugar stuck to the floor as well as to my clothes. To save yourself the time learning this, just use diet sodas. Always I would use either Diet Coke or Diet Pepsi. These cans are universal and made the same every time. Some cans are a little thinner, like those of the discount drinks. I am not a beer drinker, but I have noticed that beer cans tend to be a little thinner as well. So, let's just use Diet Coke and Diet Pepsi as a standard to fairly gauge ourselves.

Wearing your gloves and old clothes or sweat clothes, grasp the can with both hands engulfing the entire can as if to squeeze the life out of it. Hold the can down around your belt or even lower, because you don't want to have the can burst into your eyes or face. Once you are holding the can with both hands, squeeze your hands into the can as tightly as possible. You will find this very difficult at first. You probably won't be able to burst the can with just one squeeze—it will take quite a few. I suggest several short, hard, explosive squeezes rather than one long squeeze. If you watch the can as you are squeezing, it may develop a crease in the metal around the center of the can. If you are having a hard time bursting the can, you may want to focus your pressure, applying it directly on the crease you have created. If you keep squeezing, you should be able to break the can in half. Squeezing in the center will result in the can bursting right in the middle. The can will explode with great force.



Starting position for bursting a soda can.

Remember that this feat of strength is not easy, and it may even seem impossible at first, but keep trying, for it is a good goal to pursue. To give you an idea how long it takes to burst a can, I have done a lot of programs with the

Omega Force Strength Ministry, and they have a couple of strength performers who do this feat from time to time. I have noticed that it usually takes them forty-five seconds to a minute to burst a can. To give you another idea and not to blow my own horn, however, I have burst a twelve-pack of Diet Cokes in a little over a minute. There is no official record for can bursting, but I feel that this would easily be the record to shoot for. I give you records like this not to boast, but to motivate you to strive for a higher level in your training intensity and your goal setting. Once again, don't get discouraged trying to burst the soda can, for it requires a lot of hand strength and sometimes a lot of endurance. Remember to use short, explosive bursts of power for the best results.

If you ever put on a strongman show, can bursting is an exciting demonstration for any crowd, with the soda flying everywhere and the loud pop when the can bursts. I recommend perfecting it for outdoor performances. It can be used inside as well; however, you must make sure the setting is right. Concrete floors are easy because the diet soda can be mopped right up. Where the floor is carpeted, extreme caution should be taken. If you get the go-ahead where there is carpet, be sure to use a tarp and also hold the can against your body so most of the soda goes on you.

I will briefly explain the second technique that I do on occasion. However, I will tell you that it is extremely hard to perform, and you would have to be able to handle the first technique fairly easily before tackling the second. I share this with you because, as I said earlier, I want to motivate you so that you can aim high and accomplish your goals no matter how hard they are to achieve. The same rules apply to the second technique as to the first: use gloves and diet soda cans. This time, grasp the can toward the base or the bottom of the can so that the pressure exerted is on the bottom half of the can. By squeezing the bottom, the liquid is forced toward the top of the can.

This method goes back to our original question about blowing off the top of the can. If you can exert enough force on the bottom of the can in this fashion, you can blow off the top of the can. Once again, use short, explosive bursts of strength on the bottom half of the can. Also be sure to point the top of the can away from you and not toward anybody else. When the top blows off in this manner, the soda will blow out in an impressive burst. It almost looks like a cannon blast when this feat is accomplished. Unlike our

original question about squeezing an old metal can with one hand until the top blows off, this feat does blow off the top. However, both hands are being used, and these are the new cans, not the old ones.

For a fun and challenging feat of strength, go out and get a six-pack of Diet Cokes and a pair of work gloves and add some pop to your training.



Tearing tennis balls in half: serving up lower-arm strength

Strength focus:

- vise and twisting grip strength

- endurance

- total lower arm workout

In this chapter, I would like to talk more about a feat of strength that was briefly mentioned in *Mastery of Hand Strength*, as I have had quite a few people inquire about it: tearing a tennis ball in half.

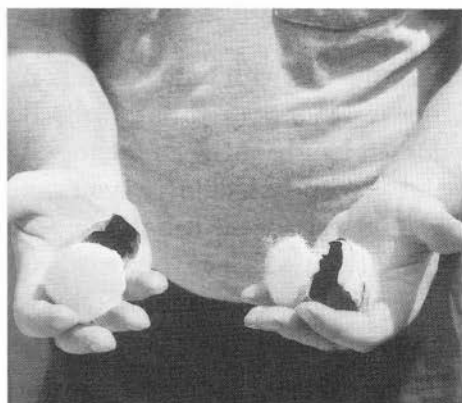
If you read the book, you may remember the discussion about an old-time strongman squeezing a tennis ball until it burst. I said that with the tennis balls of today, it is impossible to squeeze one until it bursts. However it is possible to rip a tennis ball in half. I do it on occasion, and it is easily one of the hardest feats of hand strength I have ever done. In fact, I would say that either tearing a tennis ball or crushing a raw potato in one hand are the most difficult feats of hand strength I have ever performed. Tearing a tennis ball in half is an act I have never heard of anyone else accomplishing, and it took me a long time to be able to do it. It is never easy for me to do—it always takes everything I've got to be able to tear it, and it takes me up to a minute to accomplish. I like to do it in front of a crowd because of its difficult nature. When I try it in my back yard alone, without anyone watching, it is sometimes hard for me to tear the ball, because I don't have enough incentive.

If you have read any of my writing before, you might remember my saying that you should never perform any feat of strength before any audience that you are not sure you can do safely and comfortably. This principle is very important to know and to put into practice, and why I caution you about the difficulty of tearing a tennis ball. While I sometimes perform a difficult feat like tearing a tennis ball and let the audience “help” me mentally to succeed, this is normally not a good rule of thumb even though it can create a great show.

Not being sure if you can perform a feat in front of a crowd also has two drawbacks, the first of which is that you may pick up a stupid, unnecessary injury by straining harder than you realize to please the crowd. The second is that you may find yourself in over your head and not able to accomplish the feat. This can be humiliating and may also give you a mental block. Always be comfortable and experienced in everything you do if you are putting on a strongman act in front of a crowd. I didn't mean to get off track on this subject; however, it is certainly something that needs to be addressed. Also, by understanding your capabilities, you can save yourself some potential hardship.

Let's examine how you would attempt to tear a tennis ball in half. Before you start, be sure that your fingernails are trimmed very short and do not protrude. If you don't, they may get torn off when you are clawing and squeezing the ball very tightly. You may ask if there is a difference in the tennis balls. The answer is no, not really. However, if you use a tennis ball that is really old and has had a lot of use, you may find it somewhat dried out, enabling you to split the seam more easily. Most of the time I tear brand-new balls. As far as picking the balls, you may want to look closely at the seam which goes around the ball. Some of the seams can be wider than others, which may give you a small advantage and, believe me, every little bit will help.

Place the ball in your left palm with your hand braced against your left thigh, so that you are able to apply the proper pressure on the ball. Grasp the ball tightly in your left hand while you try to claw or push the index and middle fingers of your right hand into the seam of the ball. To understand this better, you are using your left leg as a brace, your left hand as a vise, and the two fingers of your right hand as a knife to poke and claw into the seam. This



Tearing a tennis ball in half.

action is extremely hard and it will take every ounce of strength and endurance you can muster.

