A SUPER FOREARM

The forearms are a very complex structure. If you disregard the flexion of the forearm against the upper arm, which is primarily caused by the muscles of the upper arm, the functions of the forearm are eight in number. These are, supination of the hand, twisting the right hand in a clock wise direction and pronation of the hand, twisting the right hand in a counterclockwise mannerf; gripping, extending the fingers-the opposite of gripping and bending the hand in four separate directions . . . this is why the forearms are regarded as a complex structare.

The Truth is, if all the involved muscle masses were developed to their maximum size. the strength of your hands would be so great as to defy description.

For example, more than 20 years ago, Mac Batchelor could bend bottle caps between the tips of his extended thumb and finger tips while holding his arm straight out in front of him. And 50 years before that, a man named Charles Vansittart could tear coins with his fingers, and his sinewy forearms looked their part. Though his wrists were not large, they were unusually strong and his forearms were nearly twice the size of his wrists.

Of the present
day bodybuilders Bill Pearl is famous for his well-developed forearms, thus he was more than surprised when I wrist curled more than he did when he was down here playing a part in a film I was then producing. This was in 1960 . The fact is, however, that I had not trained for several years and because my own forearms measured a mere 12 inches at the time certainly didn't help matters either. But Bill's forearms, in particular his left one (his best), measured $133 / 4$ then. It was a "cold", arm-straight measurement. It was simply an enormous forearm, and this in spite of much talk about measurements of 16 and 17 inches. On this particular day his massive biceps measured $185 / 8$ and was the largest arm that 1 had ever measured; an arm that dwarfs many others claiming measurements of several inches larger. But then, my tape only has 12 inches to the foot! Thus, at that time Bill's arm was a full inch and a half larger than my own arm, but his forearms, large as they were, only one-eighth of an inch larger than my left forearm has been when I was hard in train-

 ? $\rightarrow 4$

$\square$
Wrist size?

Adm size. inch. meas wrist nave. pour size. can Bill over, near flue must cate muss bicep arm Thus invol how And,

## By Arthur Jones

Admittedly, that does have a bit to do with forearm size. However; my own wrists were less than seven inches when I was 21 years of age. My left wrist measured $67 / 8$, and my right $65 / 8$. Since then both wrists have thickened, my left wrist, the larger one, never got over $71 / 2$, not even when I weighed over 200 pounds. So don't worry too much about your wrist size. If it measures anywhere near seven inches you can develop forearms that will be in proportion as Bill Pearl's for YOUR size and bodyweight. Moreover, keep in mind that when you develop forearms near their maximum size this growth will also influence growth of the upper arms. The thing that must be considered is that the biceps, which are located in the upper arm, are primarily a forearm muscle . . . at least in function. This function of the biceps supinates the forearm, and bending the forearm is strictly a secondary function of the biceps. Thus, by working the biceps properly, which should

- involve more movements than just curis (no matter how you do them), will also influence the forearms. And, because of the interrelationship of some fore-
- arm action, the forearms should be worked during the same workout you exercise your upper arms rather than working them separately. However, it's best to work your forearms last. If you don't your whole workout may suffer simply because, if you work your forearms vigorously, as you should, then you won't be able to do anything else after that. In fact you will have trouble closing your hand or controlling your fingers. So I suggest that you work your forearms near the conclusion of your workout for best results.
For the fastest results you must. literally work your forearms to the point of utter and absolute failure, but equally as important is that this state of


The forearm of Clevio Massino is phenomenally impressive. as can be appreciated in this pose. but his overall arm development was outstanding.
exhaustion must be reached within a short time. As you know, there are dozens of good, direct arm exercises but it would be a mistake to include more than one or two in any one workout. Doing more than you need, or more than your muscles can take. can only hinder progress.
If you will limit your training for upper arms to two sets of three exercises, a total of six sets, these exercises will also serve as an indirect forearm builder as well. One of the best, of course, is the pulley

The amaking forearm-biceps gadget describe in the article by the author: how it is used to produce maximum forearm size and power.


## SUPFER FOREARM DEVELOPMENT (CONT'D)

twists for the biceps. It's a new exercise and one you probably never heard of before.

To utilize this exercise you will need a fairly large pulley, one about 10 to 12 inches in diameter, but it doesn't have to be of heavy construction. Such a pulley can be bought in most hardware stores for a couple of dollars. Now take this pulley and have a " $D$ " shaped handle welded to one end of the axle that will turn the pulley. This apparatus is shown on page 41 of this issue. The pulley is mounted vertically with the axle in a horizontal position and about three feet above the floor.

