

# STRENGTH

DECEMBER 1920

Hands Up!



Strength vs. Skill



Wrestling



Boxing



Running

Price, Fifteen Cents



Vol. V

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No. 6

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# The Strength of a Strong Man

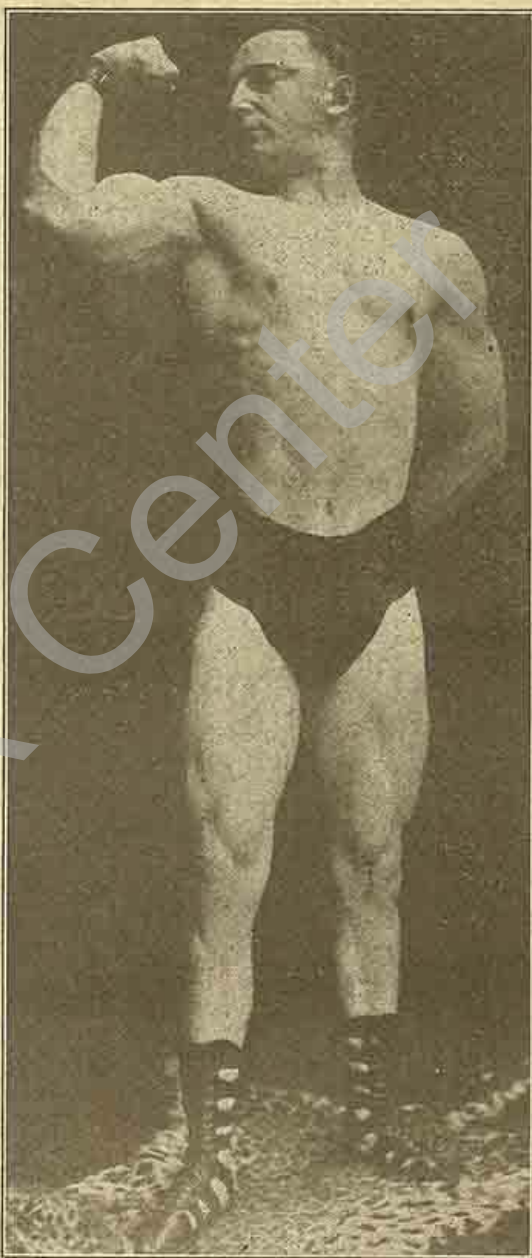
**Y**OU don't want it, of course—wouldn't have it for a gift. But you do want the bounding energy and vitality—the limitless endurance and vigor that only the strong man enjoys. Just the brute strength alone may not be of much value to you, but the confidence in your own ability that comes from the assurance that your well-trained body is capable of meeting all emergencies—what is that worth to you?

The strength of a strong man—not just a strong arm, or a strong back—but to be really strong in all parts of the body, sound organically and active physically and mentally—this is going to be worth real money to you in everyday life. You may be a brain worker, and may figure that you have no need of brawn, but of what value are your brains when the doctor shakes his head and counts you out? Your poor, weak, undeveloped body will be an actual handicap then, a happy hunting ground for germs of all descriptions.

The strength of a strong man—to be able to meet your fellow men on the ground of physical equality. To have sufficient faith in your own ability and enough pep and vigor to back that self-reliance to your own personal advantage. Strength is a breeder of confidence. You must have both to succeed.

The strength of a strong man—to have good, red blood singing through your veins and to feel that the world is a pretty good place to live in. All these things we can give you, or rather can show you how to obtain them for yourself.

Our illustrated booklet will show you how you can obtain all these things by exercising for a half hour every other day. Begin the new year right. Send for it today.



E. W. GOODMAN A MILO-BUILT MAN

**The Milo Bar Bell Co.**

Dept. 17, Third & Diamond Sts.

Philadelphia, Pa.

# STRENGTH

Vol. 5

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## EDITORIAL

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**I**N the November issue of *STRENGTH*, O. R. Coulter made a plea for the formation of an American Weight Lifting Association. His appeal met with instant response, and it now seems certain that such an association will be formed.

The writer has received many letters on the subject, and every one of the letters expresses the opinion that such an association will fill a long-felt need. The general opinion seems to be that there must first be formed a central organization who will appoint responsible persons in each community to organize and conduct local organizations, and to hold frequent competitions.

It has been further suggested that the central organization or board of control, or whatever it may be called, should draw up conditions of competition, defining each lift and stating the exact manner in which it should be performed, and prescribing certain lifts to be used in general strength competitions. It is quite certain that until we do have such an organization, the present "strong man" controversy will remain unsettled.

In order that all contestants may be placed on an equal footing, it is necessary that all those who are on the board of control should be absolutely disinterested. This means that they would necessarily be barred from all competitions promoted by the organization, in order that they may not be given an unfair advantage over other contestants by having a voice in prescribing rules and conditions of competition.

The writer is willing to serve on such a board and *Physical Culture* has agreed to furnish another representative. While a great many of our readers would be glad to serve in this capacity most of them would not care to be barred from further competition. The writer is getting in touch with men who will probably be able and

willing to serve, and may be ready to propose the board in the next issue of STRENGTH.

However, it is up to each and every lifter who wants to see the sport placed in its proper place to lend a hand with the organizing of the association. There must be branches established in each community and every one can lend a hand in this.

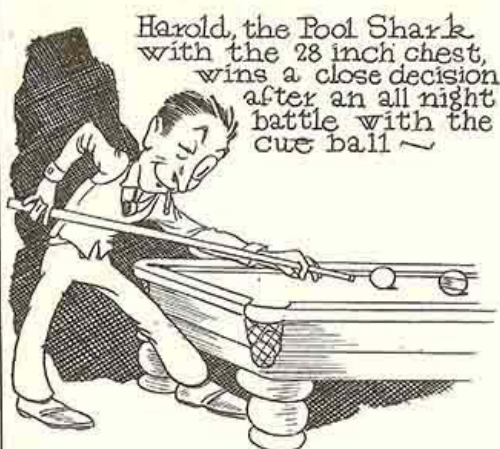
The organization would be amateur in its nature as most of the contestants would be amateurs, but it is also vitally necessary to have a professional branch, in order that both amateur and professional lifters may have a chance to decide who really is the "strongest man."

There are probably about a half-dozen professional strong men, each of whom is willing and anxious to meet the other contestants—on his own terms. Since each one has favorite lifts and feats of strength, he naturally wants to have these lifts as the standard of competition. Challenges fly thick and fast, but action is sadly missing.

Warren Lincoln Travis is said to be recognized as the Champion. He has deposited with the Editor of *Physical Culture* a \$10,000 Liberty Bond. This, together with the diamond belt held by Travis, is to be presented to any one who meets Travis and defeats him on ten lifts, the opponent to have the choice of barring one lift, and in the case of bad teeth, the teeth lift may be omitted.

This seems to be fair enough, but it will not produce action. Since there are no recognized rules of competition, each contestant insists on his own conditions, and, as a result, we have any number of "strongest men."

Apart from the benefits that each lifter would receive individually, the Weight Lifting Association would stop the "strong-man" controversies for all time. It would authorize certain lifts for a competition that would be fair to all of the contestants, leaving no further cause for controversy on this subject. The real "strong man" would receive proper recognition, and the near "strong men" would have to be satisfied with second best.



Harold, the Pool Shark, with the 28 inch chest, wins a close decision after an all night battle with the cue ball ~

The man in the "Kindergarten" Gymnasium Class ~ trying to put on muscle and take off fat in ten easy lessons ~



The Bedroom Athlete - (5 lb. dumb bell species) looking in his mirror for the 7856 th. time for the development the book promised!



ANYWAY - THERE'S NO DANGER OF ME GETTING MUSCLE-BOUND!

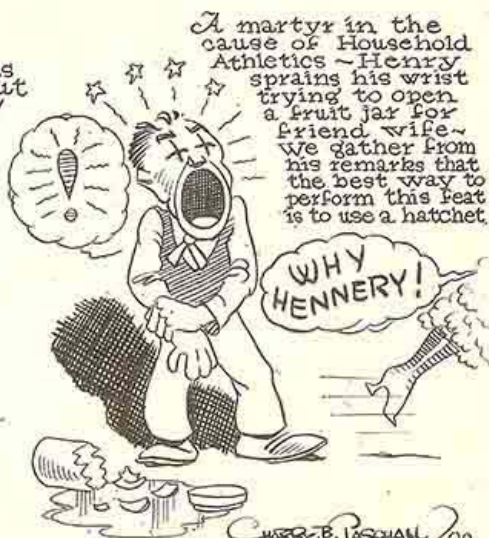


Clarence, the croquet expert, developed those massive shoulders swinging a two pound mallet ~

Freddy Flatfoot thought there was nothing like a 15 mile hike to put you in shape - until he tried it!



ON THAT LAST LONG MILE →



A martyr in the cause of Household Athletics - Henry sprains his wrist trying to open a fruit jar for friend wife - We gather from his remarks that the best way to perform this feat is to use a hatchet.

WHY HENNERY!

CHERRY B. P. SCHALL 20

## Hands Up!

By ROBERT W. MAXWELL

**A** YOUNG baseball player reported for spring practice at one of the big league training camps in the South last year. He had been highly recommended by numerous scouts and his minor league record was of the best.

After donning a uniform he went out on the field where he was introduced to the manager. They shook hands and the rookie trotted to second base where he gave a great exhibition of infield work.

"What do you think of the boy?" asked the scout, who was proud of his discovery.

"Guess we picked a bloomer," replied the manager shortly. "He'll never survive the trip North."

"What's the matter?" demanded the scout. "Isn't he fast on his feet, can't he throw, didn't he hit well in the minors last year? What more do you expect of a young ball player?"

"You're right as far as you have gone," retorted the manager, "but you apparently have overlooked one important thing. How about his hands? They are not strong enough for big league baseball. He can't handle the ball with any sort of confidence and he will fall down in a tight place. A poor pair of hands will keep him out of big league baseball."

The manager was right and the youngster still is in the minor league.



The horny, calloused hands of Babe Ruth.

Copyright Kadel and Herbert.

A strong pair of hands made Jack Dempsey the champion pugilist of the world.

A strong pair of hands made Babe Ruth the greatest long-distance hitter the world ever has seen.

Strong hands have been responsible for the success of the majority of our world's champions in all branches of sport.

Few realize the importance of well-developed, muscular digits in athletics. Still, when one figures it out, what chance has an

every day to keep them in condition. Every morning they are massaged, for he is taking no chances with his principal assets.

One morning when Dempsey was training for the Willard fight I visited his training quarters, which were situated on Maumee Bay, just outside of Toledo, Ohio. Jack was not around and his trainer informed me he was out rowing on the bay.

"Taking a day off?" I inquired, when he returned.

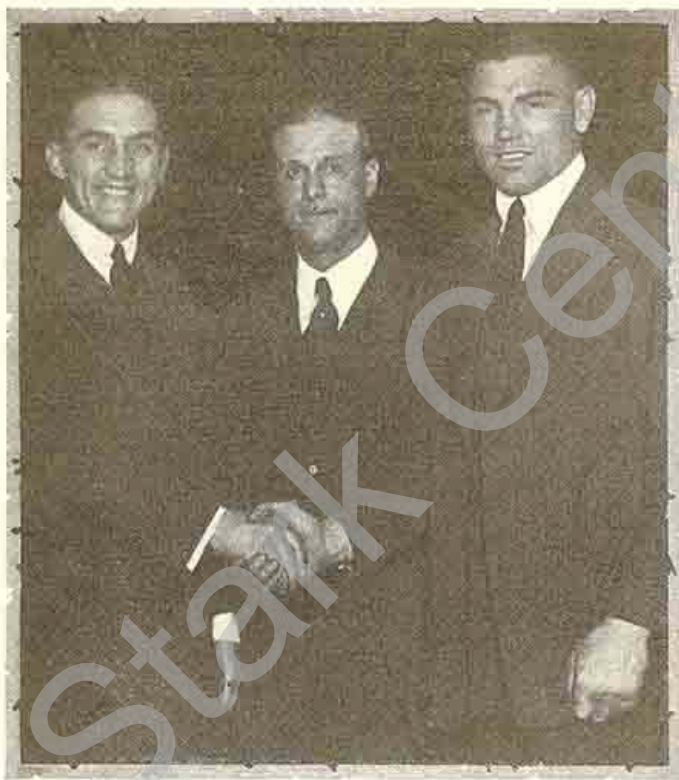
"Not so you could notice it," replied Dempsey. "I take a short row every morning because it strengthens the hands. Pulling on those oars for a half hour is hard work, but I need it. Without strong hands I'd never have a chance with Willard."

When Dempsey met Georges Carpentier (socially) at Madison Square Garden a short time ago, the boxers posed for one of those usual pictures, which showed both boxers smiling while in the act of shaking hands. This picture is reproduced here, but the smiles mean nothing. Look at Dempsey's hands.

His left is dangling at his side like a big ham and the fingers of his right appear to be squeezing Carpentier's hand out of shape. Georges is said to have a big hand, but it looks like that of a child when compared to Dempsey's.

In a short time these boxers will fight for a purse of \$500,000. They will spend much time in getting their legs in shape and strengthening the abdominal muscles. For defensive purposes this is all right, but the man with the strongest hands will win.

Bob Fitzsimmons was one of the hardest punchers the world ever has known and he was proud of it. One of his favorite amusements when training for a battle, was to



The comparative size of the hands of Carpentier (left) and Dempsey (right).

Copyright Underwood and Underwood.

athlete to make good without strong hands? They play a most important part in boxing, baseball, tennis, golf, billiards, bowling, automobile racing, weight throwing and weight lifting. If one cannot take a firm grip on a baseball bat, a tennis racquet or a golf club there is no chance to step into the front rank.

Jack Dempsey is careful about his hands. He has special exercises which he takes



see how many sparring partners he could knock out in one afternoon. He also had a trick of putting his fist through the panel of a door.