You are trying to create a small hole or puncture in the seam with your fingers. Be sure to grip tightly with your left hand to secure the ball and avoid any slippage. If you can create a small hole in the ball, you then want to try to force your index finger into the hole. This can be harder than it sounds; however, just continue to drive your finger into the seam. Once you can get your finger completely into the ball, you will get enough leverage to pull the ball apart. When the ball starts to rip apart, you will even be able to get the fingers of your left hand into the ball, and then you will have enough leverage to pull the ball apart into halves. If this is easier said than done, you are right because, as I mentioned earlier, this is extremely hard to do.

Tearing a tennis ball is a good goal to work toward and will give you plenty of grip training in its practice. Your hands may get sore training for this feat, so don't overdo it and do take it slow. If you can achieve ripping the ball in half, you have accomplished one of the greatest feats of hand strength ever.

Actually I have shown you only one of two ways that I rip a tennis ball in half. Now I will share the other way with you. All the same rules apply. Trim your nails and seek out the same type of tennis balls. This time you're going to try to twist the ball in half with pressure on the seam, instead of poking a hole into the seam. Honestly, the second method might even be more difficult than the first way, although you may find it more comfortable or natural than the first way.

Grasp the ball with both hands as if you were going to open a peanut butter jar or tear a deck of cards in half. Place the bottom of the ball in the palm of your left hand, and cover the top of the ball with the palm of your right hand. Twist the ball just as you would open a glass jar, making sure that you have the seam of the ball positioned so that the pressure goes directly on the seam. If you watch as you twist, you will be able to manage this placement. If the pressure is not on the seam, you will have to adjust your hands and the pressure so that it is on the seam.

The twisting motion, as with the first method, will start to rip or tear a small hole or opening in the seam, but will require great twisting strength on your part. Once you see the seam start to tear, continue the twisting motion until the ball starts to turn and tears right along the entire seam. It will tear quite easily once it starts to move. The twisting motion on the ball will give you a great pump in your hands and forearms. Even if you can't tear the ball at all, twisting and squeezing the ball will give you a great lower arm workout. Try the ball twisting in and of itself: it is excellent training for arm wrestling, among other athletic activities.

If you are serious about tearing apart a tennis ball, I would suggest trying both techniques to see which one works best for you. Remember to keep trying as with any goal. Tearing a tennis ball will take a lot out of you; however, be persistent in its practice because when you reach this goal, you will be a true grip master.



My first book, *Mastery of Hand Strength*, covers many functional exercises and methods of developing lower-arm strength for use in any kind of sport or endeavor. These exercises not only help you build lower-arm strength, but also increase your endurance and dexterity. *The Grip Master's Manual* continues with new advanced exercises and principles to broaden your lower arm capacity and control, designed to take you to the next level of hand strength—bending steel.

I am now forty-three years old, and I can remember when I was sixteen years old and I saw Charlie Leary, in Greenfield, Indiana, bend a 60-penny nail into a U-shape at the age of seventy-three. Charlie had a construction company in town with his son, but he was better known for his feats of strength. Every time he came into the local hardware store, he was talked into bending nails with his bare hands. Seeing this planted the seed in me that got me started in the strongman game. Nail bending was the first feat of strength that I trained for. From there I just kept working on my strength and trying to bend different steels bars and spikes. Here I am, twenty-seven years later, still doing it.

To help you understand this, think about how you use your gripping power to hold onto something, whether you are pinch gripping barbell plates or squeezing a hand gripper. You are gripping the object to secure it or hold it in place, like the traditional vise, for example, which is usually clamped onto a heavy table or work bench. An object is placed into the vise, which is then tightened, so that the object is held securely and doesn't slip out of place when the workman pulls, twists, hammers or drills into it.

Let's examine this situation more closely. Two important actions are taking place, both of which are essential for the proper results, and in fact, one without the other is completely useless for the completion of the task. If your goal is to drill a couple of holes through a small piece of metal, you first place the metal into the vise and secure it. However, if you don't have a drill, only half the task is completed. The metal is being held tightly in the vise, but that is all. Let's reverse the situation: you don't have a vise or some way to hold the metal, but you do have a drill. So you just place the small piece of metal on the ground and try to drill a hole. What happens, if the metal is not secured, is that it slips and slides all over, making it impossible to drill the hole and complete the task.

Perhaps this sounds very elementary, almost to the point of insulting your intelligence, but you must understand this relationship to move up to the next level of grip capability. Steel bending cannot be developed to any worthwhile degree without great strength of hand and wrist. Just like the vise and the drill combining their talents to complete their task, the same is true with bending steel: you must be able to secure or hold the steel tightly enough to use your strength against the steel. Otherwise it becomes like the piece of metal slipping and sliding around on the floor when you try to drill into it.

Many men of exceptional physical power cannot bend steel of any size because they lack hand and wrist strength. You'll notice I did not say anything about the size of their forearms. Building a large, muscular forearm is not the formula for lower-arm strength. While those with large muscular forearms sometimes do have commendable strength in their lower arms, just as often they do not. The reason is that much of your hand and wrist strength comes from your tendons and ligaments. Some exercises in *Mastery of Hand Strength*, and in *The Grip Master's Manual* as well, do pump the forearms and add size; however, more of the exercises target the tendons and ligaments, which are vital to developing superior hand and wrist capabilities.

Nothing develops overall wrist strength like steel bending: it works your wrists at every angle. Once you have an object tightly secured in your grip, your wrist starts the initial bending process. If your hand is strong but your wrist is not, you will not be able to start, let alone complete the bend. I am often asked which exercises are the best preparation for bending steel, once a foundation of exceptional hand strength has been achieved. The best exercise for steel bending is—steel bending. It is the advanced grip master's training tool. If you want to become a talented steel bender, you must bend steel.

**The best exercise for
steel bending is—steel bending.
It is the advanced grip master's
training tool.**

The same goes for someone wishing to become a superb field goal kicker. After training with exercises that lay a good foundation, you gain the most expertise as field goal kicker by practicing kicking field goals. This is simple thinking, but sometimes we forget the easiest path to success. And this is why I love steel bending to develop lower-arm strength

To help with the steel bending, I also suggest that you spend some extra time working on the dexterity and muscle control exercises in the first section of this book, so you will have maximized use of your entire hand.



Bending steel bars: the elite grip master's tool

Strength focus:

- total hand and wrist development

- vise grip

Of the countless ways of displaying one's strength, a handful of strength feats always come to mind when one thinks of the professional strongman, and probably the most common one is bending a steel bar. Whether it was at the circus or on ESPN watching the World's Strongest Man competition, people all over the world have seen some strongman bending a steel bar. A classic feat, no strongman act is complete without this impressive demonstration of strength. Also bar bending is very user-friendly for the simple reason that the bars are easy to transport wherever you are performing. They are often given out to the members of the crowd after they are bent, as souvenirs.

To examine the complete subject of bar bending would take a small book in itself, but we will certainly give you enough know-how to more than get started. We will explore five different bar bending techniques in detail, including the right type and the size and length of steel for training. We will also look at the type of body build that is best suited for certain types of

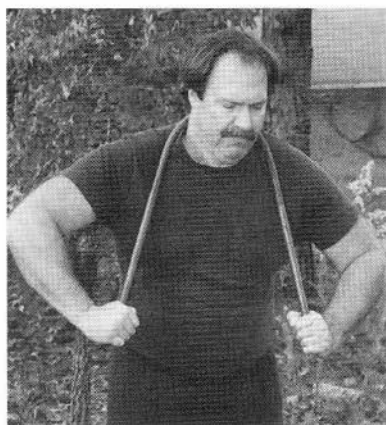
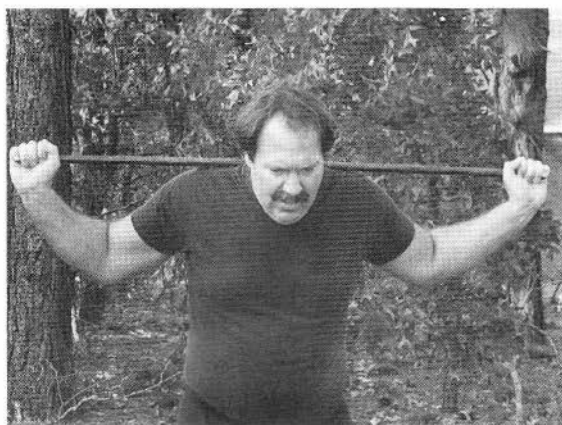
bending. Even though bar bending can be, and should be, a part of any grip master's repertoire, it is important to know what type of feat is best for your body build and your strength specialties. That is why certain tests of strength come easily and others don't.

