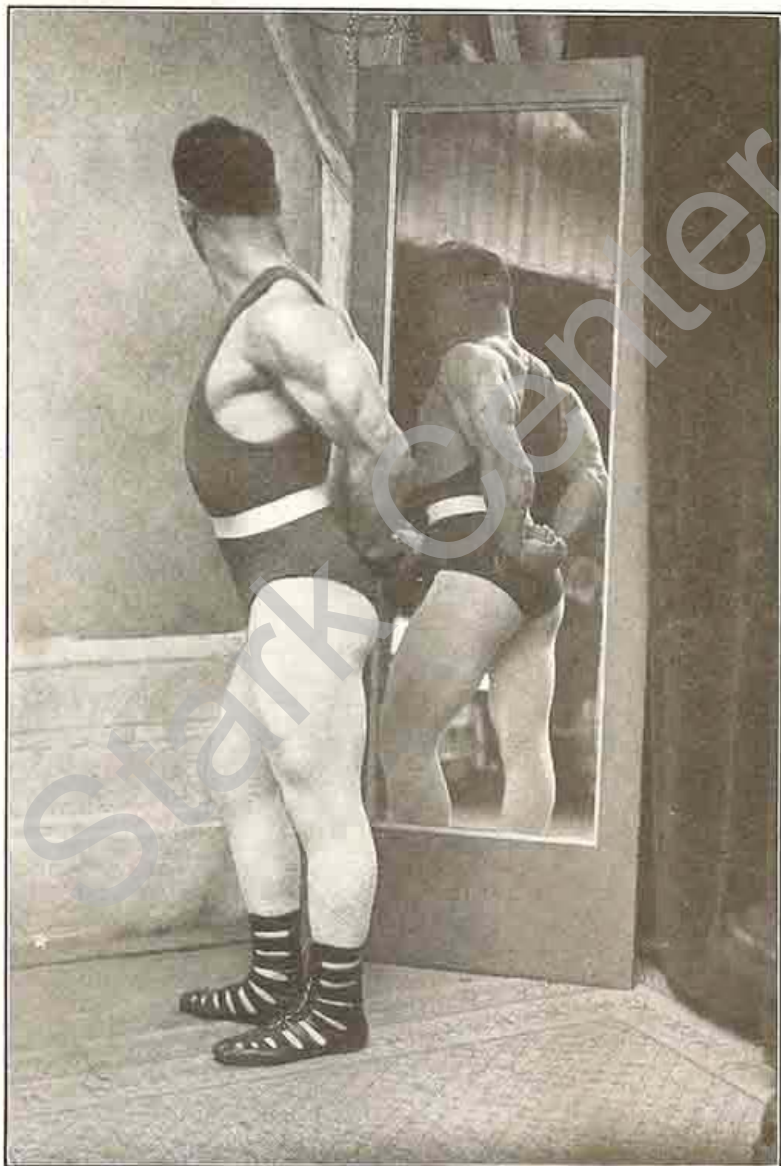


"STRENGTH"

MARCH, 1917.

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TONY MASSIMO (See page 18)

Issued by
THE MILO BAR-BELL CO.
1116-1122 Olive Street
Philadelphia, Pa.

"STRENGTH"

MARCH 1917

The Average Man

How Much Strength Has He, And How Much Can He Acquire?

By ALAN CALVERT

Proprietor

THE MILO BAR-BELL COMPANY

There are certain performances in the athletic line that can be accomplished by any healthy man or boy. For instance, take high-jumping. Practically any boy over 12, and every man under 40, can, if necessary, jump over a bar placed 24 inches above the ground. That height might be termed the "low limit." The only men within the ages mentioned who cannot clear the height are the very stout men. (Of course, I am not taking invalids or cripples into my count.) Probably nine out of ten men and boys will clear a height of 30 inches; seven out of ten will do 36 inches; five out of ten will clear 42 inches; and so on, until we get the bar about 54 inches (4 feet 6 inches), and then we find that only one out of ten will be able to clear it.

Now consider the effects of training. Take 100 men, whose *average* jumping ability would be to clear a bar 42 inches from the ground, and train all of them. Let them practice three or four times a week, and have them coached by some expert who can teach them to properly apply the strength of the back and the natural spring of the leg muscles. Inside of a couple of months the small proportion of good fellows who could clear 4 feet 6 inches to start will now be clearing 5 feet 6 inches, a gain of 12 inches; whereas, the poorest of the lot who could only clear 30 inches to start with will now be doing at least 48 inches—a gain of 18 inches; thus proving that the average man has a far greater possibility of making *big* gains than a man who is already possessed of a good amount of strength and ability.

To pursue the idea further, you would find that the ability to jump over greater heights would in every case be accompanied by increased strength and size in the leg and back muscles. You would also find that the best results would be gained by a number of successive efforts at moderate heights. For instance, no man can learn to be a good jumper, or can develop big leg muscles, by putting a bar 12 inches from the ground and jumping over it 50 times, because you can practically step over a height of 12 inches. Nor can he obtain results by putting the bar 5 feet 6 inches from the ground and jumping over it once or twice, because that would amount to only a couple of extreme exertions. If, in the case of the average man, the bar is put 30 inches from the ground, and then 31 inches, 32 inches, and so on every inch up to 45 inches, the jumper will get 15 good vigorous jumps, and his leg and back muscles will profit far more than if he took a lot of tiny jumps, or one or two tremendous jumps. Also note that if you want to learn to jump and to develop the leg muscles rapidly, you have got to practice jumping. Anyone would hail as ridiculous the idea that a man must learn to walk 20 miles before attempting to jump even a moderate height; yet that is what the average instructor believes about heavy dumbbell exercise—the ridiculous idea that a man must practice for months with 5-lb. bells before even attempting to handle 30 or 40 lbs.

In my showroom I have a square 50-pound United States Government weight, which is used in testing scales. It is a compact, unwieldy, and unhandy thing to lift. Out of 20 individuals who come to the showroom to examine the goods, not more than two out of 20 would be able to put this particular 50 pounds above the head with one hand.

Fifty pounds sounds a lot to the average man who is accustomed to thinking of a pair of 2-pound bells, or, at most, a pair of 5- or 10-pounders.

So, in order to show the average man how much strength he possesses, I will give him a 50-pound bar-bell, show him how to hold it with **both** hands, and direct him to make one or two different movements. To his immense surprise, the average novice finds that he will with perfect ease repeat the movements two or three times in succession, even when such movements call only on the comparatively small arm and shoulder muscles. In fact, the beginner is so delighted with the ease with which he can handle a 50-pound bell, that he requests to be shown other exercises, or else demands a 60- or 70-pound bell to determine whether he can handle that weight.

To try to give you the average capability, I would say that out of hundreds of men

and boys that I have tested, I have never yet found an individual who could not take a 45-pound bar-bell in *two hands* and press it slowly to arm's length above the head. (I do not test boys under 14, and I *never* train women or girls.) Boys of 14 to 17, weighing 125 pounds or 130 pounds, will press 60 pounds once, 50 pounds two or three times. Men of the same weight, but between 35 and 40 years of age, will lift about as much as the boys. Boys and men running from 17 to 35, and of the weights stated, can usually press 70 pounds once, or 60 pounds three times. Boys and men from 17 to 35 who weigh anywhere from 150 to 200 pounds will vary anywhere from 70 to 120 pounds on the very first test.