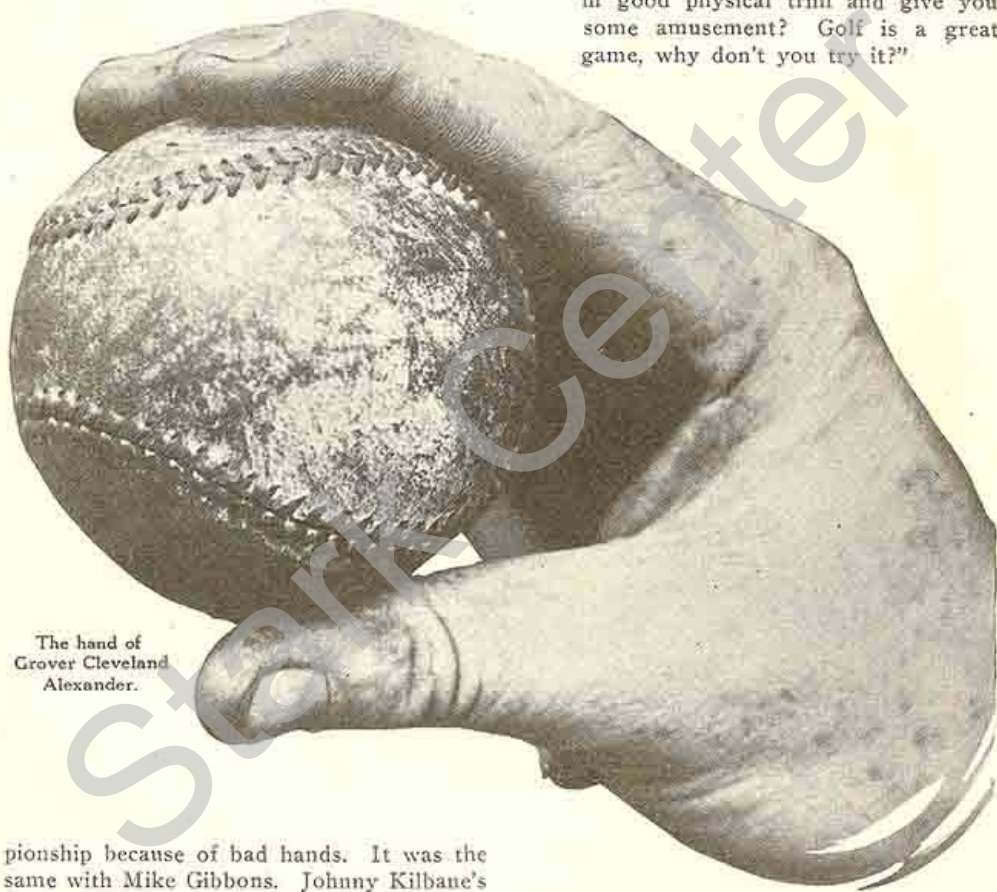
Soon he began to have trouble. His hands were weakened and in the bout with Jeffries when he lost the championship he broke both of them.

Packy McFarland was a clever lightweight, but never was able to win the cham-

hands. He hits like a middleweight and has a grip like a weight lifter.

Shortly after Leonard won the championship he hurt his left hand in an exhibition bout and was forced to give up training for a time. He didn't like this very much because he wanted to keep busy. One day a friend went to him and said.

"Benny, why don't you take some form of outdoor exercise which will keep you in good physical trim and give you some amusement? Golf is a great game, why don't you try it?"



The hand of  
Grover Cleveland  
Alexander.

pionship because of bad hands. It was the same with Mike Gibbons. Johnny Kilbane's hands have seen their best days and he is not so formidable as of yore.

Benny Leonard is a smart boxer and for a long time his training methods could not be understood. When he started to work for a big fight he would go to the country for two weeks and do everything except box. He was like a hired man on the farm, cutting wood, pushing a wheel barrow, digging up the garden and swinging a pick.

The reason for this was to develop the

"I'd like to do that," replied Benny, "but I can't ride a horse."

Babe Ruth was the sensation of baseball last season because he knocked 54 home runs, establishing a record which probably will stand for all time. The Babe has a keen eye, strong shoulders and a mighty swipe, but the most important thing is the firm grip he takes on the bat.

Last spring he wasn't hitting very much. The fans began to "ride" him and make

things unpleasant, but Babe didn't mind it. "Just wait," he said. "I'm never any good until I get callouses on my hands."

We'll say those hands were calloused.

William T. Tilden, tennis champion of the world, has a remarkably strong pair of hands. That is the secret of his great back-hand stroke which speeds over the net like a bullet. No tennis player ever has been able to master this stroke like Tilden.

Grover Alexander, one of our greatest baseball pitchers, had a strong right hand

of the leading sluggers in the major leagues, but fell short of being one of the greatest because of weak hands. Seldom did he connect with a home run, but singles and doubles came with amazing regularity.

"Magee is one of the best hitters the game ever has seen," said Gavy Cravath, "but he loses many hits because he doesn't take a firm grip on the bat. It hangs loosely from his hands and he doesn't connect solidly with the ball."

Magee's hands sent him to the minors last season.

Gavy Cravath has a bone-crushing grip. His hands are in great shape and will keep him in the big leagues for a few more years.



Willie Hoppe's hands are insured for \$100,000.

which allowed him to do many tricks with a baseball.

When a boy Alex worked on a farm in St. Paul, Neb. He handled a plow from morning until night and was one of the principal toilers. His arms and hands grew very muscular and made him a success in the big leagues.

Walter Johnson, Christy Mathewson, Hod Eller, Joe Bush and Jim Vaughn have hands like those of a stevedore.

Everybody remembers Sherwood Magee, the famous outfielder. Sherwood was one

of the leading sluggers in the major leagues, but fell short of being one of the greatest because of weak hands. Seldom did he connect with a home run, but singles and doubles came with amazing regularity.

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Magee's hands sent him to the minors last season.

Gavy Cravath has a bone-crushing grip. His hands are in great shape and will keep him in the big leagues for a few more years.

Strong hands mean a lot in the world of sport.

## Why a Strong Man Should Know How to Box.

By MARSHALL STILLMAN

*It isn't always the strongest man who wins—many a big, husky chap has been defeated by a smaller opponent. Strength counts, but you must also know when and how to use it.*

I HAVE found as a rule that the big-muscled, husky fellow who prides himself on his strength is very apt to depend on his size and weight for protection against attack, rather than take the trouble to learn the valuable art of self-defense. A great mistake—for if attacked, his antagonist is very likely to know enough about boxing to give him a sound thrashing despite his size and, besides, may not hesitate to use a lot of dirty kicks and punches known to the thug.

It is true that a "good big man is better than a good little man," but this saying of the ring presupposes that the "good big man" knows how to box. It is also true that "the bigger they are the harder they fall." Don't forget, either, that a big man has more territory to protect.

Some of the most difficult men to defeat were the smaller men of the ring. Joe Walcott, a welterweight, knocked out Joe Choin-sky, a light-heavyweight. Mike Donovan never weighed more than 154 pounds in any ring battle of his marvelous career, yet he defeated many a two hundred-pounder and retired undefeated middleweight champion. Most of his fights were bare-knuckle fights, too—fights which make the modern bouts look tame indeed.

The smaller man who knows the game will usually try for a solar plexus. That is the little spot—oh, so tender—where the ribs separate. It's no bigger than a five-cent piece and hard to find with the fist or glove, but once reached, good night! It was this blow which defeated Corbett. Corbett was game, but when Fitzsimmons landed that blow, he had to crawl on his hands and knees.

Another very vulnerable spot is the short ribs. A quick, hard, smashing right to the short ribs has brought home the bacon for Jack Dempsey in many a fight. Fulton was a much bigger man than Dempsey, but when

that crushing right landed on his short ribs his defense was gone.

A blackened eye may mar your opponent's beauty, but a body blow will do more to undermine his stamina and staying powers.

Some big men box for years without ever being seriously punished by body blows. They know how to guard. And when the big man also knows how to hit fast and hard it's time for the little fellows to take to the woods and seek easier game.

Perhaps you think "Well, that's true of professional boxing, but it doesn't hold true in everyday life."

It certainly does. I could tell you of many small men who have defeated bigger and heavier opponents.

For instance, a chap 5 feet 2 inches tall and weighing only 140 pounds thrashed an opponent 6 feet 3 inches tall and weighing around 190 pounds. Both these men worked in a Washington logging camp and the big husky lorded it over the smaller chap until things became unbearable—then the fight started. In this case the smaller man was well grounded in the fundamentals of boxing, while the big man didn't know the first thing about the game, but was a rough and tumble fighter. It is fair to say that in this case the big man was outclassed in spite of his greater size and strength.

And then there is Dempsey and Carpenter. That Georges will be absolutely outclassed by his bigger opponent is something that cannot be said with any degree of certainty. If Dempsey wins it will not necessarily be on account of his greater size, but because he is the better fighter of the two. A lucky break may win for either, but the decision is more likely to depend on a combination of strength and speed.

Another case comes to mind in which a chap of 169 pounds defeated a husky wagon driver over 6 feet tall and weighing about

200 pounds. It seems that their ill feeling was of long standing, the bigger fellow always feeling that the smaller man was afraid of him. He was until he learned boxing.

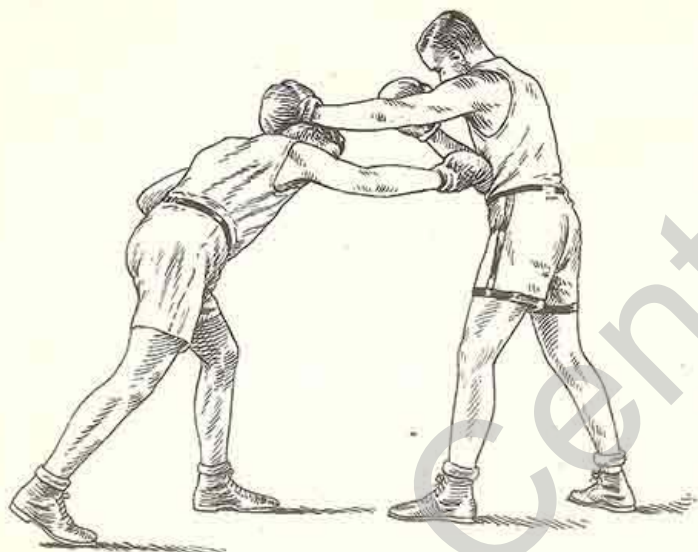
Please don't get the impression that I like street fights or any rough and tumble

body falls, giving a double force to the fall and is likely to result in a fracture of the skull.

If you find it hard to reach your man with a straight lead to his face try for his stomach. A solar-plexus will double him up and is very painful while it lasts, but is not at all dangerous.

Don't grapple with an assailant—a common mistake made by powerful men—no matter how small he is, keep him off with your blows. For if he is armed with a knife he may not hesitate to use it, and if you wrestle with him you're in great danger of receiving a fatal stab. If you are well trained in jiu-jitsu or bone-breaking wrestling holds, however, you may safely tackle an armed opponent along these lines.

Now let us consider some other reason why a strong man should know how to box.



A quick, hard, smashing right to the ribs brought home the bacon for Jack Dempsey.

tactics. You will seldom see a trained and skillful boxer looking for a fight—he's too much of a gentleman as a rule. If a kind word can straighten out an argument use it. Go out of your way to avoid trouble. But if you must fight to protect yourself, or some one dear to you, be prepared to go at the job in a business-like manner, and when it's all over your erstwhile enemy will most likely count you among his best of friends.

The chap who is looking for trouble generally finds it. But so does the man who has a fight thrust upon him, and who hasn't the faintest idea of how to defend himself. The humiliation of a beating often hurts more than the physical injuries.

A word of caution may not be out of place. If you are powerful be careful how you strike your man. A straight left-hand lead landing squarely on the nose is likely to be enough to take the fight out of the most boisterous—especially if it draws blood. Be very careful how you strike a man on the jaw. Such a blow causes the head to snap back onto the ground as the

It is highly essential for a man of large muscles to train those muscles to answer instantly the slightest wish of the brain and need of the body. When muscles will act quickly and not become tied up in the effort they're the right sort. To be well-muscled and agile makes the ideal athlete. Hughie Leonard, former wrestling instructor of the New York Athletic Club, the strongest man of my acquaintance, was as nimble as a cat. It was wrestling that co-ordinated his brain and muscle. Wrestling is good, but boxing is even better to supply the training for brain and muscle.

In muscle building it is well to undertake those exercises which require rhythm of body motion. The athlete should always practice some sport requiring quick action of a lithe body—tennis, hand ball, base ball, etc., are good. but the king of sports, boxing, is far superior to all of them, for the reason that it is not only hit, stop and get away, but combines clinching, ducking, feinting, slipping and side-stepping. A scientific bout with the gloves or three rounds of

shadow boxing will put the body and brain through all the paces known to sport—no fear of becoming slow, no matter how heavy you may be.

Get rhythm in all your exercise—proper timing the poetic swing, the proper cadence. Rhythm works wonders in any line of sport—it's what makes a Jack Dempsey or a Babe Ruth.

John L. Sullivan was a mighty man, but strength and weight alone didn't make him champion. Not much. It was rhythm. Sullivan had but little knowledge of the inner mysteries of the science of boxing, but he knew rhythm from the cellar to the garret. He was the first fighter to develop the "knockout," and it was the rhythmic swing with which he landed his blow which made it a "knockout." Even the punching of his adversary in skyrocket flight over the ropes into the audience was done with rhythmic essence.

The proper timing of a cork suspended from a ceiling hitting a suspended slab of iron weighing a ton, has been known to move that slab. The ton of iron was set in motion and made to swing vigorously, induced by the simple hitting of a well-timed cork.

That's scientific proof that it is all in timing and rhythm.

Know when to exert your greatest strength and save your energy till that moment arrives. Swing back slowly and hit in the proper time and you have the secret of golf. Move easily and gracefully and let the kick come at the moment of impact and half the battle is won with the gloves. To wrestle well, time well with the weight of the body.

In every sport the proper co-ordination of mind and muscle, which is timing, is what makes the champion. It isn't a question of how much muscle you have, but rather what you can do with your strength. What more pitiable sight in sportdom than to see a man of muscle who can do nothing but show his muscle and who takes more pride in the bigness of his muscle than in what he can do with his strength. As well

feel proud of the size of your hat, though an ignoramus.

Let us go to the animal kingdom for a magnificent example of power. The Bengal Tiger concentrates all its power at the moment of impact; the timing is perfect, the power supreme. No slowness of the muscles there. No unnecessary tension till the blow lands in all its glory. Just so with boxing. The expert boxer moves, glides, feints and lands his blow with the speed of a cat. The force is all at the point of reception, no wasted time or energy, no bound-up muscles, no false moves. His confident carriage is easy and graceful. His muscles under the glowing skin can be seen to move without stiffness, quickly answering the call of the brain.

To sum the matter up in a nutshell, boxing develops rhythm, grace and prevents a well-muscled man from losing his speed.