The first type of bending we will look at is probably the most common and the most photographed or pictured in peoples' minds: the behind-the-neck bend. Everyone who has ever tried to bend a bar has surely tried this. Actually this bend can be very difficult. In my opinion, there have been few strongmen who were good behind-the-neck bar benders. The reason for its difficulty is that this type of bending requires both strength and flexibility. If someone has a lot of bulk, it is even more challenging, as the starting position often puts him out of his natural range of motion.

To get started on the behind-the-neck bend, I would suggest using a four-foot piece of round one-half-inch steel. You need to use hot-rolled steel to start; cold-rolled steel is much harder and less flexible. It is for advanced bending and, with it, you have a much greater chance of pulling a muscle. Be sure to stretch your shoulders also before bending the bar. This one-half-inch round, four-foot long piece should be quite easy for most of you, but it is highly important that you start easy and get the right feel for the movement.

After you have stretched your shoulders, place the bar behind your lower neck; actually the best and safest place for the bar is on your traps. Grasp the ends of the bar, being sure to place the middle of the bar directly behind your neck. Now brace your entire body and start to lean back slightly. At the same time, pull your hands and your arms forward and slightly inward. Continue this pull until the bar is bent into a U-shape around your neck. Don't pull the bar too tightly around your neck, for safety's sake. You have now succeeded in bending your first bar.

Once this size of bar is comfortable and easy, it is time to move to a new level. You can either continue to use a one-half-inch round bar and make the bar shorter, or you can move to the next size of bar. The next size of steel that will be easy to find is a one-half-inch square bar. No, this is not a misprint—one-half-inch square bar is slightly thicker and heavier than round bar. Continue, using the same technique on this bar. As you get stronger, use shorter and thicker bars. Follow the general system for stronger bars: for example, go from the one-half-inch square bar to the five-eighths round bar,



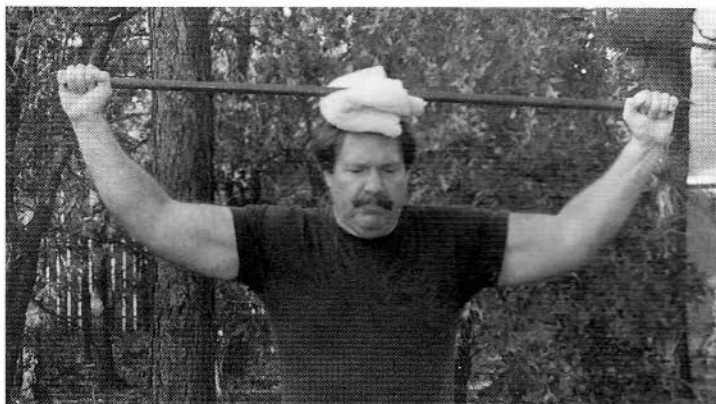
Behind-the-neck bend start and finish positions.

then to the five-eighths square, to the three-quarter round, to the three-quarter square, and so on.

To gauge your strength against the competition, I can say without a doubt that if you can bend a three-quarter round, four-foot bar behind your neck, you are a world-class bar bender. If you can bend a three-quarter square bar or a seven-eighths round bar of four feet in this fashion, you can probably get away with saying you are the best.

The second bar bending style we will look at is bending the bar on top of the head. You did not see a lot of this style years ago; it has emerged in the last few years. It is an easy way to bend bars for two reasons. One, it doesn't require much flexibility in the chest and shoulders; and two, there is a lot of leverage in this position. It is a good way for someone with a lot of bulk to bend bars. This is also the way the World's Strongest Man competitors have bent their bars in some competitions.

To get started, I would suggest using a four-foot piece of one-half-inch round or square hot-rolled steel. When I bend bars on my head, I don't always use a towel, but I strongly recommend that you *start with a towel* between your head and the bar. *Also it is highly important to keep your neck straight throughout the entire bend, to keep your neck and spine in proper alignment.* Start with the bar directly on top of your head, and your hands grasping the ends of the bar. While keeping your head straight, pull down on the ends of the bar. Continue to pull down and then inward towards your chest until the bar is



Top-of-the-head bar bend start position.

bent into the classic U-shape. This movement is probably the easiest way to learn basic bar bending.

As with any kind of feat, be sure to increase the resistance, continuing to use stronger bars. However, I must caution you to be careful with bar bending on top of the head because of the pressure exerted on the neck. Even though you will feel strong in this position, *do not try to push yourself to the maximum and see how big a piece of steel you can bend.*

The third type of bending we will look at is a show-stopper that was often displayed by the old-timers—bending a steel bar in the teeth. I'm sure all of you have seen pictures of this before. Although you must be careful with the teeth, one does not have to have especially good teeth to perform this feat if it is done correctly and carefully. *One word of caution: never attempt to bend a square-shaped bar in your teeth.* The bar will twist as it bends and put tremendous stress on the teeth and the jaw.

To start, use a four-foot piece of one-half-inch *round* steel (remember: do not use a square bar). Wrap a hand towel around the middle of the bar where you will be biting. As you put the padded bar in your mouth, be sure to put the bar deep into your mouth so that the pressure will be on your back teeth. Once the bar feels comfortable on your teeth, start to bite onto the padded bar. From here you will be able to tell if your bar has too much padding or not enough. Once you are ready, bite tightly onto the bar and make your

jaw and teeth act as a vise. Never try to bite with too much pressure. Remember that *your teeth are holding the bar in position, not trying to bite through the bar.*

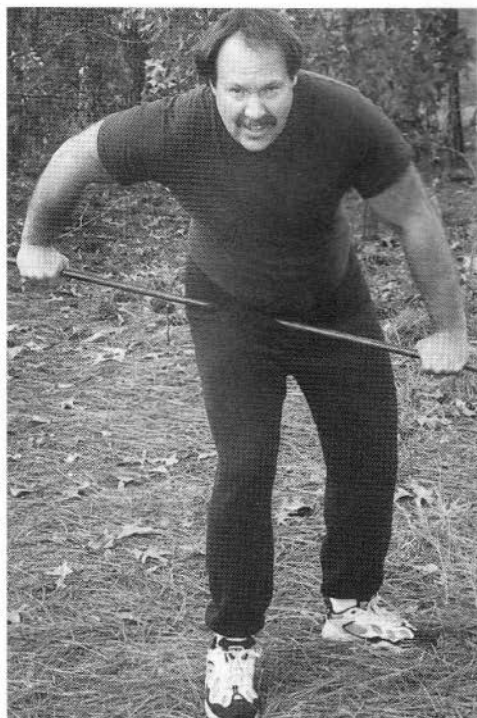
Once the bar is properly positioned in your mouth, grasp the ends of the bar and start pulling downward while holding the bar securely in your teeth. Continue to bend the bar downward then inward until the bar is in a U-shape. This feat always gets a nice round of applause when performed properly. The only drawback, if any, is that it is impossible to bend any large bars in this manner: you just can't hold or secure the thicker bars with your teeth. If your jaw is really strong, you may be able to move up to a five-eighths round bar, but I can't imagine anyone going any higher in this type of bend. In many ways, teeth bending is more of a show than it is a pure feat of strength.