Bear in mind, that all the above tests are at the two-arm press. The bar-bell is placed in the novice's hands at the height of his shoulders, and all he has to do is to slowly push the bell aloft with the strength of his arms. With a beginner it is easier to make a two-arm press of 70 pounds, than it is to make a one-arm press of 40 pounds.

Now mind you, the above tests are simply in arm and shoulder strength. Fifty per cent. of my callers have never taken systematic exercise of any kind. Some of them have worked in offices for years, and have never been in a gymnasium, and don't know one muscle from another; others are school boys who attend gymnasiums regularly, and who play the most strenuous of the outdoor games; still others are big football players; and others are men who earn their daily bread in one of the mechanical trades, or who work on farms, or in factories, mills, or labor gangs. Each and every one is anxious to know just how strong he is, and with a large number of bells which can be quickly adjusted to any weight, it is easy to safely test their strength.

When it comes to testing the strength of the big muscle groups on the back and legs, the average man is sometimes dumfounded to learn that he can handle 75 to 100 pounds easily, in some back and leg exercises.

In laying out a beginner's course, however, I am always conservative, because my aim is to build him up, and make every part of his body strong before I give him any real lifting; therefore, the average beginner will start with the bar-bell loaded to anywhere from 35 to 60 pounds in the exercises for the shoulders, back and legs, and in some of the exercises where both arms are used simultaneously. He will start with anywhere from 20 to 35 pounds in the single-arm movements with the dumbbell and kettle-bells. Remember that each motion is repeated only a few times.

I frequently receive letters from pupils who think that I underestimated their strength and started them with weights that were too light, but these pupils are generally entirely satisfied when they get the following explanation:—

A man is started with light weights for two reasons: First, because it is very important to do the exercises correctly, and a man can *not* learn to do the exercises correctly if he is using a weight which requires all of his strength to handle; in such a case all his attention is devoted to raising the weight, and he has not any attention left over to devote to the manner, or style, in which he is performing the exercise. In order to get the greatest amount of development out of any exercise, you must do that exercise *in a way which puts the muscles into the most favorable position for contraction*. After a man learns the correct way of performing the movements he can increase the weight right along and develop his muscles with gratifying rapidity.

Second: Every time the pupil practices, he has to perform at least 12 different exercises. If I started him out in the first exercise with just as much weight as he could comfortably handle, he would probably be tired out before he got to the fifth or sixth exercise; but if I start him with a weight that he can handle comfortably he will go through the whole 12 exercises, bring into play every muscle of his body, and finish up feeling as though he could do a lot more.

That is the way a man has to exercise if he wishes to become very strong and acquire a lot of endurance and vitality. A pupil in training must continually endeavor to build up a reserve of energy. Many of the greatest Strong Men have attributed their success to their ability to master the principle of conservation of energy, that is, they learn to take progressive exercise in a way that thoroughly worked out each and every muscle without overtiring any muscle, and without ever working to the limit of exhaustion and thus draining their energy. Then if they were unexpectedly called upon to perform a feat requiring a great exertion of strength, they had a reserve fund of energy on which to draw.

EXERCISE WILL IMPROVE THE HEALTH, BUT CANNOT CURE ALL DISEASES

I find that there are a great many men who have the idea that only the sick and ailing should take exercise. This has been fostered by the attitude of several concerns in this line of business. These concerns apparently do a sanitarium business, and from their literature I judge that their work is principally along the lines of curing various diseases.

Certainly a very noble work; but at the same time only a very small fraction of the profession. It is to be regretted that there are some concerns who advertise a specific system of bodily exercise, and who claim that their system will cure any human ailment. They write and speak as though they were continually rescuing people who were about to fall into an untimely grave; they tell us of marvelous cures, and altogether disseminate the idea that any known disease or bodily ailment can be cured by exercise. Personally, I don't believe it.

I have a great deal of confidence in doctors, as a class. There may be a small percentage of physicians who don't know their profession, or who do not make a serious attempt to cure cases of chronic illness; but it is undoubtedly true that the vast majority of physicians are skilful, earnest and sincere; also, they possess a great knowledge of the means for the prevention and cure of disease. The medical profession has existed for over 2000 years. During that time thousands of men of more than average ability have devoted their time and energy to acquiring knowledge of medical science, and it is pretty safe to assume that in that time there has been an immense amount of knowledge accumulated. Personally, I believe in physicians—I regularly consult them in my work, and I have learned a great deal from them.

Exercise will benefit nine men out of ten who are under 45 years of age, because that proportion of men are sound and in fair health. About one man in ten is either ruptured, or has developed some chronic form of organic disease, or has ruined his health by excesses of one kind or another.

I am an enthusiast about exercise. I believe that I can take any boy or man under the age given and by systematic training build him up in a marvelous degree. Most men will benefit by exercise; some men positively need it. (a) Many boys, at the age of 16 or thereabouts, take business positions which require absolutely no exercise, and these boys grow to be men without their bodies developing as they should. (b) Other men, who had, originally, fine bodies, will get immersed in the cares of business and neglect exercise, with the result that at the age of 30 or 35 their health deteriorates, and their body becomes soft and flabby and is in a condition where the seeds of some organic disease can easily be sown in the system. In such cases as these exercise is a duty to oneself. (c) Aside from the purely health aspect of exercise, there are thousands upon thousands of boys and young men who are enthusiasts about athletics and about the cultivation of the body. They play outdoor games, they attend gymnasiums, or they exercise systematically at home.

I feel that my field of work lies among the three classes I have enumerated, and I wish to state here and now that I cannot accept orders from consumptives, or from men who have advanced cases of heart trouble, or kidney trouble; and I absolutely and positively decline even to correspond about, or advise upon, cases of sexual disease, or sexual weakness in any of its various forms. There are men who specialize on sexual work—I don't want anything to do with it.

The question then arises: What class of men and boys are in condition to take up my system? In answer to this I would say that any boy or man who is strong enough to play tennis is strong enough to take up a vigorous system of exercise like mine. Tennis is a good test, because it is really a vigorous game. Eighteen out of twenty men can play tennis for an hour or two at a time, and enjoy it and benefit by it. The nineteenth man may have lung trouble in such a form that he will become exhausted after playing for ten minutes. The twentieth man may have heart trouble, so that his pulse would run up to 120 or thereabouts after playing tennis for five minutes, or he may have such a high blood pressure that he would get apoplexy if he attempted to play the game. In cases of heart disease, lung trouble, or any very serious organic disease a man would be foolish to play tennis or baseball, or to row a boat, or to take any other vigorous form of bodily exercise. But the fact that one out of ten men cannot play tennis should not keep the other nine men from playing the game in order to get exercise.

There is very little danger of overstrain in tennis in the average man, because he can stop between plays, or between games, and get a moment's rest. Those opposed to athletics are continually talking about the "athletic heart," but you rarely find this trouble except among athletes who have either practiced long distance running, long-distance rowing, or swimming. The most frequent cause of enlargement of the heart is swimming under water. Long-distance running and rowing contribute a few cases, but in almost every case it has been proven that the athlete damaged his heart during a race by continuing his efforts after he had reached the point of exhaustion. This proves that it is very hard to strain the heart if you obey Nature's danger signal and never push exercise beyond the point of fatigue.