If one does not care to risk the Grecian lines of the nose or the pink and white aspect of the skin around the eye by boxing



A powerful blow landed on the jaw is usually effective, and sometimes dangerous.

an opponent, let him indulge in shadow boxing. The shadowy opponent never punches back; hammer him as much as you will. You need never lose the bout. Make it as fast as you please, get as winded as you please, you need never fear being caught out of strength and out of punch.

# Movement

By Joseph V. Prada

**O**WING to some articles that have lately appeared in *Strength*, wherein the theory of movement is taken into consideration, asserting the value of leg development for weight lifting and all-around strength; in delivering a powerful blow, or being able to take a good swat at the "sphere" in the game of baseball. I think the following article I now have the pleasure of offering the readers of this magazine, will prove both interesting and instructive.

Movement is an action of the human body, however slight or localized the motion may be. The slightest movement of the body brings into play not only the immediate muscles themselves affected by the movement, but a great many parts of the muscular system surrounding the muscle directly involved will also share in the action, for the neighboring muscles and even distant ones will be brought to activity. Let us trace the simple movement of the forearm. It is quite clear that the arm is "fixed" to the shoulder, now let us analyze the movement proper. Any motion of the forearm will depend on the transmission of the vertebral column (backbone) and the thorax, the shoulder being attached to these parts, which, in turn, derive their movement from the pelvis and the extremities, or the legs; therefore, from head to foot, all the muscles of the human frame participate to a certain extent in the most insignificant motion. Thus the slightest movement displaces the center of gravity of the body because the vertebral column acting like a balance, moves from side to side, forward or backward, depending on the action executed. By reason of what has just been said and as a natural consequence, the lower limbs almost always share in the work done by the upper limbs. For instance, in delivering a blow, the force of the impact can be traced directly to the participation of the legs in the work, to the very thrusting of the fist.

I presume that the great majority of the readers of *Strength* are also interested in the manly art of self-defense, and consequently are acquainted with the physical proportions

and the general physique of the pugilist. While not possessing any extraordinary development of the upper body they certainly hit, with at least greater speed than the strong man, or many others whose methods of training call for different athletic activities. Their hitting power, of course, in consonance with the theory explained above, is derived from the strength and development of their legs. To cite examples having a bearing on my assertion I ask you to recall the great Bob Fitzsimmons, the lanky Cornishman, having upper arms of only 13½ inches and with a wrist of 6½ inches, who was reputed to be one of the greatest hitters who ever donned a glove to wage battle against a heavyweight in the roped arena, although to my knowledge, his own fighting trim never exceeded 165 pounds. His memorable encounter with Jim Jeffries, once the holder of the world's heavyweight championship, brings to mind another exponent of fistiana, whose torso development was not in keeping with his fighting condition of 225 pounds, compared with the development of strong men and weight lifters, considering his avoirdupois. Arthur Saxon, the European strong man and lifter, at the same weight, had upper arms measuring 17½ inches and forearms of 14½ inches, which, in comparison with Jeffries' 15½ inches and 13 inches, was quite a difference when you consider that it takes no connoisseur to notice an increase of even half an inch in a muscled arm. Jeffries' leg development, however, was excellent; indeed, quite a model for any strong man or athlete, and as to his "kicking powers," the boilermaker sure was some hitter.

This will suffice to show the association of the legs in those movements executed by the upper limbs, which, of course, in weight lifting, also has a direct application, for in such lifts as the snatch, the one and two-arm jerk, the legs are prominently brought into play, hence the necessity of paying attention to their proper development for the best results.

In the various parts of the body there are what are known as antagonistic muscles, that is, they are rivals, or work against each

other, but with proper co-ordination when well trained. In the forearm we have the flexor muscles, whose function is to close the fingers. The extensors, on the contrary, perform the opposite function, that is, by their action, the fingers are extended and the hand opened. Here is a good example of antagonistic muscles: Two men wheeling a barrow downhill, one gently pushing it downward and the other trying to stay the too rapid descent of the barrow itself, otherwise, if it were not for this perfect antagonistic co-ordination, the barrow would either get fixed at a given point or it would hurtle downhill at a rapid pace. From the foregoing paragraph it would be inferred, therefore, that co-ordination is quite natural, which is really the case. It is so in perfectly natural actions, but when we arrive at the more complicated movements, either in exercising or in the application of skill in this or that craftsmanship, as a matter of fact, it takes long practice and experience to bring perfect co-ordination.

A stenographer or touch typist is a good example of the preceding paragraph, also the pianist, for in these cases long and extended experience is necessary to produce proper execution in their work. Thanks to the muscular sense the typist or stenographer is finally able to bring under subjection the antagonistic muscles of his hands, until with perfect ease they work in unison, the fingers striking the keys of the machine with no apparent trouble and without the aid of vision. By the same muscular sense and much practice, jugglers and equilibrists are finally able to accomplish really astounding and difficult feats requiring highly trained and educated muscles. Where there is no muscular sense there can be no co-ordination of movement, that is, the muscles will not respond to a harmonious action; this is the reason why those devoid of the muscular sense are invariably attacked by some disease akin to paralysis; their movements, not possessing co-ordination, will appear awkward and uncontrolled.

In the forearm we have the flexor and extensor muscles. Now let us suppose that these two sets of muscles contract with an equal amount of energy. The effect will be what is called contracture, or static contraction, that is, the forearm will remain motionless, producing great fatigue at the same time, for the very reason that the two

sets of muscles are vigorously working against each other, using up more energy and stopping momentarily the circulation of the blood, which mechanically can be likened to the exercise known as the tug of war. In other words, the contracture or static contraction, putting it in the vernacular, would be stiffness. This brings to mind the system of exercising the muscles by what is known as the muscle-contracting system, in which the different muscles of the body are powerfully contracted in antagonism without any apparatus. This method is erroneous and the results can never be satisfactory. The results are just the opposite in the dynamic system of exercise, in which the muscles participate in well-defined movements in overcoming resistance, either with exercising apparatus or overcoming the resistance of the exerciser's own weight on gymnastic apparatus. As explained above, what is commonly known as stiffness comes from the improper use of untrained muscles, in this or that line of athletic and physical endeavor.

We infer from the preceding lines that there are no isolated movements of the muscles or the limbs, for one or the other is dependent on the transmission given by the neighboring muscles and so on the transmission can be traced to the movement of the legs. In order, therefore, to produce co-ordination, we should train our muscles so that we may be able to apportion to each set just the amount of work they should do, so that our efforts will not be disadvantageous, a condition which is the result of untraining and inexperience. Once they are well trained our will has only to command them to obey our promptings most readily. Exercise, therefore, educates the muscles of the body to act in perfect unison, providing we have worked diligently and judiciously.

#### Effort and Its Effect on the Human System

Have you ever seen a strong man pick up a really heavy dumbbell, lug it to the shoulder with two hands and then, slowly but surely, raise the ponderous weight safely above the head with one arm? I am sure many of you have, and the great majority of the readers of *Strength* undoubtedly perform and practice the act itself, but have you ever stopped to analyze the movement, or has it ever occurred to you just what are

*(Continued on page 32)*

## Strength vs. Skill

By ALAN CALVERT

**A** GREAT baseball pitcher has to have speed, curves and control, and, the most important of these, is control. There are a number of men in the semi-professional and amateur ranks who have mastered as much speed as Walter Johnson and who have just as wonderful an assortment of curves as any of the big league stars. These amateurs have a lot of stuff, but the trouble is that they can't put it over. In other words, they lack control, which simply means that they are unable to make use of their blinding speed and wide curves.

In this big country there are thousands and thousands of men and boys who are endowed with unusual physical strength, but among all of these untrained men you will not find one of them who can duplicate the strength feats of a third-rate weight lifter. The usual reply to this is that the weight lifter accomplishes so much because he has the "knack." That all depends on the definition of the word knack. If the great baseball pitcher can toss up five different curves at various speeds and widths knowing that each one of these curves will cut the heart of the plate—that is not knack but acquired skill, and the ability to use and control these physical gifts. When Matthewson first broke into the big league he had a wonderful arm, but a poor delivery. A certain wise old pitcher took Matthewson in hand and pointed out to him that unless he changed his delivery he would wear out his arm in a couple of seasons. Matthewson, who was never too proud to take advice, quickly mastered the correct "body swing," with the consequence that he lasted for a dozen years in the big league. And during all that time he was wonderfully effective and he retained his speed three times as long as the average pitcher because he supplemented the strength of his arm by calling into play the muscles of his trunk and legs to assist in the pitching motion.

Now the same thing applies to the weight lifter, whether he is a professional or an amateur. I know men who have been be-

fore the public for twenty years doing "strong acts" and one week of their work would put the average laborer under the sod. A trained lifter, in his day's performance, performs feats of strength and handles masses of weight, doing an amount of work that would exhaust an untrained man in about fifteen minutes. Yet the trained weight lifter goes on week after week, month after month and year after year making these tremendous exertions and at the end of twenty years he is just as good as when he started, and is three or four times as good as the average man.

Now here is the most important feature of the professional strong man's training. In almost every case you will find that the successful man in the "strong-man" business is the one who was careful to develop his form and build up his muscular development before he went into exhibition work.

To revert to baseball. No man has a chance to enter the big league ranks unless he has behind him years of experience in amateur or semi-professional baseball. In the same way you never hear of a man making a success in a "strong act" unless he has spent some time at developing a wonderful physique and creating the muscular power which enables him to perform feats that give him the applause of the public and his share of the box office receipts.

I am writing all of this because I find that there are many boys and men who take up progressive weight lifting and who are so anxious to make records that they start at real lifting before they have properly prepared their bodies for the work to come. For instance, although bar-bell exercises are known as "weight lifting," most bar-bell companies issue more than one course of instructions. The first or developing course usually contains developing exercises only, and the first real "weight lifting" is given with the second course of instructions. The pupil is not supposed to start at the second course until he has become able to handle a certain amount of weight in the exercises in the first course.



There are pupils, mostly boys, who are so over-ambitious that they rush through the first course at top speed; that is, they work with the one idea, to reach as quickly as possible the amount of weight lifting which qualifies them to take up the real lifting, which is given in the second course. In all such cases the pupil who rushes his work is defeating his own object. The reason that the pupil is given these developing exercises is to enable him to acquire the extremely powerful and splendidly muscular body that will make real lifting easy for him. In the case of every pupil a schedule is to work from, furnished him but this schedule is not iron-bound. I believe that every lifter should study his own case, and if he finds difficulty in keeping up with the schedule prepared in his case, he should alter the schedule to suit his rate of growth and not try to alter himself to suit the schedule.

I believe the trouble is that many beginners at lifting treat the exercises as lifts instead of treating them as exercises. A man can develop his shoulder muscles quicker by pushing up fifty pounds six times in succession than by pushing up seventy-five pounds once, especially if he uses the fifty-pound weight in a certain specified way that will throw a great deal of developing work on his shoulder muscles.

This is especially true of an exercise

such as the one shown on these pages. This exercise, is by far, the best ever devised for creating shoulder strength and for increasing the breadth of the back and the size of the chest.

Figure 1 shows the preliminary position with the feet about 18 inches apart, and if the exercise is being performed with the right arm the left should be at right angles to the right foot, with the left leg slightly bent at the knee. The bell should

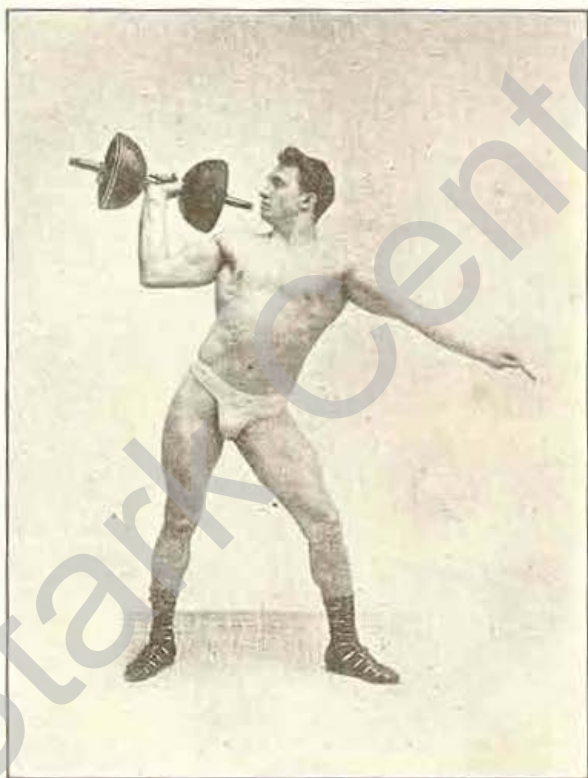


FIGURE 1

be held away from the shoulder in the position shown in Fig. 1. Draw the whole arm a trifle back from the line of the body. This will make the muscle over the right shoulder blade flex.

Now lean the whole body to the left and as you do so push the right hand up until the arm is straight, as shown in Figure 2. As you lean to the left you do not lean directly to one side, but you lean in the direction in which the left foot points. Lower the right arm until it is again in the position shown in Figure 1. Don't make the mistake of lowering the right arm close to the body. When the arm is lowered it must be away from the body, palm of the hand to the front. Repeat the exercise three times with each arm. Figure 3 shows the way the muscle over the shoulder blade flexes itself as the bell is lowered to the correct position.

This exercise loses most of its value if it is incorrectly performed, and it cannot

be correctly performed if the weight used is greater than the pupil can handle with comfort. I would say, that, as a general rule, fifty pounds is heavy enough for almost any one to use in that particular ex-

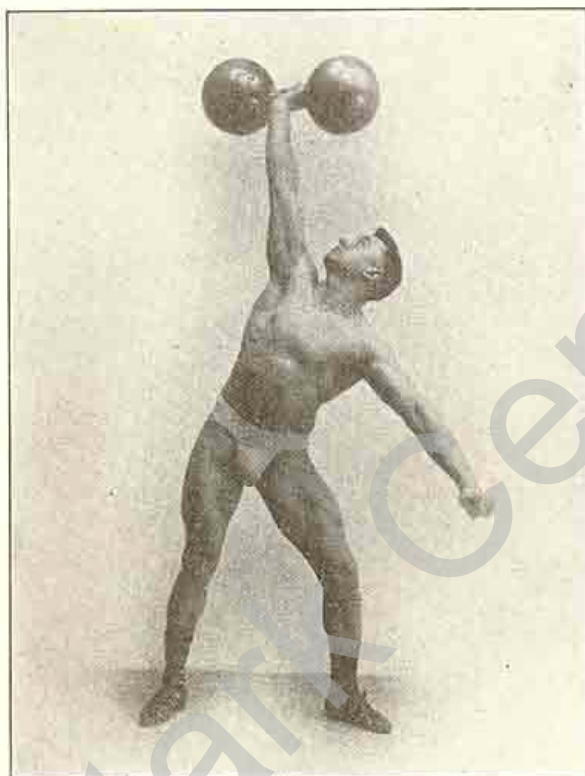


FIGURE 2

ercise, for fifty pounds will furnish plenty of resistance for even the strongest. If, on the other hand, the pupil attempts to use seventy-five or eighty or even ninety pounds he will be unable to handle that amount of weight in a correct manner and instead of being able to concentrate his mind on the way he is doing his exercises his only thought is whether or not he will be able to raise the weight at all.