Bending bar with teeth and jaw.

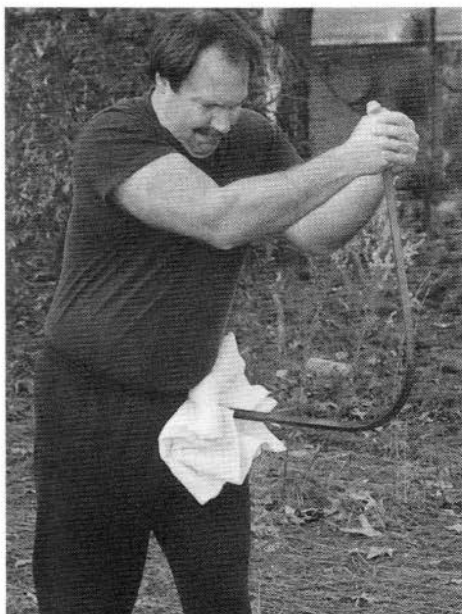
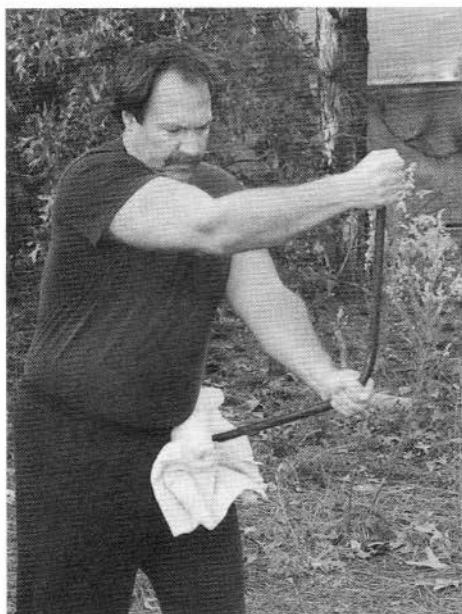
The first three types of bar bending we have looked at usually pertain to bars with some length, although an advanced strongman can bend short bars with these techniques. The final two techniques are generally used to bend shorter bars. The first one is bending over the leg or thigh. This type of bend is

usually done with a three-foot bar, or one even much shorter. To try this one, you will probably want to use around a thirty-inch long, one-half-inch round bar, or a one-half-inch, three-foot square bar.



Bending the bar over the thigh.

Start by placing the bar over your upper thigh with a towel between the bar and your thigh. Now with the middle of the bar against your thigh, press down on the ends of the bar. Continue to press down until the bar bends as far as it will go. Once it stops in this position, move the bar into the bow and arrow position, and brace the end of the bar against your upper thigh with a pad or towel between your leg and the bar. Place one hand on the middle of the bar and the other hand on the top of the bar. While bracing the middle of the bar with your arm, pull back and downward with the top hand. Continue the bend until the bar is almost bent into a U-shape. From here you will probably want to grab the bar at the ends and press them toward one another. Like the other styles of bending, continue to move to stronger bars as your strength level improves. This bow style of bending is my personal favorite, and I have been developing it for years.



Straight bow bend.

The last bending technique we will look at is the straight bow bend. Instead of starting with the bar over your thigh, start with one end of the bar on your upper thigh as in the second phase of the thigh bend above. Brace the middle of the bar with one arm and pull back on the top of the bar with the other arm. Continue to pull backward and downward as far as you can go. When you can't bend it any farther, stop and grab the bar at the ends, pushing the ends towards one another until your bar is in a U-shape. This bow bend is one that develops great strength if you stick with it. I have been bending three-foot, three-quarter inch round bars in this fashion for years now. It is also the one I recommend for any strongman who is serious about becoming a great steel bender.



Scroll work: bending bars into artistic shapes

Strength focus:

- functional upper-body strength

I have been a strongman for many years now, and when I look back at my high school days, I remember bending my first nail. This was quite a confidence builder, and from that day forward, I was greatly interested in strength. I was fascinated with all types of strength, and the traditional strongman was the type I was most drawn to. You know, the type that used regular items like anvils, horseshoes, nails, and stones to display their great strength. These strongmen often performed at circuses and fairs.

Most of these mighty men were not only strong, but also great performers when it came to entertaining the audience. I have studied all types of strongmen throughout my own career and have seen or read just about every type of strength feat imaginable. I have performed and seen others perform in front of all kinds of crowds. I always watch the crowd closely to see their

reaction to different acts. There are several feats of strength that seem to be most appreciated by the crowd. We could talk about some of these crowd-pleasers; however, the one I have noticed gets the most attention is bending steel bars.

As many of you know, bending bars is one of the most traditional feats of strength that strongmen have ever performed. This classic feat of strength generally gets a huge round of applause from any audience. It doesn't seem to even matter how thick or how strong the bar is. Bending a four-foot long, half-inch thick bar seems to get the same applause as bending a much thicker bar does. As visible and eye-catching as bending steel bars is, I will show you the next level of bending bars.

A bar is normally bent into the classic U-shape in front of an audience. This next level is occasionally performed in front of audiences, but most often is not, and is called scroll work. A big crowd-pleaser, scroll work is the most visual and impressive feat of strength to watch in a strongman show. Scroll work is something I have practiced for many years, and I can honestly say that I feel that I have surpassed all others in this craft. I say this not only in the difficulty of the steel that I bend, but also in the artistic shapes that I create.

Scroll work dates back as far as the strongman does. It has not been practiced by many, due to its difficulty; however there have always been a few practitioners from each era who have specialized in this art. Siegmund Breitbart was one who was very talented with his steel bending. Breitbart would bend steel bars into the shape of three-leaf clovers, which took great strength and know-how. Alexandre Zass, the great Russian strongman, also specialized in scroll work. I have seen some of his scrolls in photos, and they show artistic talent as well as strength.

Scroll work requires endurance, persistence, and patience. It requires exceptional upper body strength, and places significant stress on the hands and wrists. The practice of bar scrolling will help develop functional upper body strength as well as a great grip. If you choose to do scroll work on stage or in a show, be sure that you have mastered the technique and can do it fairly quickly. Otherwise, the back yard is to be used to practice and improve and perfect your feats.



Examples of iron coiling (left) and scroll work (right).

Often in my back yard I will take a long piece of steel and try to bend it into a certain shape, and this is where great endurance and patience come in. With scroll work you are using a long bar, but you are bending short pieces of the bar at a time. In other words, you may be using a bar six or seven feet in length; however, to put the bar in a certain design, you may have to bend two feet of the bar at a time. This is what can make bar scrolling very difficult.

To give you some idea of what type of bar to use, you may use any type of shaped steel—round, square, or flat will do; however, the flat steel was most often used by the old-time strongmen, perhaps because the flat steel makes a more artistic-looking design than the round steel does. I personally like to use square steel. I like the designs when the square steel is scrolled much better than the round or even the flat steel.