In addition to the pulley and D-shaped handle you will need a piece of steel cable or anything that's strong enough to support 30 to 50 pounds. Also a short but heavy piece of chain, something that weighs about eight pounds to the foot. Now drill a small hole inside the groove of the pulley and insert the cable through it, knotting it to prevent slippage. Fasten the heavy chain to the other end of the cable, so that when you turn the pulley by twisting the handle the cable will wind up on the pulley and lift the chain, providing you with increasing resistance. The more cable you wind up the more chain you lift and this will give you more resistance than you can believe. Of course at first the resistance is light, but as you continue to turn, it gets heavier, and becomes greatest at the conclusion of the move-


Charles Vansittart who had one of the most powerful grips and fingers. was capable of tearing and bending coins and other metal objects. He prided himself upon looking unusually slender, and then amaze all by his unusual finger and wrist power.
ment. If the resistance is properly balanced, and it should be, then the "feel" of the movement will be such that the resistance will seem constant, although in actuality resistance will continue to increase as the movement progresses to the final position.

Some experimenting will be needed in order to adjust the chain properly, but on the whole it's a simple procedure. My son did it easily the first time he tried it, and he was only six at the time. The whole gadget can be built for less than ten dollars, but please don't try manufacturing this gadget to sell. My attorneys would strongly object if you infringe upon my patents. However, for your own use, be my guest. It will greatly aid you in building your forearms.

Now, utilization? Simple. Simple as the machine is itself. You use one arm at a time. Let's say you're using. the right arm. You (Continued on page 58 )

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at any other time. During the day when you are up and around your blood is active in all parts of your body; locomotion has the first call on blood functions. When you are sleeping more blood is available to the digestive system and so the ingested food is better untilized. For this reason 1 would suggest that before retiring you eat a protein snack: milk and a meat and cheese sandwich, or cottage cheese, eggs or supper leftovers. This will supply you with the extra 200 or 300 calories which will make the difference. A note of caution, however: this is not the "force feeding" of stuffing food into a full stomach. Force feeding is not wise or necessary.

Properly, you are balancing the caloric expenditure with the caloric intake, giving the body energy to work and protein to grow on. Now suppose you gain only two ounces a day. At the year's end you will have gained over 45 pounds, mostly muscle. Of course you wouldn't want to gain that must weight but it does point up. the importance of proper diet. Diet is truly the key to successful bodybuilding! MD

## A Super Forearm Builder

## (Continued from page 42 )

turn the pulley (with hands) clockwise until about 10 pounds of chain has been lifted . . . which isn't much weight but it will feel like a ton. Now grasp the handle with your right hand and forearm twisted in a fully pronated "goosenecked" position and your forearm bent back against your upper arm. Now twist your hand to the right without otherwise moving either your forearm or upper arm and twist it in a clockwise direction. As you do the cable will wind around the pulley and more chain will be lifted, which will increase the resistance as the exercise progresses.
Twist your hand as far as it will gountil your biceps are knotted into a fully flexed, supinated position, or until it starts to cramp. Then reverse the movement, permitting the chain to turn the pulley back to the starting position. Do about 15 full repetitons, and as many partial movements as you can manage.

For the left hand? Simply reverse the above procedure. This time twisting the pulley in a counterclockwise direction against steadily increasing resistance.

For your biceps, do two sets of standing regular curls with a heavy barbell, then follow each set of curls immediately with one set-one set for each arm, of courseof about 15 repetitions on the biceps-twistmachine. One set of curls; then one set on the twist machine, then a second set of curls, and then a final set on the machine.

Immediately afterwards, without the slightest pause, do one set of about 10 or 12 repetitions of pulley triceps curls; this will require the use of two pulleys-a floor pulley and a high pulley: Face away from the floor pulley and perform the movements in strict form; any sort of jerking in a direct triceps exercise can and probably will lead to elbow tendon trouble. Avoid this.