In conclusion, I believe that the weak man should exercise to make himself strong; that the naturally strong man should exercise in order to make his development perfect; and I also believe that a sick man should go to a sanitarium, or else place himself under the care of a good physician.

NOTICES

ABOUT THIS MAGAZINE

Since issuing the January number, there has been another advance in the price of paper, so that I will probably have to limit the size of each future edition of the STRENGTH magazine.

Those of my readers who do not care about reading STRENGTH will do me a favor if they will notify me so that I can take their names off the list. At the same time, please understand that I am anxious to send the magazine to every one who reads it, and likes it, and that I consider it important that each and every one of my pupils should study the pages of STRENGTH as a supplement to the instructions I give in my regular exercises.

MR. UNGER DID NOT ACCEPT

For the information of many readers who wrote to inquire, I would state that Mr. Unger did not accept the cash prize offer I made in the January number of STRENGTH. I will be glad to renew the offer at any time, and will even give the money to Mr. Unger if he can raise 250 pounds by the right arm "bent-press." Or I will give him a still larger prize if he will support within 1000 pounds as much as he claims to support in the "Human Bridge."

A NEW LIFTING CLUB

I am pleased to announce that several of my Pittsburgh pupils have formed the Milo Athletic Club at 439 Third Avenue, Pittsburgh, Pa. Among the members of the Club are several good lifters,—notably Mr. L. Clark Waddell, who is, in my opinion, one of the very best all-round lifters in the country. Visiting Strong Men are invited to avail themselves of the use of the gymnasium of this Club. Many of my Pittsburgh pupils who wish to meet other enthusiasts will do well to join this Club, as they can undoubtedly learn a great deal by watching Mr. Waddell and the other experts at practice.

MR. NEWMAN'S OPINION

The drawing at the bottom of this page was contributed by my friend, Mr. Clyde Newman. Several of Mr. Newman's drawings have appeared in previous numbers of STRENGTH. Mr. Newman has a thorough knowledge of anatomy, and is particularly clever at delineating that particular type of athletic body which is developed by heavy exercise. Mr. Newman's drawings show us athletes who are muscular and as graceful as the old Greek athletes. If I could draw as well as Mr. Newman, I would spend all my time making sketches, and then admiring them, instead of writing these articles in STRENGTH. I do not believe there is a man who reads STRENGTH who has as much enthusiasm as I have for muscular development.

I have studied figures of athletes for years, but I never tire of studying the photographs of splendidly developed men, or the pictures Mr. Newman draws.

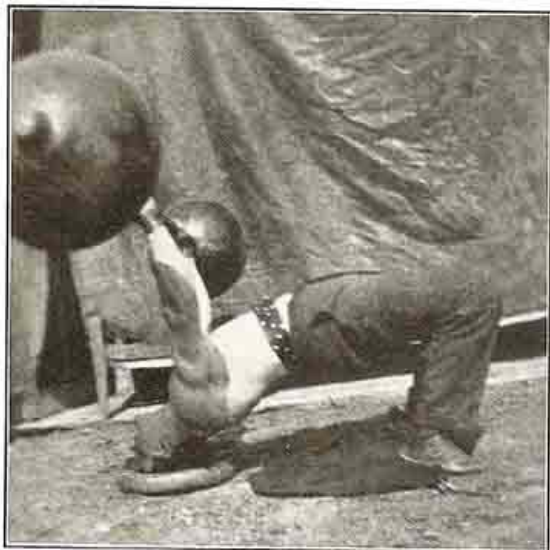
Mr. Newman bought a bell from me a good many years ago. Up to the time he first started with a Milo bell, he had been an advocate of light exercise; but I quote here an extract from one of his recent letters in order to show you his present opinion.

"I'm no athlete, but all my best work has been done with a big MILO in my hands; and all the real results I ever attained came from the simple expedient of disengaging a chunk of iron and lead from its place on the earth and forcing it against its will to go aeroplaning!"

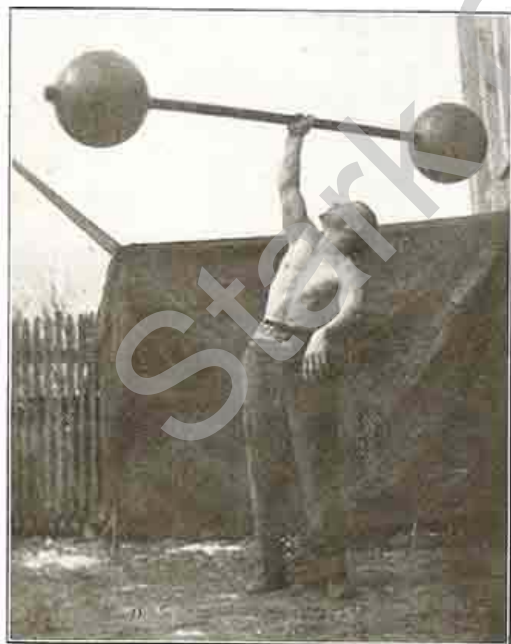
"And to-day—40 years plus—my boys who are big as I am (one bigger)—can't touch me at wrestling, running, nor weight lifting, and I'm 'quicker' than any neighbor hereabouts who loves God's out o' doors."

"All the weight lifters on the stage and wherever I've seen them are fine, clean, clear-skinned, ruddy fellows—fine advertisements of a sensible system."





Tampke makes a two-arm press in the Wrestlers-Bridge position



Tampke finishes a one-arm Press.

MELVIN TAMPKE

Readers of the *STRENGTH* Magazine will remember the pictures of young Melvin Tampke which appeared in the September number. I would like each of you to compare these pictures with the pictures which I published in September. You can easily see the great progress that Mr. Tampke has made in the last few months. The gain is particularly noticeable in the muscles of the thighs, arms and shoulders.

This set of pictures is very interesting to me, as all of them were taken in strong sunlight. When you get a good out-of-doors picture it cannot be beaten. For example, look at the pictures of McMahon on page sixteen. You can see every vein and the details of every muscle. Those pictures were time exposures, but the sun was not shining on the athlete. The pictures were taken at noon when the sun was high and strong, and the light was very bright.

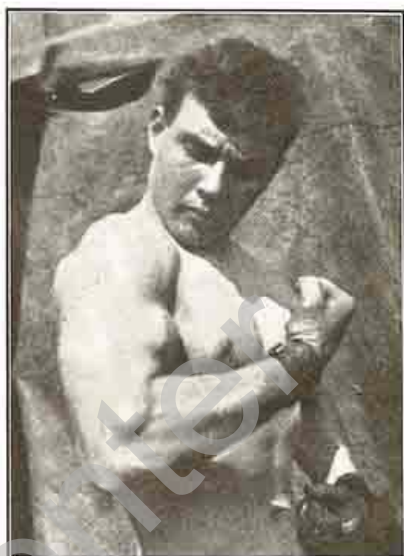
When Mr. Tampke posed, he faced the sun, and the sun shone down upon him at an angle. This, I believe, was a mistake. You cannot get good pictures when you face the sun unless the sun is directly over your head, and that occurs only at noon for a few weeks in June and July. If you are going to stand in the sun, I suggest that you stand three-quarters front to the sun so that the light will throw shadows across the body. Better still, stand in a shaded position and have a time exposure taken. Do not stand under the branches of a tree, or under a porch roof, or an awning; stand alongside of a vertical wall so that you can get a clear light from overhead. Now, I will prove to you why it is better; look at the first picture in this article, Tampke is shown lifting in the Wrestler's Bridge position. In this case, he has his right side to the sun with the result that the right-hand sphere is throwing a shadow which cuts across most of his right arm and shoulder. Look closely at the part of the arm which is shadowed, and you will see the muscles show out most distinctly, but that the outlines of the different forearm muscles disappear beyond the end of the shadow; also note, that on the right side just below the arm-pit, you see the detail of several muscles, but that this detail vanishes beyond the edge of the shadow. In the lower picture on this page, Mr. Tampke is making a one-arm press with the same Bar-Bell. The sun was not shining at the time as is proven by the fact that there are no heavy shadows; yet we see the details of his muscles more plainly than in the pictures taken in strong sunlight. By the way, notice that in one of the front views, the

shadow of Tampke's right hand shows on his right hip. This is another argument for posing in the shade.