One important note I must make is that the square steel is the heaviest per inch. In other words, a one-half-inch square bar is heavier and stronger than a one-half-inch round bar. Some of you may know this, but many of you may not. I won't give you a math lesson, but it is important for a steel bender to know this. I once met a gentleman who could bend two four-foot long, one-half-inch round steel bars together. He struggled to do so, and then he thought that since he had bent two one-half-inch round bars at the same time, he could bend a one-inch round steel bar. He, of course, thought that his two one-half-inch bars equaled an entire inch of steel.

From here, he made the mistake of trying to bend a one-inch round bar in the same fashion as the two one-half-inch bars. He was quickly surprised as well as embarrassed when he couldn't budge the one-inch bar. I later showed him that it would take about five and a half of those round one-half-inch bars to equal a one-inch round steel bar. Just remember, for example, that if you are using a one-half-inch square bar, it is closer in strength to a five-eighths-inch round bar than it is to a one-half-inch round bar. Regarding the length of the steel, it really doesn't matter what length you use. The six- or seven-foot-long bars are frequently used for scrolling. I have used bars as short as four feet in length to bars as long as twenty-one feet in length.

To get started with your scroll work, start with a very easy bar. You may even want to start with a piece of three-eighths-inch steel about six or seven feet long. Extremely easy to bend, this size steel will give you a good feel for the movement. Generally you will be using the techniques in the section on bending steel (Chapter 4.). Remember to always bend the steel in as short a section as possible. Start bending the steel piece by piece in different directions so that you are forming different artistic shapes. There is no specific shape or pattern in scroll work; the pattern is up to the bender. I will not try to teach you any designs or shapes because I do not use any designs myself; I just start bending the steel piece by piece.

I want to impress upon you the benefits of learning to do scroll work with thinner, easier pieces of steel, like the three-eighths-inch round. You can stand up and scroll the bar or you can kneel on one knee and scroll the bar on the ground. Give it some time and practice and you will come to enjoy the art of scroll work.

In the photo of the twenty-one-foot scroll that I did, I used a one-half-inch square bar. I have a friend who has a blacksmith shop, so on occasion he drops an entire twenty-one-foot bar of steel outside the building so I can scroll the entire length. I do this at his location because I have no way to transport the twenty-one-foot bar. Also, you can't pick up a bar this long and start to bend it in the center as you would normally. You must start at one end and work all the way to the other end. This is extremely difficult. You must try to keep the bends very short and close together.

Scrolling a twenty-one-foot long bar in this manner is one of the hardest things I have ever done. It works the entire upper body. I push, I pull, and I even at times twist the steel to form the design. With the bar so long, the leverage factor works against you instead of for you. Scrolling this bar took me about twenty minutes. This is constant work, pulling, pushing, and twisting. If I were simply trying to bend the bar into coils, it would not take me that long. However, I am trying to scroll the twenty-one-foot long steel bar so tightly and compactly that I can put it inside a gym bag. I believe I am the only person who can scroll a twenty-one-foot bar, one half-inch square in thickness, into such a compacted scroll that it can be placed into a gym bag.

I highly recommend that you start doing a little scrolling with long bars, bending them into different shapes and coils. Scrolling bars will help you develop great strength, highly motivate you by its challenging nature, and also give you a real show-stopper to work towards if you ever do strongman performances. You will reap great benefits from scroll work, not only physical rewards, but also mental, from this new-found endeavor.



Iron coiling: world record style

Strength focus:

- building discipline

- total lower arm development

In the past I have written about the many and varied strength and fitness goals I have achieved. I have always enjoyed setting goals, especially ones that require discipline and perseverance. One particular goal that comes to mind is when Steve Jeck, Kirk Nobles, and I pulled a full-size tractor-trailer for a mile using harnesses; actually, we did this on several occasions. One particular pull was slightly uphill for forty percent of the pull, while the other two pulls were mostly flat. For three people to pull a full-size eighteen-wheeler an entire mile requires great endurance, strength, aerobic capacity,

and commitment. And the commitment is the most important requirement—it was pure determination each step of the way.

It is important to set goals that are difficult and sometimes even appear impossible to the average person. Many things may be difficult to some, but not to others, and that is why you must pick the goals best suited for yourself. Another goal I have worked on and accomplished several times was bending an entire box of 60-penny nails—which is a 50-pound box of about 500 to 515 60-penny nails. I have been successful every time I have attempted this. The most difficult part of the goal was not the strength and endurance required, but the friction placed on my hands. I used heavy cloths and experimented with different ways to protect my hands, but each time, around the two-hundredth nail, I started to get blisters or skin tears on my palms, leaving me with around 300 nails to bend with the nails jabbing into the blisters. After a while it felt like a red-hot poker was burning my hands every time I bent a nail. Needless to say, the blisters were very uncomfortable and took the fun out of the task, and it became hard, requiring great discipline to finish each time I bent an entire box of nails.

That goal was very much of a discipline-builder as I completed the task. Other goals have been accomplished with endurance, and some with just pure strength and power. I mostly like the ones that require great strength that must be sustained over a period of time without rest. There are not many things in life that I consider impossible, especially when it comes to strength and fitness. I have seen just about everything in my travels and through my contacts. People ask me what is the greatest feat of strength I have ever seen. One of my favorites is stone lifting and carrying. Another one is the 56-pound weight for height in the Scottish Highland Games. Although these are not my specialties, I enjoy fiddling with them.

As most of you know, my specialty is hand strength, and of all the different ways of building hand strength, steel bending is what I like the best—it is very functional and applicable to real life. Of my favorite steel bending methods, I have really enjoyed scrolling and coiling long steel bars. When I say long, I mean steel bars at least ten feet in length, but usually longer bars up to twenty feet in length. I have bent twenty-foot steel bars into such tightly condensed shapes that I was able to put each piece into a gym bag. It was very difficult and thought to be impossible by nearly everyone.

Lately I have bent more of these pieces and made them even tighter and smaller in size, and in some cases, I have bent them around and around into thirteen or fourteen coils. To do this is extremely hard because of the recoil and also the steel must be bent about eighteen inches at a time, which is the only way to make the bar so compact. What a tremendous challenge it is, with little or no leverage to use as the bar is bent smaller and tighter. I was doing this for the Fox Television Network recently, and I was almost literally sweating bullets; I finally got the bar into my duffel bag.

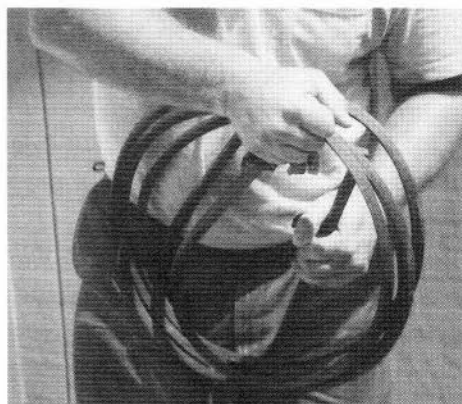
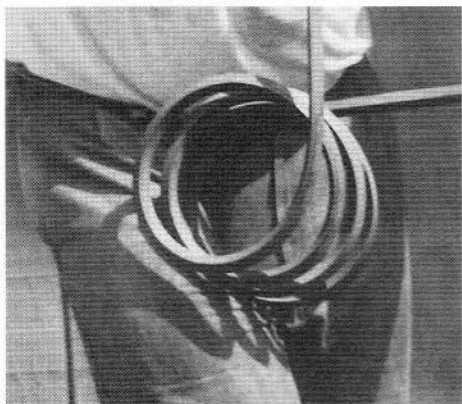
Most recently, I embarked on an even more difficult feat of hand strength—one I would have considered impossible if I hadn't succeeded with it myself. In fact, I would have to say this feat is the greatest one I have ever seen or heard of, from its visual, eye-catching impact, to its impossibly difficult nature. I will now reveal this magnificent accomplishment: bending a nine-sixteenths-inch round steel bar twenty feet four inches in length so tightly and compactly that it will fit into a post office Priority Mail box that is about 11" x 14" x 3". I have only been doing this for a short time, and I have consistently been able to do this feat successfully.