I have been shown a letter from a pupil reporting his progress and stating that he is using ninety pounds in this exercise, and he alludes to this exercise as a "side-press." Now this exercise is not a "side press" and is not a lift at all; it is simply a developing exercise.

While this pupil has gotten very credita-

ble results in the way of increasing his size and strength he has not got nearly all the results he should have gotten, and would have gotten if he had exercised as he should.

Now that is only one exercise out of many. Every developing exercise has its purpose and that purpose is to develop a certain muscle or group of muscles. Therefore, remember that when you are exercising the important thing is the way you are doing the exercises and not the amount of weight that you are using.

Every man has to have the muscle and strength before he can perform any feats which require considerable strength.

To revert to comparison with the baseball pitcher. A newcomer to the big leagues invariably has both speed and curves. After he reaches the big leagues he develops control and strategy. A big league manager would not bother with the recruit who did not have the fundamentals of speed and control. In the same way no strong man can learn to lift to the best advantage until he has spent a certain amount of time in acquiring muscular development and strength. Once he has acquired a certain amount of development he can learn to

perform a feat of strength in a very short time, and my experience is, that a man who has trained with adjustable dumbbells and bar-bells, working first for development and then for skill, can perform feats which are impossible to an untrained man of twice his weight. For instance, at one time in a certain factory there was a young chap of very slender frame who weighed about 110 pounds. This young man was a bar-bell enthusiast and in the course of a very few months he acquired a striking muscular development, although on account of having very small bones he did not increase much in bodily weight.

At one time a machine broke down and some castings were sent to a near-by machine shop with instructions to do a cer-

tain operation by hand. The boss of the machine shop sent back word that delivery would be very slow because the operation was so difficult that only one man in his shop could do it, and that man's weight was 200 pounds. The foreman of the factory laughed at the man and told him that it was only a boy's job, whereupon the machine shop man offered to make a bet that no boy in the world could do it. The result was that the boy spoken about above was sent to the machine shop and in half an hour turned out twice as much work as the 200-pound man had been able to do in an equal length of time. The man was twice as heavy as the boy and should have been able to do twice as much work as the boy, but he did not have the muscle nor did he know as much about using his strength as the boy did.

The writer had a friend who had all his life been interested in feats of strength. He was a naturally strong man and was one of that numerous class who claims that a man is born strong or the reverse, and that no amount of training will strengthen a weak, undeveloped man. One day he visited the factory and in order to entertain him the writer instructed several of the workmen to make various lifts with bar-bells. The visitor, having failed to equal any of the lifts made, then said that if he had a chance he would undertake to outdo any man in the place.

In one corner of the factory sat a very simple deadweight lifting apparatus. The visitor mounted the platform and called for 500 pounds of weight, which he lifted without much trouble. He then lifted successfully 550 pounds, 600 pounds and 650 pounds, in each case raising the weight about one inch from the ground. At 700

pounds he failed utterly. The writer then called to the boy mentioned above and told him to make a trial. Immediately the boy mounted the platform and without exertion lifted 700 pounds at least two inches from the ground. The visitor put on his hat, bade us goodby and has never been heard since tell any one how strong he is.

The above was a case of scientifically applied strength. The boy from the factory weighed 110 pounds, whereas the visitor weighed 180 pounds; the boy's chest measured about 35 inches, the visitor boasted that he had a chest measuring 42 inches, but notwithstanding the great natural strength and size of this man he could not employ his muscles nor put them to advantage simply because he never learned how to apply his strength.

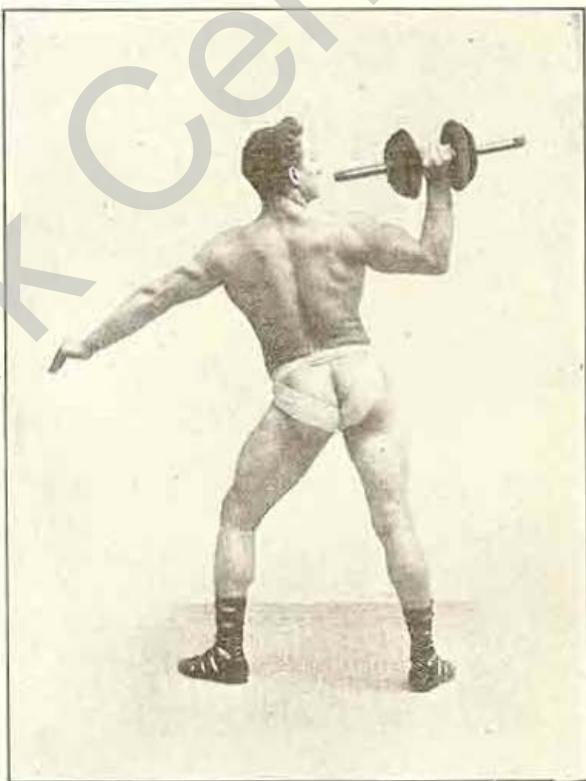
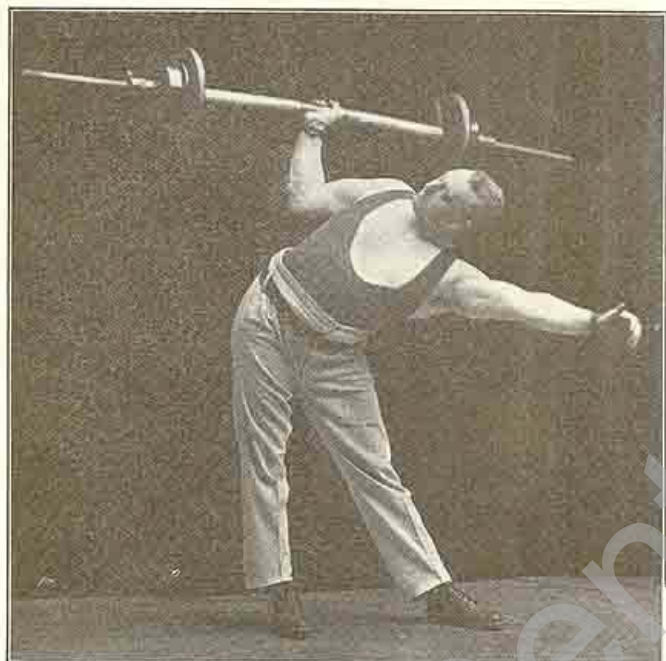
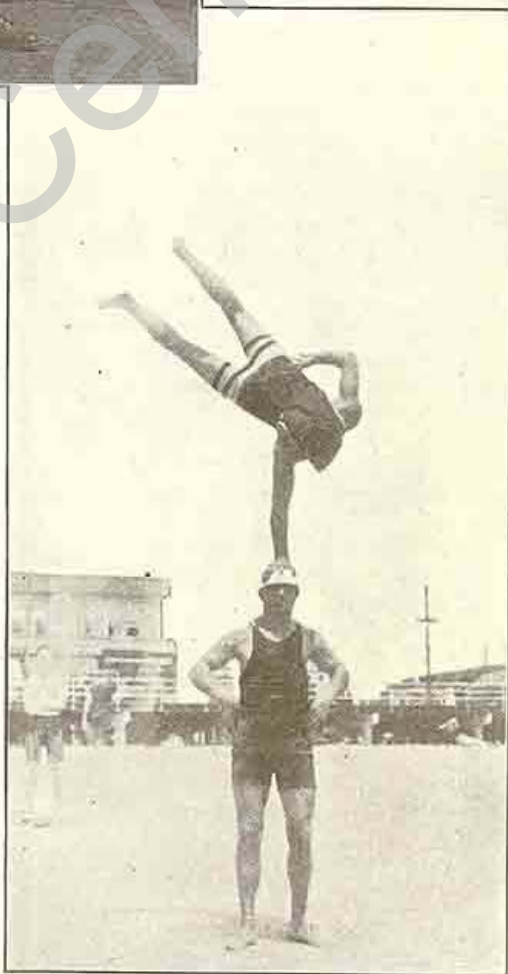


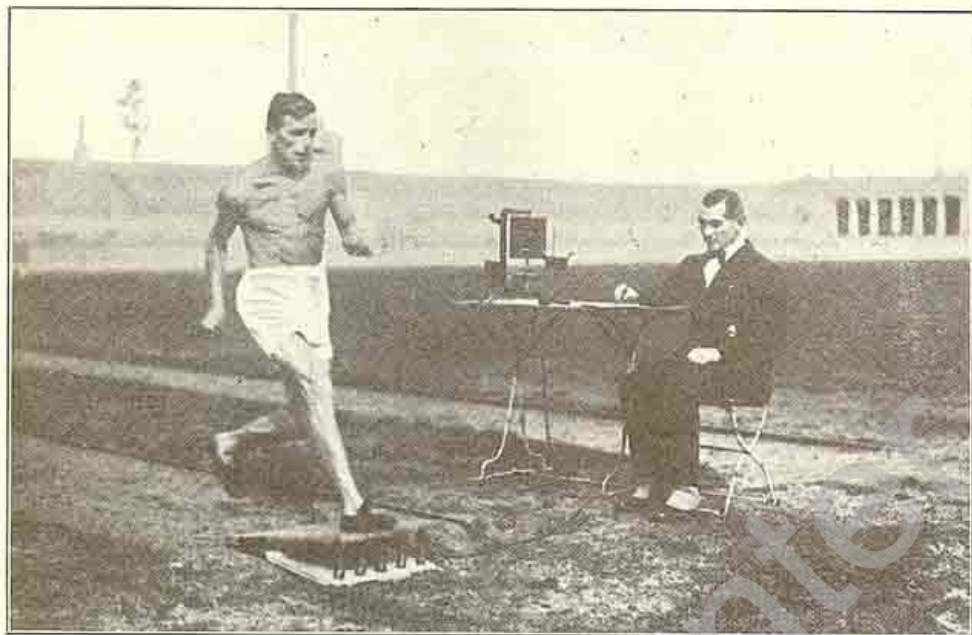
FIGURE 3



Thomas Inch, of England, doing his world's record arm push of 200 lbs., a feat which Arthur Saxon thought to be impossible, owing to the difficulty in maintaining balance when the pelvis is fixed, owing to the rigidity of the legs, which the lift calls for. This is not a bent press, but is accomplished with the leg held absolutely straight. Inch is the man who put weight lifting on the map in Great Britain and is said to be England's strongest man.

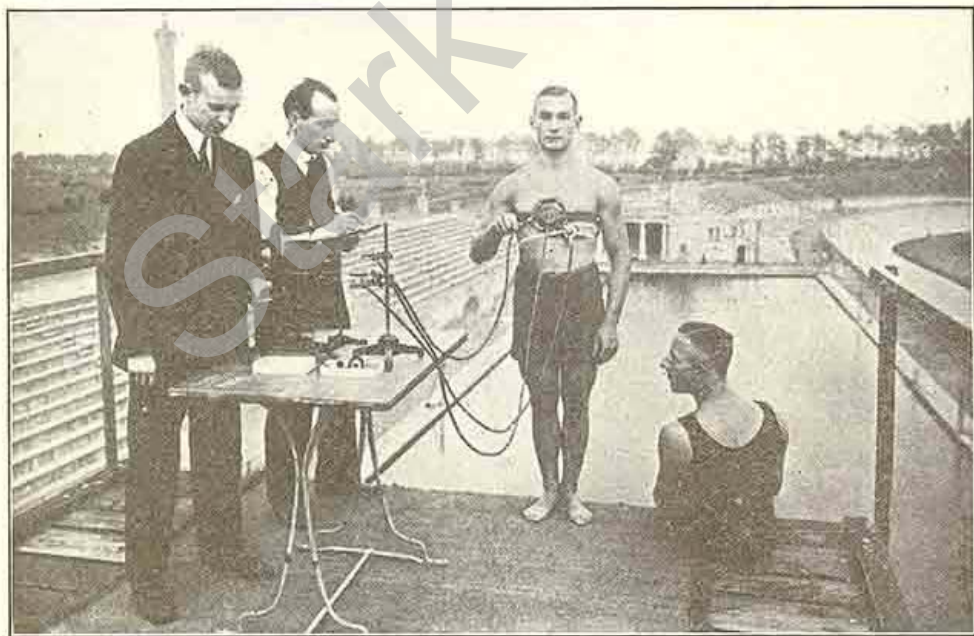


You will always find amateur acrobats on the bathing beaches, but very few of them could duplicate this one arm hand-stand.



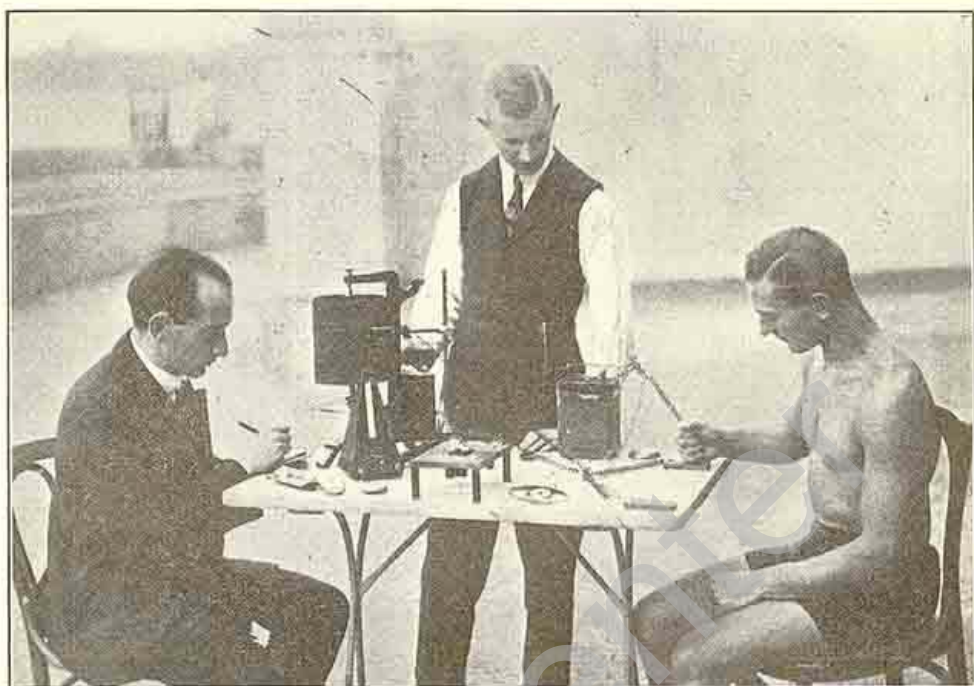
The scientific examination of a long distance jump. The pressure caused by the leaping off is indicated by curves, which are afterwards compared and the poor jumper given lessons to correct faults revealed by the apparatus.