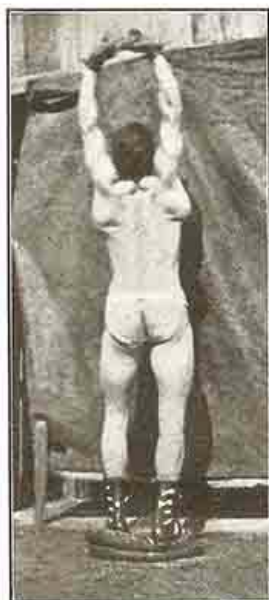
While the series of the four muscle poses do not show the details of the different muscles, they will give you a very good idea of the glorious outlines of Mr. Tampke's body; even if you cannot see the shape of every strap and band of muscle, you can see that young Tampke "Has the shape."

This young man will bear watching. He has been training less than a year, and lately he has been making one-arm overhead lifts of from 235 to 250 pounds. In another year, he will be a worthy rival for Nordquest. His measurements at present are as follows: Neck, $17\frac{1}{2}$ inches; upper arm, $16\frac{1}{2}$ inches; forearm, $13\frac{1}{2}$ inches; chest (normal), 45 inches; waist, 32 inches; thigh, $24\frac{3}{4}$ inches, and calf, $16\frac{1}{4}$ inches.

Mr. Tampke cheerfully consented to this public discussion of the lighting of his pictures, because he is very much interested in everything connected with Muscle-Culture, and he is perfectly willing to let others profit by the foregoing criticisms of his attempt at out-door posing. This is the spirit which is going to make weight-lifting a great sport in this country. If we all help each other, we can all go far.



Tampke rather vexed because his biceps is only twice as big as the average man's.



Tampke in muscle poses. Note the size of the chest in the centre picture, and the control of the shoulder blades in the right hand picture.

LIGHT EXERCISE.



Figure 9.

EXERCISE No. 9—FOR THE MUSCLES OF THE FORE-ARM: Use a heavy cane, or any stick of hard wood about one inch in diameter, and three feet to three feet six inches in length. Grasp the stick by one end, hold the arm straight out in front of you, bend the wrist first downwards as shown in Figure 9, then raise the point of the stick as far as you can to the left, then straight out in front of you, then upwards to the right as high as you can, then downwards to the left, straight out in front of you and downwards to the right. If you will try this, you will find that the far end of the stick describes an immense figure 8. The arm must be held out straight in front of you and not allowed to bend at the elbow. All the work is done by twisting the wrist. The stick is laid diagonally across the palm so that you can pinch it between the end of the thumb and the second joint of the index finger. The stick must be held very firmly and the twisting motion continued until the muscles are thoroughly tired, then the stick must be shifted to the left hand and the exercise repeated, in order to develop the muscles of the left forearm. This exercise is practiced by fencers to strengthen the wrists.



Figure 10.

EXERCISE No. 10—TO DEVELOP THE SMALL OF THE BACK: Stand with your back to the wall, heels close together and about six inches from the wall; raise arms straight above the head, then lean back from the waist and touch the wall with the finger tips, as in Figure 10. Straighten up and move the heels an inch further from the wall, lean back again and touch the wall; move an inch further from the wall and so on until you get so far out from the wall that you can touch it only by leaning far backwards. Please note all the bending is done at the waist. You must not allow the legs to bend at the knees. This exercise causes quite a vigorous contraction of the muscles which overlay the lower spine, so you must go at it gradually and be careful not to overdo.

EXERCISE No. 11—EXERCISE FOR THE LEGS AND LOWER BACK: Lean over as in Figure 11, finger tips resting on ground, arm straight, body lunged forward, and legs as in position shown. Now, without raising the hands from the ground, quickly reverse position of legs; that is, shoot the right leg out straight behind you and bring the left leg forward until the left knee is close to the chest; then reverse quickly to original position and repeat as long as you can. The exercise is very much like running in a crouching position. The exercise develops all the muscles of the thigh, as well as the muscles of the abdomen, and the muscles of the hips and lower part of the back. This exercise is a great favorite among Russian wrestlers.



Figure 11.

EXERCISE No. 12—FOR TRICEPS MUSCLES OF THE UPPER BACK: The Triceps muscle straightens the arm; it consists of three parts, and you cannot exercise all the triceps muscle at one time unless the arm is drawn back of the body at the same time that the arm is straightened. Therefore, you cannot develop the triceps fully by "Dipping" face downward on the floor. The best method is the one shown in Figure 12. Grasp the side edges of the

seat of any strong chair; allow the thumbs to rest on the chair seat; the palm of the hands will be towards each other. Rest the heels on the ground about a yard in front of the chair, bend the arms at the elbow and allow your body to sag at the waist so that the small of your back will touch the front edge of the chair-seat as shown in the heavy outline in Figure 12. Now, push up until you straighten your arms and at the same time bring your body to a straight line as shown in the shadowy outline in Figure 12. Repeat as many times as you can.



Figure 12.



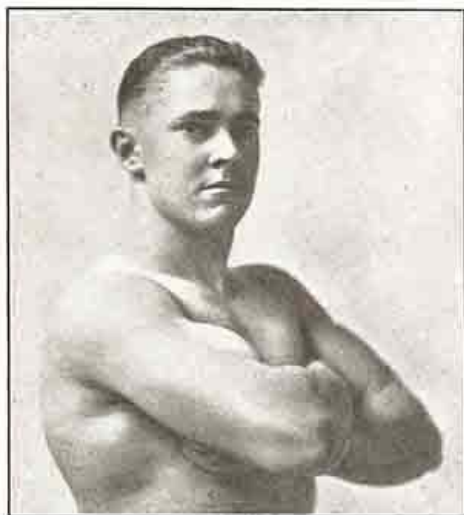
OWEN L. THOMAS

Mr. Owen L. Thomas is a young man about 21 years old. He bought a bell from me nearly three years ago; and although he has not trained regularly, he has in that time increased his normal chest from $33\frac{1}{2}$ inches to 40 inches, his upper arm from 12 inches to $14\frac{3}{4}$ inches, and his thigh from 19 inches to 22 inches. He stands about five feet eight inches in height. As soon as you look at Mr. Thomas' pictures, you will notice the extraordinary size of the lower chest. He carries no surplus flesh on the abdomen, but has developed an extraordinary natural chest; that is to say, the size of the rib box is way above the average. He has just started at the Advanced Course, and after he puts in three or four months' work at the Advanced Exercises, his shoulders, back and legs will increase a good deal. In other words, he will build up to his chest.