When I do this bend I start at one end of the bar instead of the middle of the bar. For most of the scrolls, I usually start in the middle; however to get the twenty-plus footer into the box, I must start at one end of the bar. I mentioned that I have been using nine-sixteenths-inch round steel bars. I have also done this a couple of times with half-inch round twenty-foot bars. The half-inch bars are somewhat easier than the nine-sixteenths-inch bars, although I would not have believed that a half-inch round steel twenty-plus foot bar could go into this box either. I have also coiled a couple of five-eighths-inch twenty-foot steel bars into this type of coil, but this bar is too thick and too strong for me to coil tightly enough to fit into the Priority Mail box.

Just so there is no confusion, iron coiling and scroll work are similar and also very different. Whereas with scroll work you are bending the metal into a variety of artistic shapes and designs, with iron coiling you are simply bending the steel or iron into coils, rolling up the steel like a garden hose.

To begin iron coiling, choose your steel bar—you can find steel lengths at a large hardware store, a lumberyard, or a steel shop. You can use any size bar you wish, but you will probably want to start off using a three-eighths-inch

round steel bar and you will need at least an eight-foot piece of steel to coil. Hot-rolled steel bars tend to coil up more into a series of U-shapes where the finished product is somewhat rectangular, while cold-rolled steel bar coils are roundish and more circular. Cold-rolled steel is a bit more springy than hot-rolled steel.



An easier bar is wound into a tighter coil, while a more difficult bar is made into a looser, larger coil.

You can probably find re-bar or reinforcement rod to practice with first. Re-bar is quite plentiful and very inexpensive. Those of you who have bent re-bar may know that it is inconsistent in strength: some of it bends easily and some of it is quite springy and harder to bend. Regardless, it is great to practice steel bending with.

Once you have selected your steel, it is time to go to work. As always, you will have to pay attention to your own body to find out your best position to do this task. Place the bar on the ground, kneeling down at one end of the bar. Bend the shortest length of steel you can manage back towards yourself, so that you have created a U-shape at the end of the bar. If you can't start the bar at your desired point, just bend a longer section. Now, bend another U-shape section, and then another, over and over again. Every bend must be very short and compact. If you can do this with very short bends in the steel, you will actually start to coil up the bar into a small hose-type shape, like a garden hose or extension cord. Continue to coil the bar until you get to the end.

This feat of strength will stress your hands and wrists beyond belief, and may make your hands tired to the point of cramping with fatigue. To coil the bar in this manner and this tightly will require all of your lower-arm strength and may be the hardest you will ever tax your hands and wrists. When you look at the bar before you start and then look at the bar when you are finished, you'll be amazed at what you have done. When you add all this to the sheer toughness of the bending and the fatigue you'll feel in your lower arms and also the sweat on your brow, I'm sure you'll feel as I do, that this is the most difficult and the most amazing feat of strength you have ever seen or heard of, not to mention actually accomplished.



Horseshoe bending: mastering a classic feat

Strength focus:

- vise grip

- upper body, especially wrist development

One of the most popular feats of strength to demonstrate one's raw power is bending a horseshoe—it seems to be something that everyone can relate to. Years ago there were quite a few strongmen and even a few strongwomen who claimed that they could bend or even break horseshoes. Probably without a doubt, the most famous horseshoe breaker was John Marx, the Luxembourg Hercules. Marx was a large, powerfully built man weighing around 245 pounds. He was a blacksmith by trade and made great use of his powerful muscles. He is credited with being able to bend and break the largest, strongest horseshoes in all the land.

The question that is asked of me quite often is do I think that he could really break these horseshoes and do I think that he could bend the horseshoes of today. My answer is, without a doubt, yes—I feel his claims were real. I also

believe that a few other strongmen of the past, like the Mighty Atom and Pierre Gasnier, were great at bending horseshoes and that their performances were completely genuine.

On the other hand, I am of the opinion that many strongmen and strongwomen of the past were not on the level with their claims. It is possible that the horseshoes they were bending were not that strong, and if this were true, they could be bent easily. I found some old, but well-preserved horseshoes, and I bent these horseshoes much more easily than the hardier ones of today. I could understand that if these shoes had been lying out in the elements for fifty years, rusty and half-eaten up with the weather, they would be easier to break. However, the horseshoes I found had been hanging on a wall in someone's house or farm for many, many years. Most were larger than the ones that I usually bend, and although they were larger, they still bent much more easily. I guess mysteries or enigmas will always surround the horseshoe benders and breakers of the past, and many of the great strongmen in general.

All we really have to go by are the materials we have today, and I'm going to tell you straight out that bending a new horseshoe of average size and thickness is no easy task. One of the hardest physical endeavors you can ever take on, horseshoe bending requires significant overall upper-body strength

As well as pure upper-body strength, a key factor is the strength of your lower arms. You must have great wrist strength and be able to twist and turn the shoe like there is no tomorrow. Even with all this going for you, you must be able to hold or grasp it without any slippage in your grip whatsoever. You will quickly find that no matter how hard you push or pull, and no matter how strong your upper body is, you will not be able to do anything with a real horseshoe if you don't have a top-notch grip in *both your hands*.

The reason I say both hands is because one of your hands acts as a vise for maintaining or securing the horseshoe as you bend it. If either hand does not have enough strength, you will find yourself breaking your own leverage: to bend a horseshoe, you are actually fighting against your own strength. This may sound strange to you now, but if you decide to try this feat of strength, you will quickly find out what I'm talking about.

As far as finding horseshoes goes, they are very expensive if you buy new shoes. Unless you are wealthy or very determined, let me offer you another alternative. If you can find a horse track or a horse farm, ask the owners what they do with their used horseshoes. They usually just throw them in a pile and eventually bury them. If you ask them if you can have them, I'm sure that they will be more than glad to let you take whatever you want.

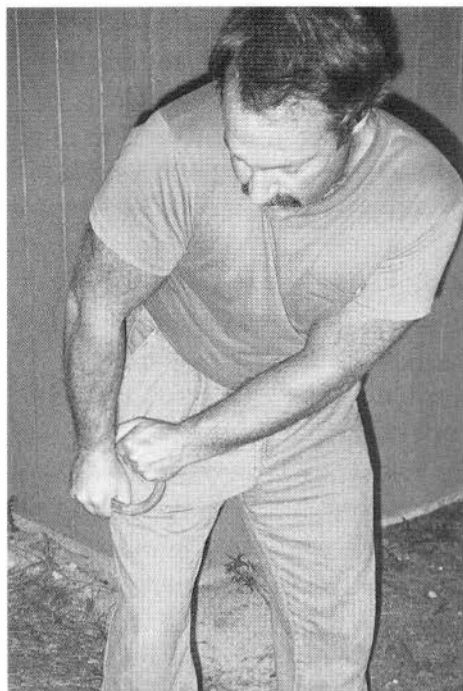
If for some reason you can't find someone who owns horses in your area, you can also look in the Yellow Pages and find either a farrier (a person who shoes horses) or a veterinarian. If you can find either one of these two, they can probably help you locate some horseshoes.