What is claimed to be the world's first high school of physical culture has been fitted up and equipped with elaborate mechanisms to determine the exact physical development, ability, defects, etc., of each pupil by scientific and mechanical means. It is claimed these instruments can give a much more accurate idea of a person's physical condition or ability than the longest and most careful study without them. As might be expected it is the Germans who have established this high school.

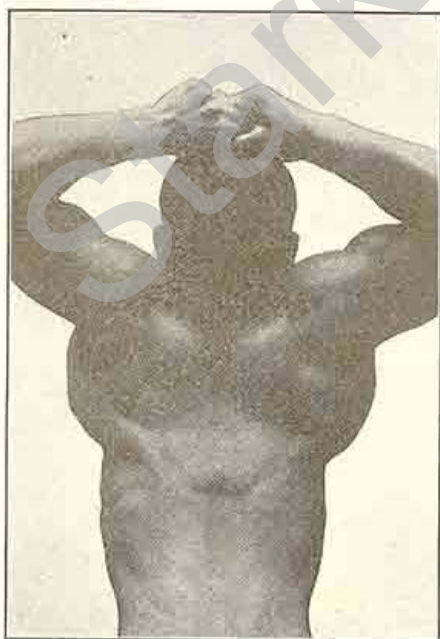


The person to be examined for nervousness or dizziness is placed at the edge of a platform about 12 feet above a swimming pool. Breathing, heart and pulse beats, as well as nervousness or twitching, make time curves and give a good picture of a person's degree of fearlessness and courage and nervous condition.

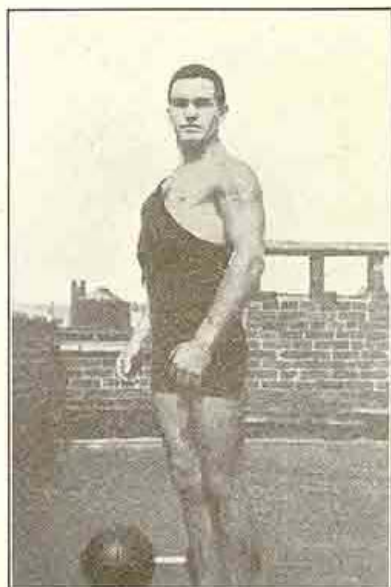
*Copyright by Underwood and Underwood.*



A fatigue test being made by the director of the psychological laboratories.  
*Copyright by Underwood and Underwood.*

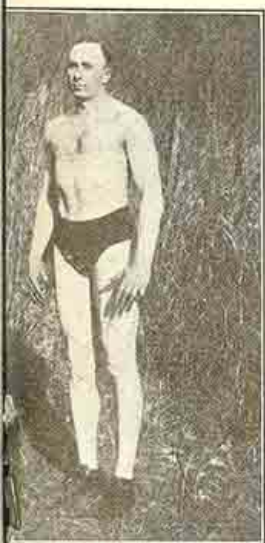


**DUSHAN KACHUSCHAM MEHTA,**  
Bombay, India.

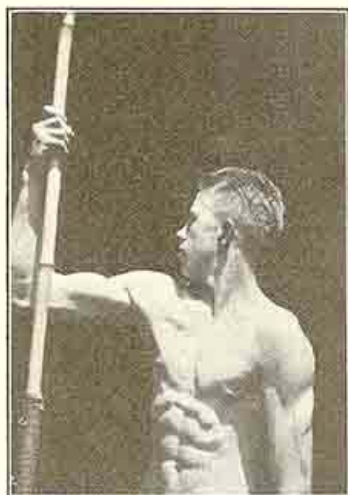


**F. E. BAYER,** New York City.

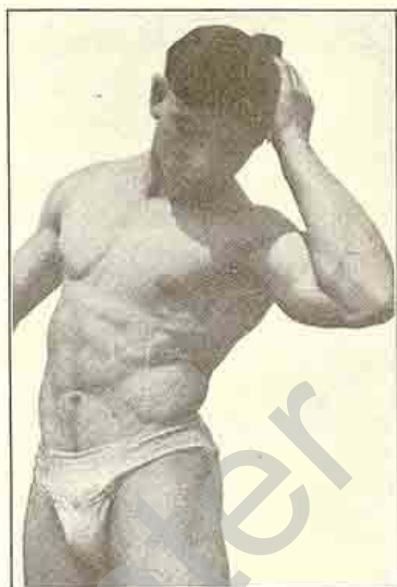
**ARE THE READERS OF STRENGTH  
JUST LOOK THE**



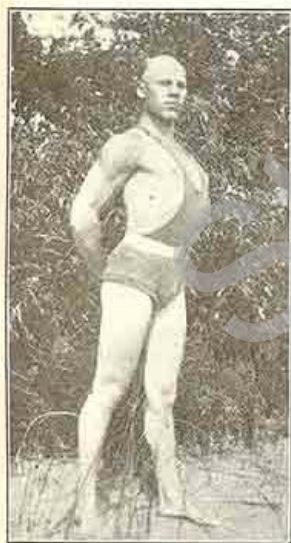
LAKELY, Kerriston, Wash.



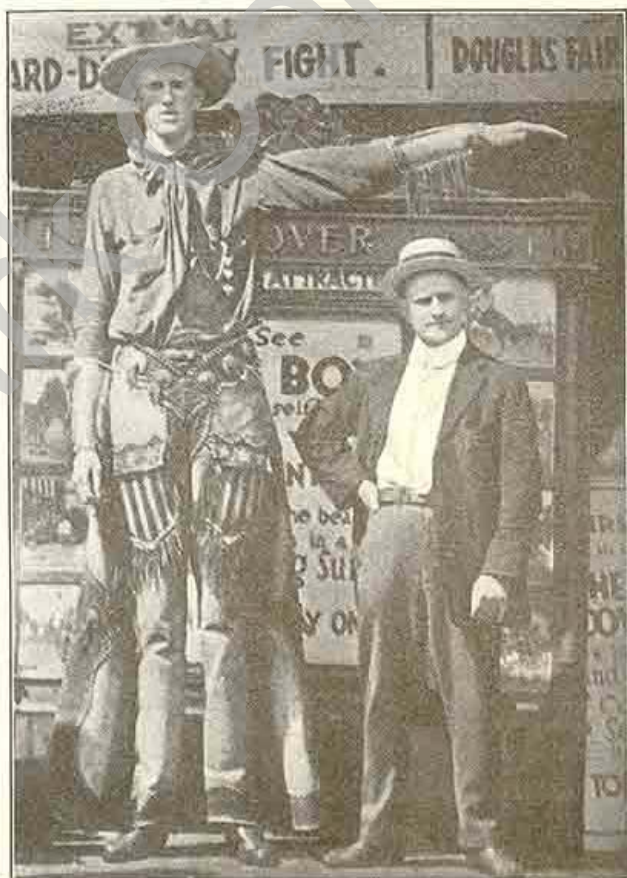
A. W. JOHNSON, Elmira, N. Y.



SIGMUND KLEIN, Cleveland, Ohio.



WM. MANOFF, Toledo, Ohio.



WH A HEALTHY BUNCH?  
OVER.

The tallest man in America. Maden is 7 ft. 6 in. and weighs 230 lbs. The "Jeff" in the picture is Arnold Scheiman, whose height is 5 ft. 5½ in.



## Wrestling

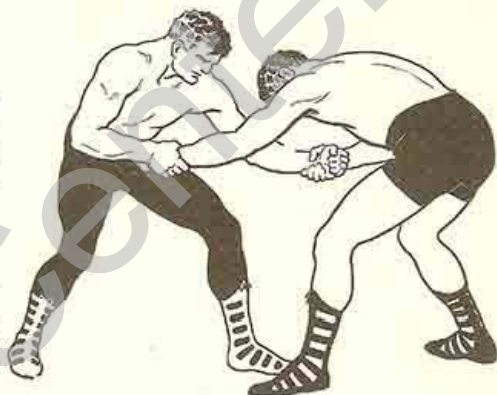
by  
**WILLIAM J. HERRMANN**  
 of Herrmann's Physical Training Institute  
 Boxing, Fencing and Wrestling Academy,  
 Philadelphia, Pa.

**EDITOR'S NOTE.**—The line cuts illustrating these wrestling lessons were made from drawings sketched from life by *Strength's* artist. Einer Johanson, of Norway, the light heavy-weight wrestling champion of America; Charles Olson, of Sweden, the well known professional heavy-weight wrestler; Cyclone Green, of Philadelphia, champion light-weight, and William J. Herrmann (himself) have posed for the drawings which illustrate this course. They also will collaborate with William J. Herrmann in presenting these lessons.

### PRELIMINARY HOLDS.

In practicing the following preliminary holds as well as the ones described in last month's wrestling number be sure you always maintain a good balance. Don't lose your position. Don't permit yourself to be put off guard. Be alert and ever ready to instantly attack or defend as combat conditions may warrant.

Allow no clever feint on the part of your opponent expose you to an opening that may lead to your downfall. Learn to use each and every one of these preliminary



Wrist and Wrist Hold

opponent's neck while the free hand is used to spar for an opening, or to take hold, or to follow up any advantage that the use of the neck hold gained for you.

### SHOULDER AND SHOULDER HOLD.

Still another preliminary hold, in which, as its name implies, the wrestlers grasp each other at shoulder. One hand (usually the left) grasps opponent's right shoulder while the free hand is used to spar for an open-

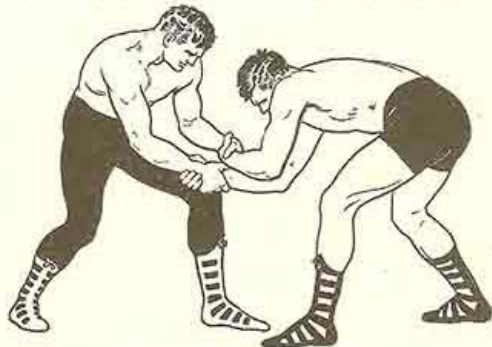


Neck and Neck Hold

holds to their best advantage. Let no opportunity escape that may improve your position. Be ever ready to fully avail yourself of any false move on the part of your opponent that may afford a good opening or pave the way to give you a decided advantage that may lead to a fall.

### NECK AND NECK HOLD.

A common preliminary hold. As its name implies, each wrestler takes a similar hold on the other wrestler's neck. One hand (usually the left) grasps right side of op-



Cross Wrist and Wrist Hold



ing, or to take hold, or to follow up an advantage that the use of the shoulder hold gained for you.

#### ARM AND ARM HOLD.

Another oft-used preliminary hold. Wrestlers grasp each other at the arm, as its name implies. As a rule the left hand grasps opponent's right upper arm above the elbow



Single Neck Opposed to Neck and Shoulder Hold while the free hand is used to spar for an opening, or to take hold, or to follow up any advantage that the use of the grasp on opponent's arm may have gained for you.

#### WRIST AND WRIST HOLD.

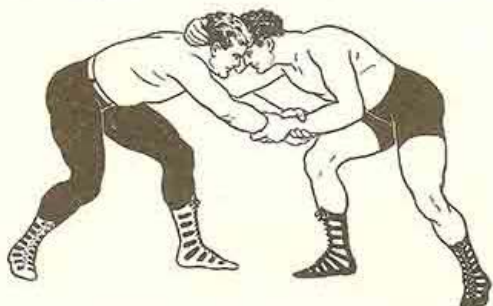
Another variation of the wrist and wrist hold. Each wrestler grasps with left hand his opponent's right wrist or vice versa.

#### CROSS WRIST AND WRIST HOLD.

Still another variation of preliminary wrist and wrist holds. In this preliminary hold both wrestlers' arms are crossed. Each wrestler grasps his opponent's right wrist with his left hand and the left wrist with the right hand, or vice versa.

#### FULL NECK AND NECK HOLD.

A neck and neck hold in which each wrestler holds the other wrestler's neck with both hands.



Wrist Hold Opposed to Neck and Wrist Hold

#### FULL SHOULDER AND SHOULDER HOLD.

A shoulder and shoulder hold in which the wrestlers grasp each other's shoulders using both hands—a hand on each shoulder. Left hand grasps opponent's right shoulder while his left shoulder is grasped by your right hand.

#### FULL ARM AND ARM HOLD.

An arm and arm hold in which the wrestlers use a hand on each one of the other wrestler's arms. Left hand grasps opponent's right arm while his left arm is grasped by your right hand.

Do not labor under the impression that both wrestlers are obliged to always use the same style preliminary holds. Such is never the case except when both wrestlers are placed so by the referee. Both contestants are always free to use the preliminary hold they individually deem best adapted to meet the combat conditions present at that moment. Preliminary holds can be changed



Half Nelson

at will just as contestants desire. Besides, one form of preliminary hold can be used as a counter-move against another style preliminary hold held by opponent, according to the judgment of the wrestler who chooses to use them.

#### SINGLE NECK OPPOSED TO NECK AND SHOULDER HOLD.

This illustrates different style preliminary holds opposing each other. In this combination of preliminary holds, one wrestler is holding a neck and shoulder hold which is opposed by a single neck hold on the part of his opponent.

#### WRIST HOLD OPPOSED TO NECK AND WRIST HOLD.

Just another illustration of how different preliminary holds can oppose each other. This should suffice to illustrate how one preliminary hold can oppose another. The variations of preliminary holds opposed to

other preliminaries are too numerous to specify singly. Other and even more effective opposing holds will suggest themselves. Other effective preliminary counter-holds will obviously suggest themselves even to the novice.