Young Thomas' chest-form resembles that of Mr. Juvenal, whose pictures you will find on pages 14 and 15. Mr. Thomas is still developing, and



Owen L. Thomas showing depth of lower chest.



Owen L. Thomas showing development of the back muscles.

303 Waugh St., Columbia, Mo.

January 23, 1917.

Mr. Alan Calvert,
Care of The Milo Bar-Bell Co.,
Philadelphia.

Dear Sir:—

I am enclosing some pictures of myself, which will show what I have accomplished so far. I bought my weights from you about two and a half years ago, but I did not exercise with them more than fifteen months in that time. I would train for a while, and then I would have to stop for a couple of months; but I never seemed to lose my strength, and when I resumed training, I would again start to increase in size and strength.

I wish to continue this training, so I want you to start me on the Advanced Course and suggest anything that will build up my weak points. I greatly appreciate the letters you have written me so far. Your advice and suggestions are wonderful. I do not know how else to describe them.

Yours truly,
OWEN L. THOMAS.

an experienced observer will immediately see that he is far from having reached his limit. I wish to call attention to the half-length picture. Observe the swelling muscle on the side right below the arm-pit. Whenever you see a muscle rounded off in that way, you find a man with a big chest. A man with big powerful muscles on the upper back invariably has a full, round chest.

Mr. Thomas' arm development is shown to the best advantage in the bottom figure on page 10. His leg development is shown in the picture on page 9.



Owen L. Thomas displaying arm development and width of chest.

CARL FIECHTER

Lathrop, California.

January 7, 1917.

Mr. Alan Calvert,
Care of The Milo Bar-Bell Co.,
Philadelphia.

Dear Sir:—

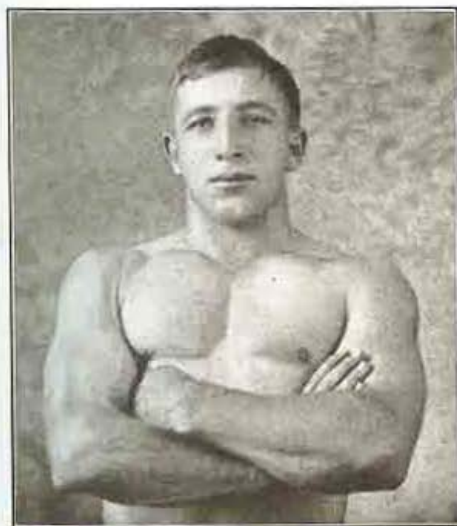
I received the course in the Standard Lifts some months ago, and I have been practicing them since. You must excuse me for not writing to you before. I have not had much time to train. The enclosed pictures were taken after I had trained for three months, and in that period, I increased my forearm an inch, my upperarm three-quarters of an inch, and my chest two inches. I have made other gains since that time. I am very well satisfied with the improvements I am making.

My best lifts up to date are as follows:—right-arm press, 165 pounds; one-arm snatch, 90 pounds; two-arm jerk, 185 pounds. I can hold out 50 pounds in each hand in the crucifix position.

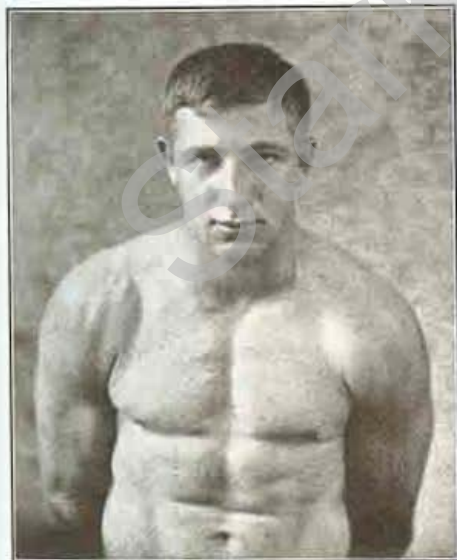
Yours truly,

CARL FIECHTER.

This Mr. Fiechter is a very big-boned young man. He has a $7\frac{1}{2}$ -inch wrist. At present his forearm measures a little over 12 inches. He will reach at least $13\frac{1}{2}$ inches if he trains steadily. His upper arm, which is now nearly 15 inches, will probably increase to 16 inches, and his chest should increase from 41 to at least $43\frac{1}{2}$ inches. His pictures show the squareness of his shoulders, and the size of his bones. In fact, the first impression you get from these pictures is one of squareness. His pectoral (chest) and abdominal muscles are very well developed. I will show you more pictures of Mr. Fiechter later on after he has trained for a few months longer.



Carl Fiechter.



Carl Fiechter.

The February Weight Lifting Exhibition

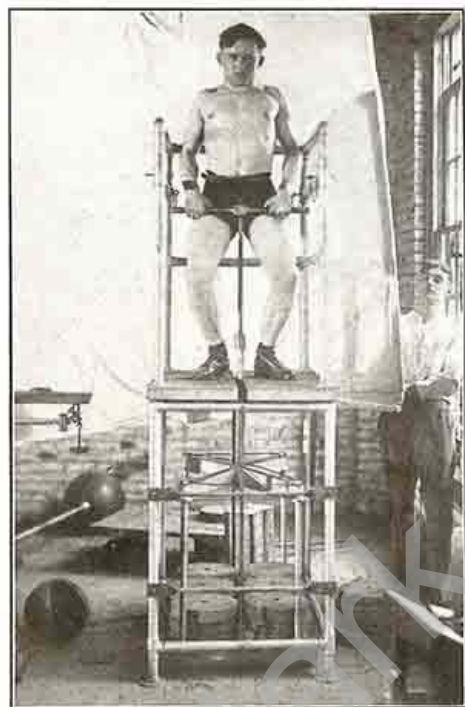


Figure 1. Edward Schultner, who won the dead-weight lifting contest by raising 1323 pounds from the ground.

Mr. Schultner's picture is shown in Figure 1. He is a broad-shouldered, wide-hipped, big-chested fellow, with well-developed but tapering arms and legs. He has enormous strength in his thighs. His picture does not show him off to advantage, because in making the hand-and-knee lift the shoulders are drawn backwards as the trapezius muscles contract. This photograph makes Schultner appear much narrower than he really is. As 1323 pounds was the best that had been lifted up to that date, the other two contestants whose records were only about 1000 and 1200 pounds, respectively, contented themselves with giving exhibition lifts. The event went to Schultner by a handsome margin. If he had a chance to practice regularly on the machine he would doubtless lift 1500 pounds after a few weeks' training.

Meanwhile, after each competitor in the dead-weight lifting contest had finished his stunt, Nordquest would make a "warming up" lift. He was after Saxon's world's record in the Shoulder-Bridge position. In this lift the athlete lies flat on the back, pulls a large bell across the face until it is above the chest, then he arches his body into the Shoulder-Bridge position and presses the bell slowly aloft. The pressing up is done entirely by arm strength; it is possible to use the pushing power of the arms to much better advantage when the body is in the Shoulder-Bridge than when the body is flat on

On the afternoon of Saturday, February 17th, about seventy-five enthusiasts met at my factory and saw three solid hours of lifting. Heretofore, these lifting events have been attended only by a couple of dozen enthusiasts, but on this occasion I welcomed the opportunity of giving a number of my local pupils a chance to see some of the famous "stars" in action.