Also, when you find these used horseshoes, they won't be very old because people don't leave shoes on their horses very long. You may notice a little rust on them, but this won't affect the strength of them at all. They will be as good as new as far as you're concerned. If you like, you can rub them with steel wool and remove any rust or orange tint that is on them.

Once you have your shoes, you also need to understand that you can't tell how strong horseshoes are by looking at them. This is true because they are usually heated and made differently each time. It is not uncommon at all to find two horseshoes of the same size that vary greatly in strength. You will simply have to try them for yourself through trial and error.

Before you start bending, a very important point to understand is don't try to straighten the horseshoe out; you cannot pull the shoe straight out so that it forms a straight piece of steel. I have seen this "done" on television shows or in the movies a few times and it simply is not possible, so don't waste your time trying it unless you own a machine shop and have industrial equipment at hand.

To get started actually bending a horseshoe, place two old wash cloths or rags over the tops or the prongs of the horseshoe. Grasp the top of one end of the horseshoe securely in your left hand so that it is trapped against your right thigh. Grasp the other prong of the horseshoe in your right hand and start to push outward and downward as you maintain a vise grip with your left hand. Continue to push and exert pressure in this manner.



Bending a horseshoe.

Once the horseshoe has bent outward enough, place it on top of your lower leg (you may wish to place a towel on your leg to prevent the shoe from bruising or cutting your leg). Now force down hard on the ends of the horseshoe, bending them downward. Completing this type of bend will create an “S” design. If you want to bend it even more, continue to press down on the ends, forcing and crushing the ends together.

This technique is the best way to get started with horseshoes. It may feel a little awkward at first, so stick with it. As I mentioned earlier, bending a real horseshoe is very difficult, and it just may be too much for you to muster. If this is the case, try to find some very easy or thin horseshoes or even aluminum horseshoes to get started with. Practice with these shoes until you develop more strength for the movement and get a better feel for the technique.



Card tearing: dealing yourself a strong hand

Strength focus:

- vise grip

- forearm development

There are many ways to measure the strength of a man's lower arm, and one of the greatest is the ability to tear poker cards. Most poker decks have fifty-two regular cards, two jokers, and two information cards with rules on them. Tearing a full pack of cards is the mark of a powerful grip and strong set of forearms.

Tearing a pack of cards was a favorite feat of the stage strongmen of old. Let's look at a few record performances of the old-timers. Charles Vansittart, "the Man with the Iron Grip," was able to tear three packs of cards at the same time. He could also hold a single pack with arms overhead and, in a twinkling of an eye, tear them in half. Al Treloar, the famous vaudeville strongman, was able to tear four packs of cards in half. He included this feat for a while in his act, but he eventually dropped it because it took him too long to perform.

A handful of strongmen tore the corners off the cards, or after tearing a pack of cards, they would then tear them again into quarters. Harold Anson would even tear them into eighths. Now before you start examining this, you must realize that these feats were all performed with paper cards. Plastic-coated cards were not on the market then. This takes nothing away from these old-timers for, in my opinion, their grip strength was much better than today's strength athletes.

In comparing paper cards to plastic-coated cards, I estimate that tearing four packs of paper cards would be equal to two packs of plastic-coated cards. Having been tearing cards for years, I feel that the paper cards are about fifty

percent the strength of the plastic. Other strongmen I know feel this estimate to be accurate as well. By the way, paper cards are nearly impossible to find anymore, so if you go to any store to purchase cards, they will be plastic-coated. Most cards are similar in strength, so you can buy the cheapest cards available to practice with.



While there are several different ways to tear cards, we will follow the easiest way for the novice. When beginning your training, I suggest using about twenty cards. Even if you can tear these on your first attempt, it is important to get used to the technique. To start, grasp your cards, holding them vertical or straight up and down, with the bottom of the cards in your left palm and the top of the cards in your right palm. From this position you need to grip tightly; keeping a firm grip on the cards throughout the whole movement is of the utmost importance. Remember, all the upper body strength in the world won't make you a good card tearer if your hands and wrists aren't strong.



Tearing cards.

With a solid grip on the cards, twist the bottom and the top of the cards in opposite directions, trying to start a small tear in the sides of the cards, at the middle. You may notice that the cards want to slide or slip around—this is why grip strength is so important. Continue the twisting motion on the cards until they start to tear apart. Once you tear the cards about halfway, you may want to adjust your grip to finish the tear. At this point you simply try to pull the cards apart.

If you have trouble getting started with card tearing, use a smaller number of cards. Card tearing may feel very awkward at first; however, if you follow the steps closely, you will soon get a feel for it.

Card tearing is a great grip trainer as well as a feat of hand strength. After you tear your cards in half, you can tear as many as you can into quarters and even eighths and sixteenths, making your cards last as long as possible. I continue tearing the cards until they are dime-size or even smaller, using only my finger tips. My point is, in addition to training, let's make our money go as far as we can.

I used to tear two packs of poker cards in half at exhibitions. Because of the cost of training with two packs all the time, I usually wrap one pack several times with electrical tape (duct tape). I then put the cards back in the box. Tearing cards wrapped in duct tape in their box is just as difficult as tearing two packs in half. If you get to the point where you can tear a whole pack in half without much difficulty and you wish to progress from there, you can work on tearing cards behind your back. You can also try to tear the corners off the decks.

Remember to start slowly and be patient: the most important thing is to develop your technique.



Bending nails: conquering the 60-penny

Strength focus:

- total upper body development

As a professional strongman, I bend all types of nails and short chunks of steel. I also bend two nails at the same time, break chisels, and cut nails and pieces of steel so short before I bend them that you can barely get your hands on them. However, except for strength athletes who have tried to bend steel, or workmen who understand the different strengths of steel, the average person is as impressed with your bending a 20-penny nail as they are with breaking a hardened power bit. To them, a nail is a nail.

I have met a few people in the past, usually elderly gentlemen, who come up to me after I have done a program and tell me how they used to be able to bend nails when they were younger. After I talk to them about it, I can tell that they bent smaller nails of lesser strength. These gentlemen seem to think that they used to bend the same type of steel that I do. I am always very polite to them, for they are not trying to be wise guys. The simple fact is that they don't understand the difference in steel: since they have bent a nail before, they can bend your nails. With this in mind, if one of your goals is to be able to bend nails, you first must understand the basic concepts of steel.

First of all, if you are looking for a traditional 60-penny nail, which is six inches long, one-quarter-inch thick, and round in shape, you can go to ten different hardware stores and find ten different 60-penny nails. If you bring these nails home and try to bend them, chances are that you will encounter ten different strengths of steel. This, of course, automatically confuses anyone who is new to steel bending.

My advice to you is to go to several hardware stores and buy a few 60-penny nails, a few 40-penny nails, and also a few 30-penny nails. Just buy about five or six of each of these different nails, which will give you about a pound of nails. I would go to at least three hardware stores to do this. You may not be able to find 60-penny nails at every store, but you should be able to find the 40's and 30's. Be sure and keep track of which nails came from which store so you can find the same nails if you return.

Once you have collected and marked all your nails, you will need a little something to protect your hands. While I like to use an old washcloth or rag, you will have to get the right cloth for yourself. Just follow this rule of thumb: If it feels as if the nail in the cloth is going to bruise your hands, use a little more cloth; and if you can't get a true grip on the nail, you are, of course, using too much cloth. In a short time you will find the right amount of cloth for yourself. Also remember, the less cloth you use, the more pressure you can exert on the nail. A lot of cloth acts like a buffer and requires more pounds of pressure to bend the nail.