Near Side Bar Nelson—A Head Pry

In this combination of one preliminary hold opposing some other preliminary hold, a wrist hold held by one of the wrestlers is opposed by a neck and wrist hold on the part of the other.

#### A LESSON IN "NELSONS."

This lesson will endeavor to describe the leading members of the famous "Nelson" family of wrestling holds. A strong and numerous aggregation, "Nelsons" undoubtedly are more often resorted to by catch-as-catch-can wrestlers than any other one form, style or family group of wrestling holds. However, their fifty-seven different varieties, when used in combination with other effective holds, are too numerous to describe in a single lesson.

Suggestions as to how to use and follow up all of these important fundamental holds to the very best advantage will be given later on after these lessons have passed the preliminary stage of instruction.

Don't overlook the value of these elementary holds. Their proper application and use is fundamental. Study them carefully. Practice them diligently. Master them in every detail. Be sure you perform them correctly. When thoroughly familiar with each and every one of these holds and capable of using them in the best of good form, strive your utmost to increase your speed and improve your cleverness in applying them.

Bear in mind that skill and speed are even more important factors in catch-as-catch-can wrestling than mere brute strength. They represent higher physical qualifications. Brains are superior to muscles if put to intelligent use. Muscles alone are not likely to win a wrestling contest for you. Speed and cleverness are just as essential. A combination of both wits and strength—brains and muscles—are necessary in order to gain the advantage and be on top when a fall is scored.

Don't labor under the impression that we under-rate the inestimable value of strength. Emphatically, we do not. We recognize its fundamental importance. Success cannot be gained without it. What we wish to emphasize and impress is that the acquisition of speed and skill is just as essential as the acquirement of mere brute force and cave man's strength. Strong muscles are an essential, fundamental physical requisite. If, unfortunately, you are not blessed with normal strength and rugged health a proper course of systematic exercise and training will help secure it for you. Get strong. Be strong. Stay strong. Keep fit. Be clever. Be speedy. Be manly. Be game.

#### HALF NELSON.

The leading and original members of the nelson family. A favorite hold of catch-as-catch-can wrestlers. A half-nelson applied on the near side of your opponent. Not a particularly safe nor powerful hold in itself, but almost invincible when used in combination with some other effective hold.

If on top and working with your opponent on your right side, slip your left arm under your opponent's left shoulder. Let the left hand slip over and around the back of your opponent's neck to his far ear. Bear down



Re-enforced Half Nelson

on his head and twist his face towards you to give you more leverage. Force him down, pry him over, turn him to a fall and pin both his shoulders firmly to the mat.

Keep close to your man. Work tight. Check any attempt on the part of your opponent to get up, trip up, set out, duck out, spin out, side roll or use of any effective break, counter-move or getaway on you.

Be sure and practice the hold from both sides; not only when working as above with your opponent on your right, but also when working on your opponent when he is on your left.

#### NEAR-SIDE BAR NELSON.

If you cannot readily reach your opponent with a near-side nelson you can pave the way for it by pressing your right forearm on opponent's neck. Push his head down while you hook your right hand into the fingers of your left hand to enhance your chances of securing the nelson. Pressing down on his head with your right forearm while prying him over with your left hand acts as a sort of near-side bar nelson and will help twist his neck and force his head down and under to give you a better chance to secure the nelson you are working for.



Half Nelson—Standing

This method of paving the way to secure a stronger half nelson should be practiced, both when working on your opponent when he is on your right side as well as when you are working with your opponent when he is on your left.

Use the "finger-foil" method of locking your hands to protect your fingers against

any possible attack on them on the part of your opponent to attack your fingers.

Bear in mind this hold does not lead to a fall. Its use is merely to aid you to help secure a near-side nelson. If your efforts have proved successful release the right



Far Nelson

hand. You can use it far more effectively by taking some other more effective hold with it to be used in combination with the half-nelson.

Don't confuse this method of securing a near-side nelson with the re-enforced nelson sometimes called a three-quarter nelson locked from above. A re-enforced nelson is a method of strengthening a nelson after the nelson has been secured. It does not help you to get the original nelson. The nelson itself you already have put on your man. You merely re-enforced it to further strengthen the nelson you already had on your man.

Neither of these holds nor even the near-side nelson itself will score a fall on a good wrestler unless your other hand is used in holding some other effective hold in combination with it.

The various holds used in combination with a half nelson will be described in a later issue. This lesson deals only with the individual nelson holds themselves, not with any of the various combinations used with them.

#### RE-ENFORCED HALF NELSON.

If your near-side half nelson is on your man's neck but needs further strengthening, re-enforce your near-side nelson by slipping your right hand from his waist and place it instead on the back of your opponent's head. This move will re-enforce your original nelson and enable you to bring even greater

(Continued on page 40)

## Forearm Development

By O. R. COULTER

**F**OREARM development is a very important item, particularly if one is interested in any athletic sport, because the grip counts in nearly everything that you undertake. The grip is of paramount importance to the fencer. It enables the boxer to hit harder and puts power into the stroke of an oarsman. In weight lifting strength of forearm is exceedingly valuable as in some lifts the possibilities are only limited by the amount of grip possessed, and many other lifts may not require the maximum of gripping power, yet superlative forearm and hand strength will give a better control of the weight and allow the muscles most needed for the accomplishment of the feat to receive the undivided attention of the mind; and proper direction of mind force mean conservation of energy, which is of immense value in weight lifting.

While I believe that most athletes and trainers who have given appreciable thought on the subject realize the value of a superior development of the forearm, yet, in my opinion, few athletes even among those with high grade physiques have forearms in keeping with their upper arms. In fact, I have found from personal observation and actual measurement that exceedingly lean men, who have done little or no training and have a minimum of development, possess relatively larger forearms in comparison with their upper arms, than men of any other type.

The size of the forearm is due more to bone structure than is the upper arm and this explains the relatively larger arms of the lean men. Training as ordinarily applied puts more work upon the upper arms which are easy to develop and gives relatively less exercise to the forearms which, with the possible exception of the calves, are the most difficult to increase in size. So developmental methods as usually applied would increase the inequality in measurements of these parts.

It is harder for a small-boned man to develop a large forearm than it is for a man of larger bone structure, but happily as the small-boned man has a smaller wrist he

does not require as large a forearm to give an impression of size as would be needed by the heavier framed type of man. Appearance is largely a matter of proportion and a small hand and wrist certainly accentuate the development of the lower arm and a short forearm appears thicker than one of equal diameter but of greater length.

Although forearms are seldom developed in proportion to the upper arms, yet I believe the possibilities of forearm development are no more limited than those of other parts. Nearly all the paintings and works of art depicting male physique are rather noticeable for their magnificent forearm development. To see reproductions of such wonderful works of art as "In the year of our Lord 1919," by Winter; "The Conjuraton," by Glaize; "Hercules and Omphale," by Boulanger; "Last Judgment," by Angelo, and many others showing nearly as notable forearm development, gives rise to the question is such development really possible? Granting that artists and sculptors are likely to give emphasis to those qualities that appeal most to themselves, we can readily see that a man with a natural admiration for fine forearms would be apt to select for a model a man who fulfilled his idea of what a model should be, so it is quite reasonable to believe that the models actually possessed magnificent forearm development. That such extraordinary lower arms are really possible is proved by the remarkable forearms of Marx, Turck, Nordquest, Appollon and a number of others.

There have been many devices originated for the express purpose of developing the forearm and the grip. Some of these, such as "Terrys," received their resistance from piano wire springs. Others obtained their force from the bending of steel wire. Few of these were made progressive and those that were made progressive did not possess high enough resistance. Probably the most widely used light resistance apparatus for developing the forearm is Sandow's Spring Grip Dumb-Bells. This grip bell method of training had more followers than any other system of light exercise and naturally some men did attain good forearm

development, but the results were not commensurate with the work involved. This so-called Sandow System has several advertised examples of its merits as a forearm developer. Among the most noted of these are James Pedley and Sandow himself. Pedley certainly had a wonderful forearm and his grip was only surpassed by "Appollon," but Pedley has been lifting for years and has few if any equals at gripping on dynamometers and curling heavy weights. Sandow reached the limit of his strength and development before he invented the grip bells so he cannot even be considered as an example of the merits of his invention as a forearm developer. The spring grips as used according to the Sandow method, defeats its own purpose as the continued gripping causes congestion of the blood and they do not have anywhere near enough resistance to obtain results without long continued use of them with a contracted grip. These grip bells, however, got better results in forearms than any of the other apparatus designed for that purpose.

The use of Indian Clubs has been advocated by many as a suitable means for developing the forearms. As they use the wrist and forearms in many different positions they bring all parts into action and for this reason alone will increase somewhat the size of an undeveloped forearm, but because of the light resistance of the work one is never enabled to obtain anywhere near the results possible from proper progressive exercise. Tom Burrows is, perhaps the most noted Indian Club swinger and has been doing this work for many years. According to one of his books on training he uses special movements with the clubs for development and although he has over  $7\frac{1}{2}$ -inch wrist, his forearm measures only a little over 12 inches. True, you may think this is quite a creditable measurement and few club swingers can show as good a forearm, but it is not near what good exponents of progressive training can show. Perhaps some of you may ask "How about Prof. Miller and Prof. Harrison?" It is true that both of these men had large forearms and they were famed for the heavy clubs they could swing, but remember swinging heavy clubs of 30 pounds and sometimes more is one thing and Indian Club swinging as ordinarily prac-



OTTLEY R. COULTER Taken October, 23 1920  
Neck  $15\frac{1}{2}$ , Chest [normal] 41, Biceps  $14\frac{3}{4}$ , Forearm 12.  
Waists  $30\frac{1}{2}$ , Hips 37, Thigh  $21\frac{3}{4}$ , Calf  $14\frac{1}{4}$ , Shoulders around 45, Height 5 feet  $5\frac{1}{2}$  inches.

ticed is another. These men applied the progressive resistance idea to the use of Indian Clubs and naturally got the best

(Continued on page 40)

## Running as an Exercise

By L. E. EUBANKS

**R**UNNING is one of the best all-around exercises. It is not by any means the greatest muscle-builder, but it brings the heart and lungs into vigorous action and benefits all the bodily functions. It gives a person ruggedness and endurance, surely qualities of the highest value in this day of strenuous living and keen competitive effort.

The larger the muscles used in an exercise the greater the demand on the organs of the body. Running uses some of the largest muscles, those of the thighs and the lungs and heart have to work hard and fast to purify and pump the nourishing blood to the working parts. You may stand still and grip a wrist-exerciser hundreds of times without materially increasing the action of the bodily organs. You will develop the muscles of your fingers and forearm, but that is about all. Local strength, power in one part of the body with other parts relatively weak, is not of much practical value. It may enable its possessor to impress uninformed spectators, but the really desirable kind of strength is that which gives us ability really to do things, general strength wherein the organic processes are equal to backing up the muscles.

Running is a very adaptable, adjustable exercise—that is one of its best features. Even very weak persons can usually be benefited by it; women and delicate men and boys can begin with slow, short runs; athletes can suit their "work-out" to their strength, no matter how great this is; in fact, running is an exercise that suits nearly everyone.

Roughly, runners may be classified as distance runners and sprinters. Opinions differ as to the shortest distance that properly can be termed distance running. Perhaps the runner himself is the best judge; at first, half a mile may seem like a long distance, whereas, after sufficient training he could cover this almost as a dash.

While I am in favor of distance running—reasonable distances—as an exercise and a sport, I have nothing good to say for the marathon. I am decidedly and unqualifiedly

against it. Twenty-six miles is too much of a run to benefit any person. An athlete of my acquaintance who knows my attitude on this was very prompt to show me the account of the marathon race at Antwerp. He believes that the fact of the first three men's finishing in "good condition" proves the strain not harmful.

Kohlemainen, "the Flying Finn," who won the race, is a wonderful runner; he holds other world's records and I have watched him for years, but to acquire the stamina and form to run twenty-six miles in but a trifle over two and a half hours (his exact time was 2:32:35) has taken a different course of training from what most men could or would care to undergo. He is said to have trained two or three years for this race, and I remember that he was after the same honors away back in 1908. This much time put in on most any other form of athletic training would have developed an exceptional physique, but no marathon runner ever has any worth-while muscle—or athletic ability for anything but his specialty. The system of training for such events is destructive rather than constructive; a man runs twenty-six miles largely on his nerve no matter how much he denies this, and his preparation for the ordeal is necessarily a prolonged strain on the entire organism. Our bodies can tolerate much, but it does not follow that we benefit from every exertion that some misguided enthusiast calls exercise. Alfred Shrubbs, of England, a runner of world-wide fame, when here last spring as coach of the Oxford-Cambridge track team, advised Americans not to encourage the marathon. He said emphatically that the effect on the heart and other organs is bad and that the kind of training necessary shortens the athlete's life.

In my opinion a five-mile race is long enough for any one; beyond that it becomes tedious for spectators as well as participants. Now any man or boy in sound health can develop the stamina to run five miles. This, of course, does not mean fast running. It means jogging most of the way with a speed-up finish. The fellow who

insists on running too fast all the way will never be a successful distance runner. After you have trained a few weeks try out your wind and ascertain what distance seems to suit your physique and temperament best. You may be a star "miler," a champion at the half-mile, or—more rarely—a bona-fide long-distance man. The advice of some college coach who knows you is valuable here if available or the help of some old runner.

In general, the training for all races above the half-mile is about the same—more severe, of course, for the longer distances. A fundamental rule is not to do the full distance in each day's training. In preparing for a five-mile race your best plan would be to run two or three miles in training, doing the full course once in eight or ten days. This conserves your vitality and gives you more time to devote to "form," always an important point. If you are not strong to begin with, practice only every other day. I must repeat the caution against too much speed, except at the finish, particularly if you run "cross-country." In this course one meets various impediments, as ditches, fences, ploughed ground, etc. Learn to keep a cool head in practice or competition, for not to be deliberate may sometimes mean a serious accident. Many cross-country runners, for instance, have been hurt by "running" a fence (going over it as one does a ladder) without first ascertaining that it would bear their weight. The cross-country run is the most interesting from the health and recreative viewpoint, but it requires more caution in the runner because of that very variety that makes it so especially interesting and beneficial.