The program was, briefly, as follows:

Contest at dead-weight lifting.

Attempt by Nordquest to break Saxon's record in the Shoulder-Bridge Lift.

Posing by Matysek.

Exhibition of Standard Lifts by Robert Snyder, Jr.

Special lifts by Matysek.

Exhibition One-Arm Press by Nordquest.

Exhibition Crucifix Lift by Jennings.

Open contest at the One-Arm Pull-Over.

A man who is going to lift a great weight is compelled to first "warm up" by making a few lifts with lesser weights; so in order to make the lifting continuous the different events dove-tailed into one another—as, for example, Nordquest was "warming up" for his record lift between the attempts of the different competitors in the "dead-weight" contest.

The session was opened with Mr. R. E. Mack on the lifting platform. The working of this platform and the method of lifting is described on page 16. Mr. Mack made a number of trials, culminating with 823 pounds.

The next contestant was Mr. Edward Schultner, a young man who, although only 19 years of age, has had several years of experience as a lifter. Starting with 873 pounds, Schultner lifted that weight, then 973 pounds, then 1023, then 1123, then 1223, and finally 1323 pounds.

the ground, as in the lift described on page 13 of the January number of STRENGTH. Arthur Saxon's record was 386 pounds. Nordquest proceeded without a hitch with weights varying from 250 pounds to 350 pounds; then we increased the weight of the bell to 388 pounds, and Nordquest did it easily on his second attempt.

Figure 2 shows Nordquest with the bell aloft. As the picture had to be a snap-shot, and was taken by artificial light, you cannot see many details of his development, although you can see the enormously thick and powerful arms, and the deep chest.

Anton Matysek, who had made a hurried trip from New York, then made some special lifts—among them the very difficult feat shown in Figure 3. He first laid flat on his back, lifted across his face to chest a bar-bell weighing 120 pounds, and after bending himself double he managed to place the bell laterally on the sole of his right foot. Carefully balancing the bell, he straightened out the right leg, and then raised his hips from the floor and cautiously forced the body into a shoulder-stand, as shown in the illustration. This lift made quite a hit, as none of us had ever seen it done before. It required very nice balance, and very accurate control of the muscles of the legs, back and sides.

Matysek also made three successive Bent Press lifts, finishing with 200 pounds, which he pressed very neatly aloft with the right hand. Matysek is studying sculpture in New York, and was completely out of training, and came over to the exhibition on a few hours' notice. Following these exhibition lifts, he posed in the cabinet, displaying all the different groups of muscles, and finishing up with a demonstration of the rope control of the abdominal muscles.

As many of the spectators had never seen Nordquest make a one-arm press, he demonstrated the proper method of pressing a bell aloft with the left arm. Nordquest is at his very highest form, and he pressed up the 200-pound bell about as easily as the average man would press aloft a 25-pound dumbbell.

Robert Snyder, Jr., is probably the most finished and skillful amateur lifter in the country to-day. He is not a specialist. He lifts equally well at all styles. He is a wonder at the Bent Press, which requires flexibility and balance as well as strength. He is great at the two-hand lifts where strength is the greatest factor, and he is equally remarkable at lifts like the one-arm Jerk and one-arm Snatch, in which strength cannot be employed to the best advantage unless it is accompanied with great agility and quickness.

Charles McMahon set the pace for Snyder in the one-arm press, both of them raising 178 lbs. in that style. Snyder then demonstrated the correct method in the one-arm Jerk, raising a 120-pound bell aloft seven times in succession in the most perfect style, and subsequently raised 138 pounds once and 148 pounds in the one-arm Jerk. He gave a beautiful exhibition of the one-arm Snatch, and did some two-arm lifting. His great strength and the perfection of his style enables him to continue lifting for hours at a time. Remember that Snyder weighs only 125 pounds. After Matysek had demonstrated the rope control of the abdominal muscles, Snyder showed that he also could perform this difficult feat of muscular control, as is shown in Figure 4.

Robert Jennings, an English lifter of considerable fame, was then called out from the audience, and gave an exhibition of holding bells at arm's length, in what is known as the Crucifix position. He attempted the prodigious feat of holding out 79 pounds in the right hand and 77 pounds in the left hand, but he was unsuccessful, owing probably to lack of practice, as eighteen months ago I had seen

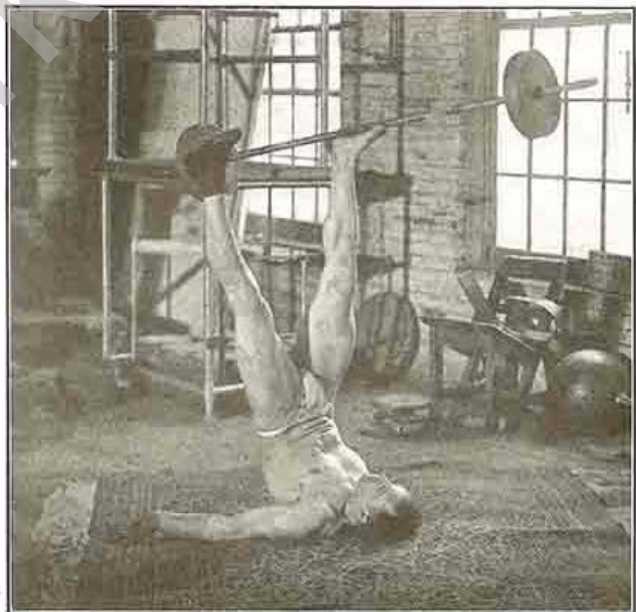


Figure 3. Anton Matysek balances a 120-pound bar-bell on his left foot, and then forces his body up into a shoulder-stand.

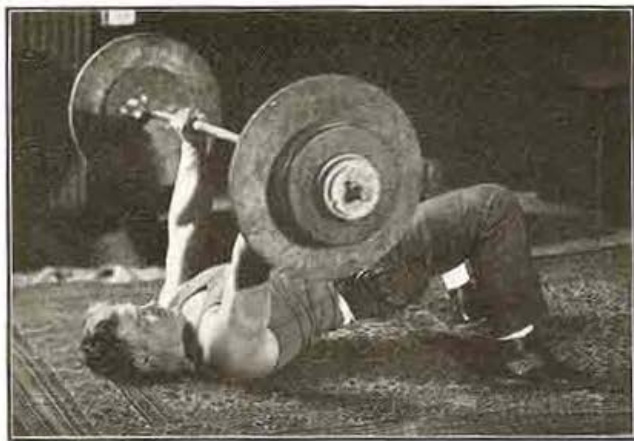


Figure 2. Champion Joe Nordquest presses to arms' length 388 pounds while in the Shoulder-Bridge position. This lift broke Arthur Saxon's world's record of 386 pounds.

The first lift was made by Charles McMahon, who was thoroughly familiar with the style. He started with 41 pounds, and his lift was immediately duplicated by seven or eight lifters, including Mr. Strauss, and Mr. Juvenal, and all those already mentioned in this article. Everyone succeeded with the 41 pounds. A couple dropped out at 46 pounds.

Fifty-one pounds was negotiated successfully by Strauss, McMahon, Juvenal, and Nordquest. The weight was then made 56½ pounds, and McMahon, by a tremendous exertion, succeeded in pulling it over. The weight was a little bit too much for Strauss, who is a comparatively new comer at the lifting game; Juvenal and Nordquest did it easily—so that three of the lifters had surpassed the former official world's record.