Now that you have your nails and your cloth, you are ready to start. When I told you to go to the hardware store and buy all those nails, it was so that you could now try all the nails and find one that is the right strength for you

to bend. Once you find one that is right, you can go back to the same store and buy some more of the same nails. If you are serious about nail bending, I suggest that you buy a lot of the particular nail that you like, or even the rest of the nails in the bin or the box. If you find a nail you like well, stock up on it, for you may find it difficult in the future to find a nail of the same strength.

Wrap up your nail in your cloth so that your hands are protected. If you are gun-shy about the point of the nail going through your hands, cut or saw off the point. While there are different ways of bending nails, I'm going to describe what I think is the easiest method for the average person. Grasp your nail with your palms down, holding the nail against your lower abdomen, at about waist level. You may want to hold the nail slightly higher if it feels more comfortable. Experiment a little bit until you find the magic spot. As you start to bend the nail, keep your hands and the nail against your lower abdomen for better leverage. Grip the nail tightly as you concentrate on bending the ends of the nail downward with your hand and wrist strength.

Also, as you are trying to bend the nail, be sure to keep the nail perfectly horizontal. This will give you the best leverage. The movement may feel awkward at first, for it is not a movement that the average strength athlete has ever tried before. Just concentrate hard and attempt to bend the ends of the nail downward while keeping a tight grip on the entire nail. If you can't start bending any of the nails, here is a helpful tip to try. Because of the awkward movement of nail bending, you need to get a feel for the technique—but you also can't develop a feel for the technique if you can't get a nail to start to bend.

With this in mind, take a piece of wire the same length as your nail. If you don't have wire, cut off a piece of a coat hanger. Following the same principles, bend the wire or coat hanger downward like the nail. While this might not seem challenging, it will give you an idea of how it feels to bend a nail. Continue to practice with the wire until it becomes second nature and then start working on the nails again.

At first, developing the rhythm of bending is more important than exerting the pressure on the nail. Of course, if you can start the nails, you'll want to continue to work on those nails. The important thing is to have something—a wire or a nail—that is moving when you exert pressure.

You may also have heard or read about an old training method where the beginner takes two pieces of pipe and places them over the ends of the nail to bend it. This, of course, necessitates using a longer nail, which gives you much greater leverage. You then go to shorter pipes as you get stronger until you can eventually bend the nail without assistance. I do not recommend this method because with pipes over the nail, your six-inch nail has suddenly turned into a twelve-inch nail, and you use a whole different set of muscles at a different angle. The end result is that even if you get stronger from this technique, you will be at a loss when you try the nail without the pipes because you are exerting pressure on a much shorter object. In a similar situation, an athlete who wanted to become strong in the close-grip bench press would train with his hands close together and strive for heavier poundage to improve his strength. He would not use the widest grip possible on the bar and expect this to develop his close-grip bench press. So with your nail bending, start with nails you can bend or some wire of the same length.



Bending a nail.

When you bend a nail in the position described above, you will find that the nail can only be bent about halfway in this manner because your own hands get in the way. At this point, change your grip and put your fingers on the outside of the nail instead of the inside; then push on the nail with the palms of your hands and crush it together; your hands and the nail are now higher up towards your chest and neck. You will notice that starting the bend uses mostly lower arm strength, and finishing or closing the nail into the U-shape uses mostly shoulder and chest strength. As you get a feel for nail bending, strive to use stronger and thicker nails to improve. You may also wish to cut the nails shorter to make them more difficult.

Nail bending feels awkward at first, and you must start slowly and build up the muscles, tendons, and ligaments through practice. Nail bending is like any type of lift or exercise—you can always improve and make the movement more difficult. As you improve with your nail bending, move to heavier, thicker nails; you can also cut off the ends of the nails, which decreases your leverage, making the movement much harder. As you get better and stronger at nail bending, you may want to bend with the nail held away from your body, making the task even more difficult by removing the leverage.

Nail bending is a superb way to develop upper-body strength. I can tell you from experience that when my nail bending is strong, I'm strong.



**I can tell you from experience
that when my nail bending
is strong, I'm strong.**

Summary: Strength focus for all exercises

Use this index to find the exercises best suited to the areas of strength you wish to develop:

Functional strength for whole body

Chest press with weight	16
Pole climbing	17
Stone lifting	18
Brick lifting	19
Other training	23
Weight toss	26

Upper body

Scroll work	101
Horseshoe bending	109
Nail bending	115

Total lower arm development

Ball rotation	33
Bar twirling	38
Grip work with tubing	68
Tearing tennis balls	87
Iron coiling	105

Wrists and forearms

Weight toss	26
Work those extensors: hand resistance, extended finger hold	64, 66
Lever lifts	50
Other grip devices: wrist developer	77
Bending steel bars (wrists)	94

Horseshoe bending (wrists)	109
Card tearing	113

Hand development

Roll-ups	30
Sand blasting	46
The investments: levering barbell plates, shot rotation	50, 52
Lever lifts: board pinch grip, lever lift with gripper	57, 59
Hand blasts	60
Bursting soda cans	83
Tearing tennis balls: vise grip	87
Bending steel bars: vise grip	94
Horseshoe bending: vise grip	109
Card tearing: vise grip	113

Last two fingers

Roll-ups	30
Climbing the mountain: shot rotation, two-finger plate lift	73, 74
Other grip devices: sporting-goods-store hand grippers	75

Individual fingers

One-finger lifting	42
The investments: levering barbell plates	50
Finger tip lifting	54
Other grip devices: Grip Master	76

Thumb development

Ball rotation	33
Bar twirling	38
Sand blasting	46
The investments: shot rotation	52

Extensors

Sand blasting	46
The investments: levering barbell plates	50
Work those extensors: hand resistance, extended finger hold	64, 66
Other grip devices: Power Web	76

Closing the Captains of Crush® grippers

Roll-ups	30
Bar twirling	38
The investments: shot rotation	52
Climbing the mountain: strap holds, two-finger plate lift	73, 74

Bending steel

Bar twirling	38
Grip work with tubing	68

Twisting strength

Other grip devices: round silicone ball	77
Tearing tennis balls	87

Muscle control and dexterity

Roll-ups	30
Ball rotation	33
Bar twirling	38
The investments: levering barbell plates, shot rotation	50, 52

Endurance

Ball rotation	33
Sand blasting	46
Bursting soda cans	83
Tearing tennis balls	87

Flexibility

Bar twirling	38
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Discipline

Iron coiling	105
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Moving beyond *Mastery of Hand Strength*, John Brookfield continues his tradition of breaking new ground in grip training: John's creative new exercises and unbridled enthusiasm are what *The Grip Master's Manual* is all about. John begins with some general training pointers, including how to practice good hand health, then shows you how to build your overall upper body and lower arm strength, laying a foundation for the specific hand and lower arm training that follows. And what follows is typical of John: a wide array of innovative techniques and exercises designed to motivate and challenge you—and to build your hand strength from every conceivable angle, along with your dexterity and muscle control. John, who invented what are now commonly called "strap holds," is also your guide to "climbing the mountain" to close the No. 3 Captains of Crush gripper.



John Brookfield's low maintenance iron bonsai trees:
"They never need watering."
Sherry Brookfield photo.

Finally, John leads you through the consummate grip master's repertoire: bending steel bars, bending horseshoes, coiling and scrolling iron, bending nails and even tearing cards.

John wrote this book to help you take your hand strength to the next level and if you follow his advice, we're sure you will get there and then some. If you want to be a grip master in the true sense of the word, take a look at *The Grip Master's Manual* and then go out and crush a can of Coke.

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