I do not believe in extreme restrictions in training. Clean, healthful living should be your rule all the time, and you will be glad that you have so lived when you take up running, for it means that you make far more rapid progress. Three things the runner must positively rule out are cigarettes, late hours and stuffing up on sweets and pastry. Stick to plain food, lots of it, but never stuff. Drink water and perhaps a little cocoa. Watch your appetite and if it fails for two or three days ease up some on your training or take a week's rest; you are stale. Another sign of staleness is inability to sweat. If your feet seem tender

bathe them night and morning in cold salt water. Rub and massage them with your bare hands.

Never fail to have extra clothing ready at the conclusion of a run—a sweater, coat or bathrobe. Keep warm by all means till you get your cool shower or sponge and can follow this with a rubdown. Dress quickly and rest an hour before eating. Never run immediately after a meal; it is better to wait about three hours. Between 3 and 5 P. M. is a good time for your practice, though naturally you will have to adapt your athletic work to the other duties of your daily life. When preparing for a contest try to train at the same hour of day that the race is set for. Usually, it is better to work with one or two other fellows, but you must not always be trying to outdo each other. I have said nothing of costume, assuming that the reader is familiar with the vest, pants and spikes worn by runners. Never fail to see that your shoes are in good condition before running.

As to the actual running practice aim first at staying power. It is true that a distance runner must have some speed at the finish, but he will never reach the finish unless he develops the stamina to carry him to it. Don't stop altogether when distressed or suffering from a stitch in your side. A pain in your heart should be a warning to stop immediately and seek a physician's examination before doing any more running. But a stitch is not serious; keep going even though you barely move and it will soon wear off. Sometimes a stitch is greatly aggravated by an uneven course; when running over fallow fields don't step on a mound, then in a hollow. Stepping each time about half-way up the sloping side facing you will tend to level the going and save considerable exertion.

Let yourself go when descending a hill, it is good for your strides, besides, holding back requires more energy. Don't form the habit of walking up hills; keep up the jog somehow. This doesn't mean that you are to kill yourself; be reasonable, but remember that distance running is essentially a stiff game and requires grit. Don't look behind you. Doing so cannot change the position of the other runners and may detract from your own speed or cause you to stum-

ble if you are getting wobbly. Stick to your guns and let the others take care of themselves. As a runner tires the tendency is to drop back on the flat foot, but you will find it advantageous to reverse this. In your last quarter try to get up more on your toes; it will bring the hip muscles more into play and shift the strain.

Study yourself in training; others' methods will not always suit you. If you are skinny you should not take as much "grinding" work as the fleshy chap. He has more fuel to burn than you have. But it is consoling to know that light-weights make the best long-distance runners. Alfred Shrubbs said that 126 pounds was the ideal weight for a distance man and 154 for sprinting. The length of stride is another point you have to settle for yourself. Your long-legged friend may find 5 feet just right, but 4 feet 8 inches may be the stride for you.

As I have said, distance runners must

be able to speed up. The more speed they have the better, though they are not to use it continuously. In his daily work-out the miler should run only 50 or 100 yards at top speed. Once a week he should see how fast he can "eat up" 440 yards. Learn to run fast on the last lap and gauge your speed to reach its maximum at about 50 yards from the tape. Make this a regular practice and learn to put might and main into that last fifty. Remember, that long races are won as much by headwork as by footwork. Many experienced runners of the mile plan to run

so fast in the first quarter or half as to take the heart out of the other runners. But nearly always the old hand slows up on the third quarter and gathers himself for a whirlwind finish.

Now about sprinting. It is seldom indeed that a man is equally good at long and short distances, but if you have not done much running you will not know where your ability lies until you have given each a fair trial. Of course, when running is practiced merely as an exercise instead of as a sport for its own sake, it is well to vary the program and run different distances.

While the average-sized men are generally supposed to make the best dash runners, there is ample proof that type of figure is of secondary importance. I have personally known high-speed sprinters at both extremes in size. A certain football player of my high schools days ran the hundred yards in 10 3-5 seconds



Types of Marathon runners. At right, Hannes Kohlemainen, winner of the Olympic Marathon

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repeatedly and he weighed 202 pounds stripped, and on the other hand I knew a "10-flat man" who scaled but 120. I have known several men of more than 180 pounds who came very close to "even time." Unquestionably, long-distance runners, to be champions, should not be very heavy, but I think big men stand excellent chances in the sprints when they have speed in them and are properly trained.

There is one important difference in the long run and the sprint which I wish right now to explain. The real distance run is



little more than a jog except at the finish, but a short dash is more like a feat of strength. The latter calls for such a concentration of effort, such a literal *burst* of speed that there is no preliminary stage. Just as it would be dangerous for a lifter to attempt his record poundage on the barbell jerk without first warming up with lighter weights, so it is decidedly risky for the sprinter to dash from the mark with his limbs cold and the circulation slow. We should never do our best at any such stunt without a bit of warming up exercise. This not only minimizes the danger of strains, but usually enables us to make a better run, lift, or whatever the test may be.

Naturally, in a short run the start is all-important. Various positions have been tried, everything from the erect posture to one nearly prone, but practically all the best sprint runners of today use the stooping start. It looks simple when we see an expert shoot from the mark, but really it takes a lot of practice to perfect the crouch start. Naturally, your height and length of limb have to be considered, but the following directions will be generally suitable:

Place the toe of your left foot five or six inches behind the starting line and kneel on the right knee. The position of the right foot should be such that the right knee is about even with or a little behind the instep of left foot. Straighten the arms well and place the tips of fingers and thumbs on the line, hands a little farther apart than the width of your shoulders. Do not hang your head; keep your eyes to the front.

It is your right leg that is going to do the pushing off and you must see that your toe hole in the track (or your spike's grip, if running on a floor) is such as not to give way against your foot's pressure. I think it well to rest your weight on the right knee on the ground when the starter orders "on your mark." Then when you hear "get set," raise the knee five or six inches from the ground and shift most of your weight to the left leg and arms. Swing forward until another inch would upset you; it is here that the value of practice comes in, so as to get your limit of this forward incline. The right leg is still bent and you must study to use just the angle at knee

that gives you the maximum power in pushing off.

Don't straighten up too soon. You should be four or five strides away from the starting line before you are erect. The idea is to *dive* forward. Put "everything you've got" in this dive, forget everything else in the world for the time and *dig*. If you find that you straighten too soon, try placing the right foot a little further back; the length of leg is the determining factor and you cannot regulate your position by some other runner's requirements.

Work for quickness; most 100-yard races are won on the start. In practicing the start there is no need to run the full distance each time. A good plan is to try about half a dozen starts with runs of 10 or 15 yards; then run 50 yards twice and the full distance once. Do not try for "time" at every practice period, but cultivate the best form in every movement. Occasionally run the 220 course (assuming that you are training for the 100-yard dash), for the benefit of your wind. Not fast, but at a good, easy swing, watching your stride.

The sprinter's stride should be as long as he can make it *easily*. And this is about all I can say of length of stride, for the reason that you may be five feet or six feet in height. A long stride, if natural, is advantageous, but the moment you *strain* to step far you lose time. Lift your knees straight forward and let the lower leg and the foot swing out naturally. Some runners regularly overreach and the foot comes back toward them three or four inches before striking the track. This is poor form and a waste of energy. Learn to point the feet directly forward; toeing out or toeing in to any extent, loses you that much distance on each step.

Study your arm swing. When it is well-timed it gives the body a sort of lift. Most of the good sprinters I have seen swing the arms rather across the body than in the direction of travel. It is a common practice to use cork or other grips for the hands, but if you begin without them they will never be missed. Of course, everything that has been said on the importance of health and physical condition for the distance runner applies with equal force to the sprinter.

*(Continued from page 13)*

the effects on the system? This is problematical. Do you know just how the movement is executed; what are the immediate results on the system? If not, by reading the following lines you will have learned what I ask you in connection with what is known as "effort." Let us imagine for a moment that we are about to witness a weight-lifting match in which the great Joe Nordquest, the American Champion Strong Man and Weight Lifter, will participate against rivals of his caliber, and that on this particular occasion he intends to break his former record with the left arm, in the bent press, of over 277 pounds. Let us assume that the conditions of the contest, for this particular lift, in order to make my description more vivid, call for a "dumbbell" to be raised by the bent press, allowing it to be brought to the shoulders with two hands, in contradiction to the method when using a bar-bell, which is set on end and then safely-rocked to the shoulder, which is quite well known to most lifters.

We shall see him approach the dumbbell with that sureness of power which his mighty frame suggests. Now, poising under the weight we shall see him take a deep breath, which is also accompanied by important preliminaries. Immediately the glottis (the vocal cords), are closed to prevent the air from escaping. "Diving" down for the weight and grasping it with two hands with a powerful lug, we shall then see him bring the bell to the height of the shoulder, resting his elbow on the hip. A second later the real effort is begun—watch him! Joe momentarily pauses to expel the air taken in preparatory to bringing the bell to the position for the bent press, and then, calling forth all his mighty powers, a second inhalation will be taken, essaying to press the heavy bell above the head with his left arm.

The vocal cords being opened to let the air in on taking his first preparatory breath, the chest walls are expanded on completing the first part of the lift, then essaying to press the bell a second inhalation will be taken. This is where the real effort begins and shows its accompanying results. See him carefully turning the bell into position for "locking" his arm; we shall see all the muscles of his herculean frame con-

tracting to their utmost; his face will take a reddened look; the veins of his powerful neck will swell with a surplus of blood, also those of the forehead will take a more prominent size. His mighty frame seems to become momentarily arrested, showing masses of wonderful muscle in astounding and clear relief. Slowly but surely the weight is lifted above the head. Now his arm has been fully extended, and, as the cheers of the enthusiastic audience re-echo, Nordquest finally assumes an erect position, the dumbbell safely poised above his head, in exultation of a world's record.

Now let us see what the effect is from a scientific point of view. It has already been explained that important preliminaries are preceded by a deep breath taken preparatory to bringing the weight to the shoulder. Now let us see what the sequence of the movement is in the various parts of the body. In taking a deep breath the chest walls are expanded and the lungs filled with air, the glottis or vocal cords immediately closing to prevent the air from escaping. The ribs, therefore, are expanded and raised, but as the movement of lugging the bell to the shoulder, necessarily involves the powerful contraction of the abdominal muscles, it has also the effect of pulling the ribs down and depressing them. This action is summed in an antagonistic movement, for the chest walls on the one hand being raised and expanded, and on the other, being pulled down and depressed, constitutes the antagonisms, thus producing a vigorous compression of the air taken into the lungs. This antagonism of the function of breathing is what is known scientifically as "effort." By reason of the action of the antagonistic forces rendering the thoracic walls motionless the chest walls are momentarily "fixed" in order to give a point of application to the muscles attached to them, and by reason of this point of application the whole muscular system is brought into play, especially the great masses of muscles of the arms, legs and pelvis, and their powerful contraction enables the lifter to raise the weight. As the lift is completed the air inhaled is expelled with an audible sound and this means the end of the "effort." In conclusion of this paragraph, let us remember that "effort" is a physiological action involving great masses of muscles and bones,

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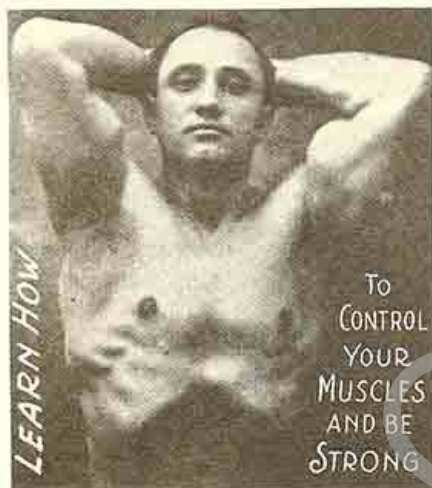
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(Strength, Dec., 1920)

in the performance of a certain movement for a definite purpose, vigorously bringing into participation the two great functions of the human system, namely, respiration and circulation.

What are the effects of a powerful effort on the circulatory system? A powerful effort of the body is invariably always accompanied by a great disturbance of the circulatory system, as it vigorously brings into action the functions of respiration and circulation. The first disturbance is felt in the pulmonary vesicles (the internal part of the lungs), which, being filled with air, are distended. The lungs also serve to fix the ribs, which are undergoing a compression in proportion to the intensity of the effort. The compression of the lungs is also transmitted to the great vessels and the arteries where the blood flows to the different parts of the body, which spring from the heart. The blood is pumped into the venae cavae (two large veins, an upper and a lower one, on the right-hand side of the heart, whose function is to carry back the blood to the heart). The blood being greatly compressed in the venae cavae, is forced into the peripheral veins (veins on the surface of the body), which has the visible effect of increasing their size on those of the neck and forehead. The capillaries (ramifications or small veins that unite the arteries to the veins), become full of blood and the general effect is a momentary suspension of the heart, the circulation and respiration. We see, therefore, that the heart is greatly affected as the size of the aorta (a large distributing artery coming out of the heart) may be distended and the heart beat momentarily arrested, owing to the vigorous compression exerted by the blood.

From the foregoing it would naturally be concluded that in producing a great effort it is necessary that the movement itself imply the usage of many muscles in order to bring about the effects described in the preceding lines, which is really the case, but this physiological effect just explained, can also be induced from a simple localized movement, for the production of effort can be brought about by giving a group of muscles all the contracting power of which it is capable.

For instance, I am sure you have all seen strong men tear packs of cards asunder, as

many as three put together, or break horse-shoes of considerable size. Let us see which are the muscles brought into action and localize their energy. This calls for great strength of the arms principally. Let us now see how the feat is performed and what are its effects on the system. As I have just said, the arms are the principal factors in performing either of the two feats mentioned.