The weight was then made 61 pounds, which was too much for McMahon, although Juvenal and Nordquest raised it with apparent ease. Sixty-six and one-half pounds was the next weight. Juvenal made a game effort, but the weight swerved out of line, and he had to give it up. Nordquest grasped the bell and raised it in just about the same way that he raised the 56 and the 61 pounds. Goodness only knows what he could have done if he had tried. Joe is one of those men who have to be thoroughly excited and

aroused before he can exert his full strength. It took Mr. Juvenal's competition to bring out the best that was in Nordquest.



Figure 5. James B. Juvenal.

him perform the feat successfully with the same pair of dumbbells. Jennings weighs 148 pounds. I will ask him to try again at our next exhibition, and hope to secure a picture of him at that time.

The afternoon concluded with what proved to be the most exciting event of the day. The lift was the One-Arm Pull-Over. Each competitor was made to lie flat on the back with legs pressed close together and the left hand held against the left side. Then he reached back with his right arm, grasped a dumbbell in the hand, and swept the bell up in a quarter-circle motion to a position right above the chest. It was made compulsory to hold the lifting arm perfectly straight and stiff. The previous best record for the event was the 56-pound lift of Professor Attilla, trainer of the famous Sandow.

Figures 5 and 6 show the development of Mr. James Juvenal, who took second place to Nordquest in the last event on the program. Mr. Juvenal, when a young man, was a champion oarsman and won dozens of prizes in competition. He has always been fond of heavy Bar-Bell exercises; for a long time he practiced every day with a 75-pound Dumbbell and a 125-pound Bar-Bell, and

he is still very partial to heavy work and includes some in his daily training.

His development is wonderful and his strength extraordinary. He is particularly good at the "one-arm snatch" and at all lifts with a straight arm. As a matter of fact, I thought he would be the one to win the special contest, as I had seen him do wonderful work in the two-arm pull-over. The fact that he took second place to the world's champion shows his extraordinary power. Juvenal's arms are not as large as Nordquest's, but his chest is fully as big as Joe's. Figure 6, which shows the one-arm pull-over, also displays the marvelous depth of Mr. Juvenal's chest and Figure 5 shows the extraordinary breadth of shoulders. Mr. Juvenal's condition should be a lesson to many men who think they are too old to take exercise. Mr. Juvenal confesses to being over 35 years old, but he takes exercise every day and so he retains the unusual strength which he created by heavy exercises taken while a youth. The fact that in the special event he exceeded the previous world's record by 5 pounds will give you a line on his strength.

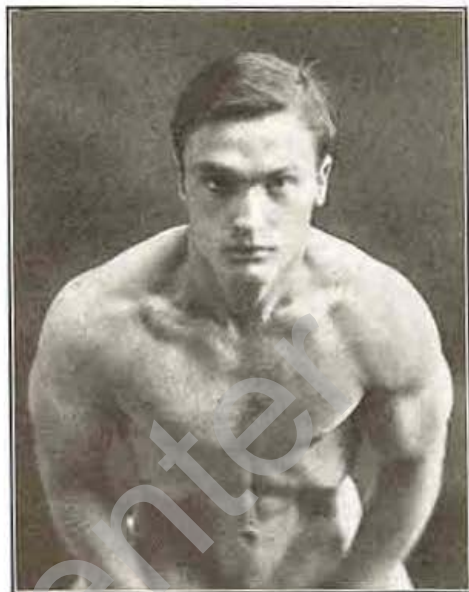


Figure 4. Robert Snyder, Jr., demonstrates the double control of the abdominal muscles.

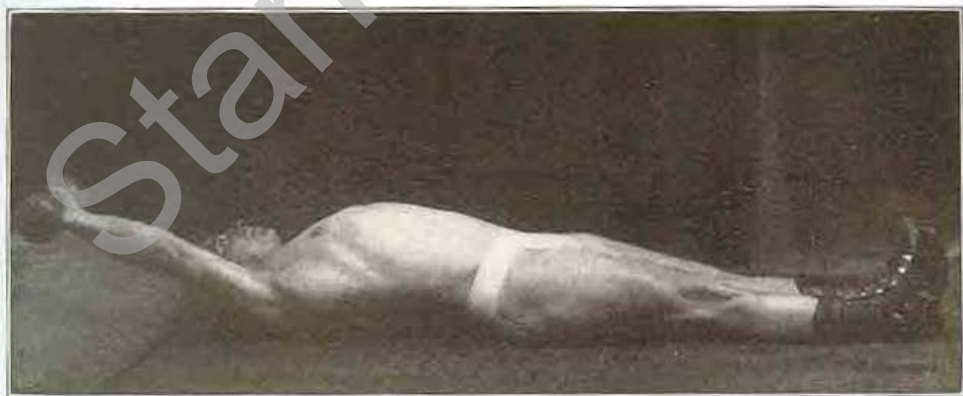


Figure 6. James B. Juvenal doing the one-arm pull-over. Notice the enormous depth of chest.

THE LIFTING MACHINE

The two pictures on this page show my special lifting platform which was used in the competition of February 17th. The upper picture shows the ordinary style of making a dead-weight lift. This is called the "Hand-and-Knee" style. All the weights to be lifted are piled upon the lower platform. The lifter stands on the upper platform. The four corner posts support the upper platform; steel rods run upward from each corner of the lower platform, and these rods are joined at the top by a heavy X-shaped casting. From the centre of this casting another steel rod runs upward through the floor of the top platform. This rod is threaded at its upper end. A cross-bar travels up and down on the threaded upright, so that by spinning the horizontal bar you can raise it or lower it to suit the height of any lifter.



Charles McMahon makes a dead-weight lift in the "Hand-and-Knee" style.



Charles McMahon making a harness lift.

When the "Hand-and-Knee" method is employed, the lifter rests the bar on the thighs, then grips it with the hands, and then lifts the weight with a simultaneous heave of the shoulders and straightening of the legs. There is little or no danger of strain in this style of lifting, as the work is divided between the legs and the muscles which run across the top of the shoulders. No strain is felt in the lower back or the waist region.

The machine is adjusted with electric wires and bells. When the entire lower platform is raised from the floor, a bell rings. There is a contact at each end of the outfit, so that it is impossible to make the bell ring by lifting only one end of the lower platform. The lower platform and the handle weigh 173 pounds. When Schultner made his record lift there were 1150 pounds of iron plates on the platform.

The upper picture on this page shows Charles McMahon demonstrating the "Hand-and-Knee" lift. There are only a few hundred pounds of weights on

the platform. He has lifted the lower platform about 5 inches from the ground. The picture is a good one, because it shows how the work of lifting is done by the muscles of the under side of the thigh, and the muscles of the shoulders.

McMahon's record in this style is about 1200 pounds.

In the lower picture, McMahon is making a "Harness-lift." The hand-bar has been removed, and a leather harness has been hooked into place. McMahon has completed the lift and is standing upright.

At the beginning of the lift, the athlete bends his knees, leans the body forward from the hips, bends the arms, and rests the hands on the adjustable side bars; he then simultaneously straightens the arms and legs, and brings the body upright. Enormous weights can be lifted in this manner. Various professionals do anywhere from 2000 to 3500 pounds.