But if you do this movement right, you will avoid any sort of trouble while getting the best possible results in your tri-
ceps. Leave an open loop in the end of the cable leading up from the floor pulley, and insert a rolled towel through this loop then perform the exercise by gripping the ends of the towel-one end of the towel in each hand. Your hands should remain together throughout the movement. and they should be positioned so that the palms of your hands are facing one another.
In that position your elbows will not be twisted into a "forced" attitude-as they are in both the pronated and supinated positions. Your triceps are strongest when the hands are in that position and are working in the safest possible direct manner.
During the movement, your upper arms rergain perfectly still. You move only your hands and forearms; the elbows should be tight up against your head and as far back as possible. Thus you are working the triceps directly-and only the triceps. But if you permit the elbows to spread out away from your head, then the movement will become a sort of narrow-grip press and most of the potential value will be lost.
If properly performed, it will be noted that you run entirely out of strength in this movement with great suddenness. The first eight reps may be almost too easy, but then you will suddenly discover that you can't even start the ninth rep. This happens because you are working only the triceps and when it plays out. you are finished. Cheating is impossibleat least if good form is maintained-and it should be.

Part of the problem can be overcome by using chains as part of the resistance employed. Use a "base weight" as heavy as you can manage, and this will probably be somewhere between 30 and 80 pounds to start with. But in addition to the base weight. use more resistance in the form of chains fastened to the base weight by one end. At the start of the movement, all or most of the chains will be supported by the floor, but as the movement progresses, you will be increasing the actual resistance.

This is not some useless "gimmick". In no other manner, or at the very least. in no other practical manner, can you regulate the actual resistance, as it must be regulated, to get the best results from such training. Muscles are strongest when flexed, weakest when extended. In the case of the triceps this means that they are strongest when the arms are straight. and weakest when the arms are fully bent.

At the moment my 17 year old son is using an 80 -pound base weight in this movement, plus 50 pounds of chains. He starts the movement with 80 pounds and finishes it wil a full 130 pourds. Too easy? Just try it and if you do, within a matter of weeks your friends won't believe your triceps, even when they see them.

What does this have to do with building your forearms? Quite a lot. This is the upper arm work that should form a part of your workouts while you are training your forearms heavily. Then immediately after the second set of pully triceps curls, do eight sets of wrist curis-two sets each of four different sorts of wrist curls. Try for 15 reps in each set. First do one set of regular wrist curls followed by a set of reverse wrist curls, immediately followed
by a set of "front" wrist curls, and followed by a set of "rear" wrist curls.
"Front" wrist curls? "Rear" wrist curls? Exactly. You can bend your hand in four main directions, so for best results you must train it against resistance applied from four directions. Take an pld training bar of fairly light poundage and have two short handles welded to it; these handles should be situated about 18 inches apart-each one being nine inches from the center of the bar-and they should form a ninety degree angle with the bar itself. They need not be longer than 10 inches.

For front wrist curls grasp one handle in each hand (with the bar hanging in front of your thighs in a horizontal position) and then raise the weight only a matter of a few inches by bending your hand upwards. For rear wrist curls, put the bar behind your legs. Now raise the weight by bending the hands in exactly the opposite way used in the front wrist curls.
Having done the first "cycle" of one set of four exercises, repeat the same cycle again-almost immediately. Resistance? That depends upon your strength. But an average trainee of fairly reasonable strength might use 130 pounds for 15 repetitions in regular wrist curls, 50 pounds for the same number of reps of reverse wrist curls. 30 pounds for 15 reps of front wrist curls, and 40 pounds for 15 reps of rear wrist curls.
After two cycles of wrist curls, do one set of 20 repetitions on the biceps twist machine again, but this time do them in the opposite direction. Twist the right hand counterclockwise against steadily increasing resistance. In this set, you are working the pronating muscles of the forearms, rather than the biceps. One set for each arm, of course.

Then, immediately afterwards, do two "double hits" on the grip machine. Try to use a weight that will permit just less than twenty reps before the weight literally falls from your exhausted hands. then reestablish your grip and force out a few more repetitions. Wait about two minates, and repeat.

Finished? Not quite-but you soon will be. Shove your clenched fists into a deep bucket of thick mud-and then attempt to unclench and fully extend your fingers against the resistance provided from all directions by the mud-or clay. It's terrific for your fingers.

Do this rapidly and repeat it until your hands feel like they are ready to drop off. You won't feel anything in your forearms by that point.

And that's all? You want to do other exercises after that? Don't be silly. If you have followed instructions properly, you won't even be able to pick up a house key off the floor. You might be strong enough to, but you won't be able to control your fingers well enough.

And if you don't feel that way, then you didn't do it right. Time required? Exactly forty-two minutes for the entire arm routine, including the upper arm work listed. And eventually you should reduce it to about thirty-five minutes. while still keeping it brutally hard.

MD

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