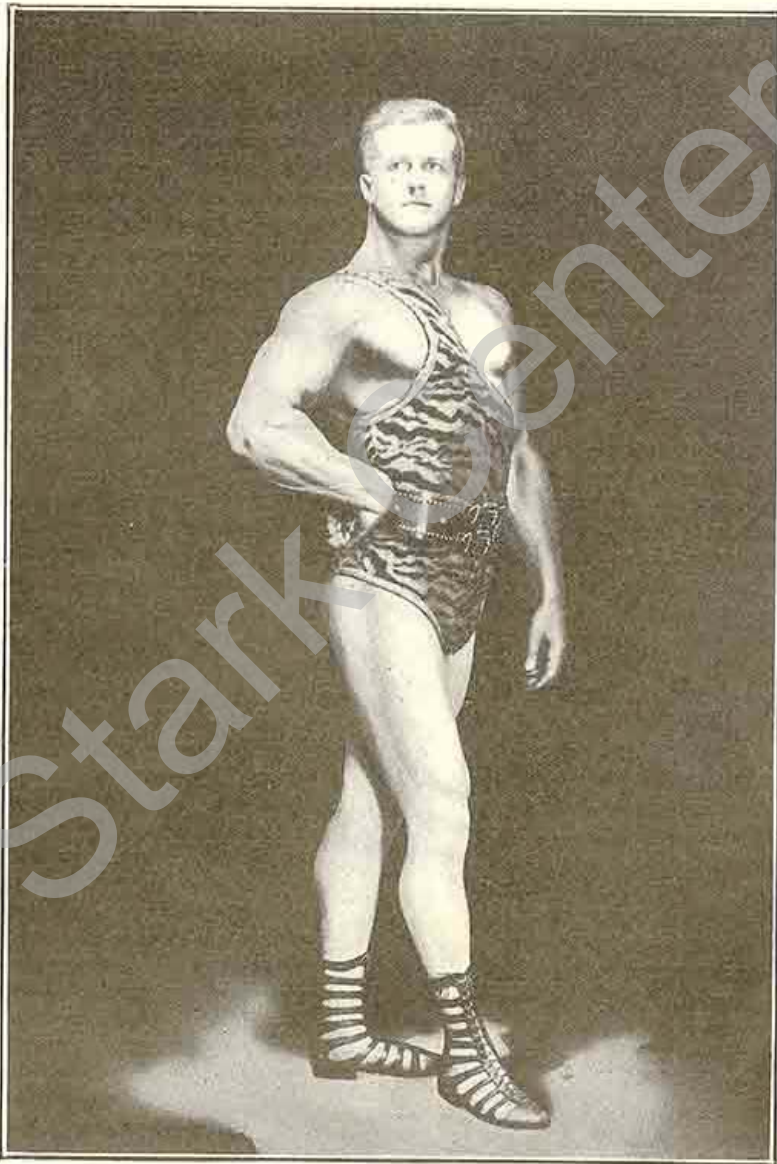
From the purely localization of the arms, as the effort is being produced, you will notice an extraordinary bulging, first of the muscles of the arms directly involved in the feat; his face will become reddened and the veins of his neck will seem to burst from the excess of blood brought to them by the prodigious exertion; his respiration will become agitated, the muscles of the abdomen will contract vigorously and even the powerful muscles of the legs will seem to be sharing in the performance of the feat. The athlete, by prolonging the powerful contraction of his muscular system, will finally accomplish the end in view.

Now it is difficult to understand why distant muscles must be contracted in a vigorous manner in order to give the muscles of the arms all the power of which they are capable—but such is the phenomenon of "effort." Then again, in understanding "effort," we should know that in order to bring about the movement of the arm, for instance, it is necessary that it be fixed to the shoulder; that the shoulder should not move on the thorax, and this last part not on the pelvis, and so on the very legs. Thus you see the parts of the body above mentioned, not moving on their attachments, the forearm can be moved because of the solidification that has been established. Let us, therefore, conclude that, effort necessitating the use of the two great functions of the body, respiration and circulation, is effected from the impossibility of "fixing" one of the bones of the extremities, unless those of the trunk are quite motionless. Therefore the object of effort is to make the neck, thorax and pelvis one solid piece of the jointed system of the trunk.

We have seen what are the requisites in order to produce "effort," and we have also seen how difficult it is for the two functions of respiration and circulation to isolate them-

Earle E. Liederman, takes this means of wishing his thousands of pupils and numerous friends and readers of "STRENGTH" a

**Merry Christmas** and a most  
**Prosperous New Year**



Latest photograph of Earle E. Liederman, taken October 1920

selves from the work that the muscles undergo in powerful contraction, but it is unnecessary for the exertion to be very great in order to produce the results we have just seen in connection with "effort." for the exertion may be mild and still the change in the system will be the same in proportion to the intensity of the action. The slightest contraction of a muscle means greater activity of its blood circulation. Let us take the movement involved in the exercise of the neck, which is common to most of us from our boyhood days in calisthenics, consisting of moving the neck from side to side, to the front and back. This is a mild exertion, yet it produces aspiration of the blood to this particular part of our anatomy. The result of this greater flow of blood is not only felt in the veins of the neck itself, but it will extend to the vascular region—the parts of the body traversed by the arteries and capillaries will also be influenced, and, as said in the first place, the current of blood will eventually find its way to the great vessels—the aorta, venae cavae and lung artery. Such is the natural sequence of a slight exertion in the circulatory system of the body. It is superfluous to say that, in performing any vigorous exercise the results will naturally be in greater proportion, according to the intensity of the effort. It is in this manner that we are able to understand that exercise brings a greater supply of blood to the parts involved. Bear in mind that wherever the muscular contraction is there also will the flow of blood be found.

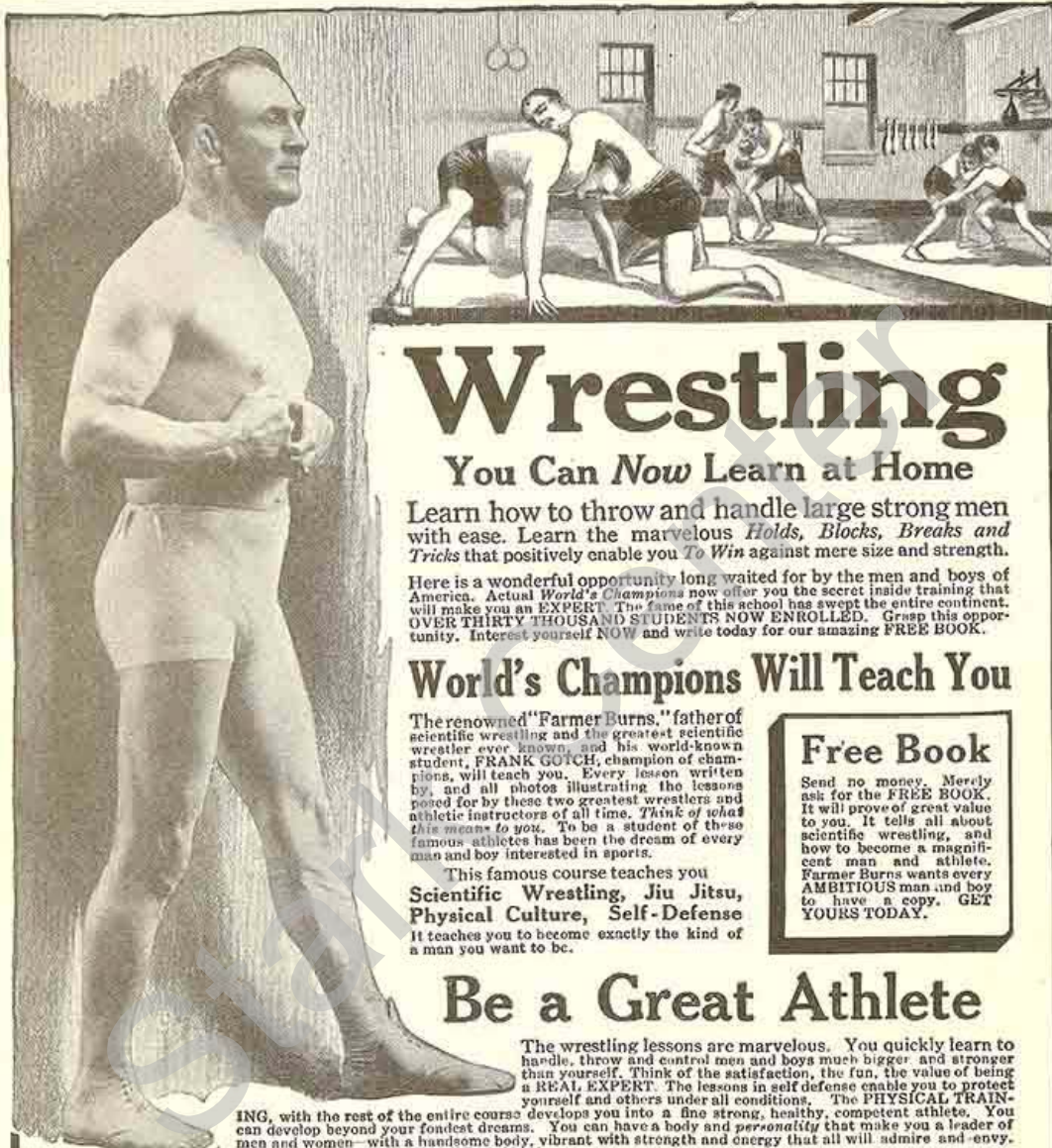
For an explanation of the cause that brings this greater flow of the life fluid it is induced by an aspiration of the muscles, which, being taxed in exercise, call for more as it were, and it is not produced by mechanical action as the principal factor, therefore the action of the muscles is that of suction. What the results of this greater activity of the blood are can be easily conjectured, for because of the fact receiving a larger supply of the life fluid, they greatly benefit by being better nourished. The internal organs will also share in the benefit of nutrition and their functions will be performed in a more vigorous manner, and, it is known that the nutrition of a muscle or organ is in proportion to the supply of blood brought to it. In fact, the general effect of exercise is a

very healthy one indeed. for the head, sharing in the benefits, will cause a larger current of air to pass into the lungs, thus purifying and invigorating the organs of the human system. This tonification of the organs during exercise varies with individuals. The mild game of billiards will produce this effect in those accustomed to a sedentary life, such as bookkeepers, clerks and the like; the pugilist, tugging at the pulley weights, shadow boxing and doing road work in his course of training, will experience the same beneficial results mentioned; the strong man, beginning to "warm up" with comparatively light weights, is soon elevating masses of iron, with no apparent effort and without producing undue fatigue.

I am sure many of you have now and then experienced a certain dullness in the head. Perhaps you have been working long hours in stuffy, unventilated offices, or you have taxed your gastronomic capacity to an inordinate degree, by gorging yourself with everything within your reach, and feeling this disagreeable feeling in the head, you decided to take a walk in the pure, outside air and how soon after going a ways what a relief you have felt; how your clogged brain has cleared up and how thankful you are to Mother Nature that she has brought you to your normal self again. Walking in the open air and sunshine is very healthy indeed.

Let us, therefore, synthesize the benefits of exercise on the human system by first concluding that: Exercise has an invigorating action on all the organs of the body, bringing about more vigorous functions, because the circulation of the blood is made more active. Second: The flow of blood brought about in exercise makes all the parts of the system share in the stimulating effect, which the will has produced by commanding our muscles to action and that this stimulation is made more vigorous because as the blood is coursing in the veins it is warmed by the friction against the walls of the veins themselves and warmer blood is more stimulating. Third: That not only are the muscles benefited by exercise, but the brain and the internal organs also receive their share of the benefit, thus resulting in more vigorous functions and producing a more intelligent, healthier and capable body.





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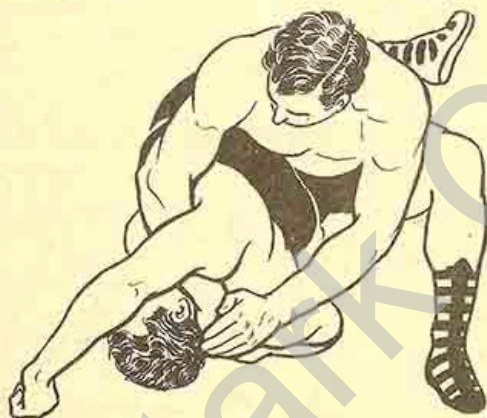
Age.....

(Continued from page 17)

results possible from them. However, progressive clubs are not manufactured anywhere and they could not accomplish the noteworthy results that have already been attained by some other forms of progressive work. It is true that by intense mind concentration on the individual muscles that the forearms can be increased but the strength attained is never in proportion to the development and few have enthusiasm enough to use this "Concentration on the

(Continued from page 15)

strain and pressure to bear on your opponent's head and neck to more readily twist and turn him over to a fall. This hold is sometimes called a three-quarter nelson from above.



Offside Nelson

However, as a complete hold in itself, it is a far inferior hold to a true three-quarter nelson.

This method of re-enforcing your near-side half-nelson should be practiced both when working on your opponent when he is on your right side as well as when you are working with your opponent when he is on your left.

#### HALF NELSON—STANDING.

Precisely the same hold as the near-side half nelson with the exception that it is applied when wrestlers are both up and on their feet with the attacking wrestler in back of his opponent.

#### FAR NELSON.

A nelson on your opponent's far side, as its name implies. If working with your op-

ponent on your right side slip your right hand under his right shoulder, over, and onto the back of his head and neck. Reinforce this hold by placing your left hand on top of his head and your right hand over the left.

individual muscle" idea to any big advantage.

What I have said regarding light bells and Indian Clubs will answer for all other forms of systematic light exercise. If continued light exercise working the muscles individually was sufficient for developing purposes, we would find good forearms among regular users of typewriters.

*To be continued next month with an analysis of the various forms of progressive exercise as applied to the forearms.*

ponent on your right side slip your right hand under his right shoulder, over, and onto the back of his head and neck. Reinforce this hold by placing your left hand on top of his head and your right hand over the left.

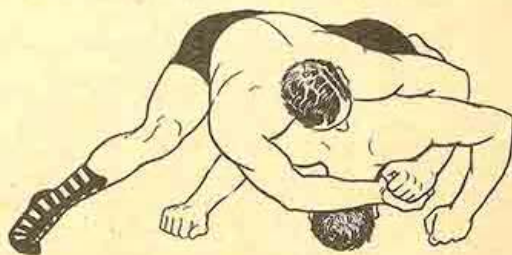
Practice this hold from both sides, not only when working as above with your opponent on your right side, but also when working on your opponent when he is on your left.

#### BAR NELSON.

A variation of the regular far nelson. A nelson used when working on your opponent when he is on your right side. In this hold you slip your right hand under his right shoulder and hook it into the fingers of your left hand while your left forearm is pressing down on the back of his head and neck.

It acts as a check to a side roll, the weakness of a regular far nelson.

Use the "finger foil" method of locking your hands to protect your fingers against any possible attack on the part of your opponent to attack your fingers.



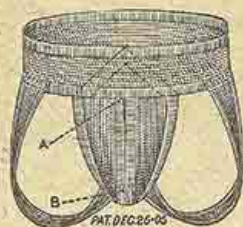
Bar Nelson

Practice this hold from both sides, not only when working as above with your opponent on your right side, but also when working on your opponent when he is on your left.

*To be continued next month.*

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