The harness shown is a simple form of shoulder harness. Some professionals use a complicated affair made of straps which pass around the shoulders, and other straps which pass around the waist.

More of this machine later.



TONY MASSIMO

Following my custom of letting my readers see the development of the best built professionals, I am showing you on these pages some pictures of Tony Massimo, weight lifter and hand-balancer. Massimo called at my showroom last month. I had often heard of him, and I seized this opportunity to get some good pictures of him.

Massimo is one of the most powerfully built men I have ever seen. He stands about 5 feet 8 inches, measures 25 inches across the shoulders, and weighs about 180 pounds stripped. He started lifting when he was about 16 years old, and states that he developed himself very rapidly. As a young man he gave a "Strong Act" on the vaudeville stage, but he later on took up hand-balancing. He is said to be by far the biggest and strongest "Under-stander" in the business.

His muscles are at the same time massive and beautifully shaped. He claims that while traveling around the country and performing in the theatres, hundreds of boys and men ask how he developed his

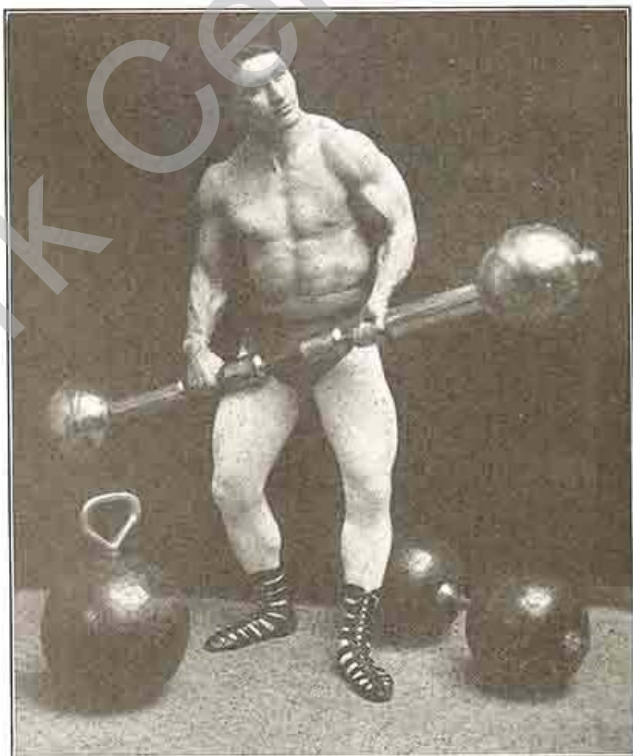


Figure 1. Tony Massimo, lifter, hand-balancer, and Perfect Man.

wonderful muscles, and he said: "I tell them that I *earned* them; that I built them up by hard work with weights, and that if they want muscles like mine they must use weights, like I did."

Massimo is extremely fond of lifting, although he claims that he has very little chance to practice, as he is traveling continually. When I asked him to pose, he immediately consented, but requested that one or two of the pictures show him lifting weights. Figure 1 shows him with an assemblage of bells; it also gives you a good idea of his wonderful arms. The left arm is bent sharply at the elbow, which brings out the great muscles on the upper arm. The right arm is hanging almost straight by the side, but the wrist is bent so as to display the size of the forearm. You can also see the forearm development very plainly in Figure 5, where he is holding aloft a kettle-bell with the right arm.

Figure 4, Figure A, p. 21, and Figure H,

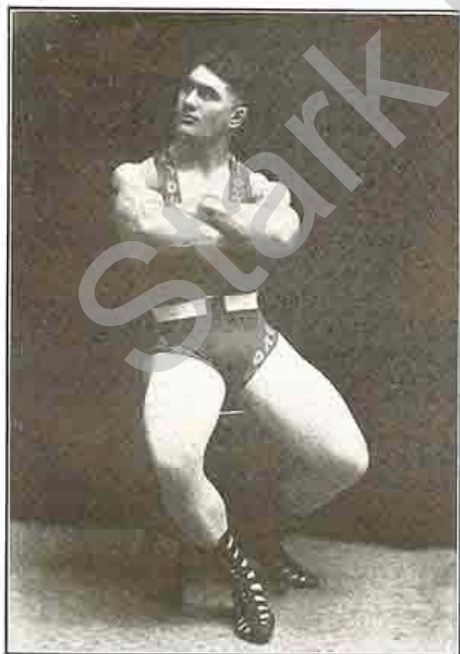


Figure 2. Massimo.



Figure 3. Massimo reflected in a mirror.

p. 24, are interesting, because they are experiments with a new style of lighting. These three pictures were taken by a very powerful artificial light, the rays of which were directed sideways across his body. This brings out the muscles which run vertically. You can see the shadows running up and down. In ordinary studio pictures the shadows run sideways. It is hardly necessary for me to comment on these pictures; they speak for themselves.

The picture on the front cover shows a double view of Massimo; it gives you another opportunity to study his marvelous arm development. His arm looks tremen-

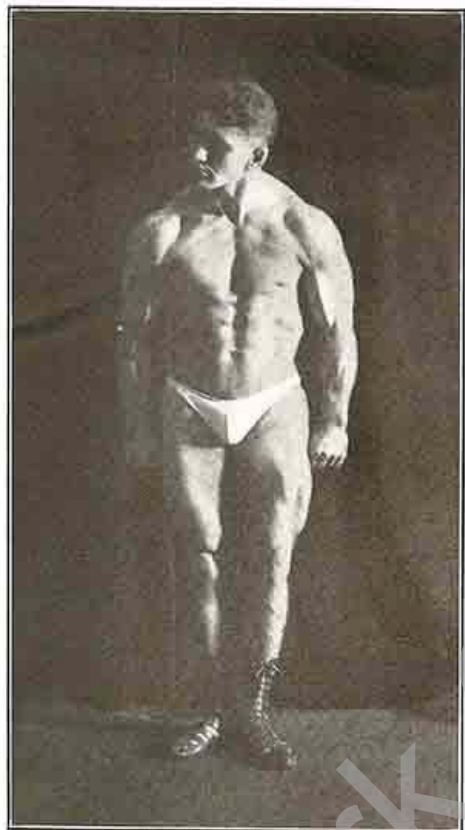


Figure 4. Massimo showing abdominal and thigh development.

dously powerful, no matter from which angle you view it.

Figure 3 is not a picture of Massimo himself, but is his reflection in a mirror. The pose is his own.

Between poses Massimo entertained me with various feats of strength and agility. With one hand he Snatched a 120-pound bar-bell—and he did it without the least sign of exertion. As you probably know, the Snatch is the lift where a bar-bell is raised in one rapid motion from the ground to full arm's length above the head. In describing this feat, the photographer said that it looked as though Massimo was merely picking up a stick and putting it on a high shelf.

In order to display his flexibility, and to prove that heavy weight lifting does not make a man "Muscle-bound," Massimo stood with feet close together and legs rigidly straight; then he leaned over and put his face against his shins. Not one man in 10,000 can do that. This Massimo is as strong as a horse, as quick as a cat, and as supple as a contortionist.

Massimo also did some marvelous hand-balancing stunts, using one of the studio attendants as a human dumbbell, and fairly startled us with the ease with which he handled the man.

Before posing for these pictures Massimo had practiced for a week with a bar-bell which I loaned him, in order, he said, to "make his muscles stand out."

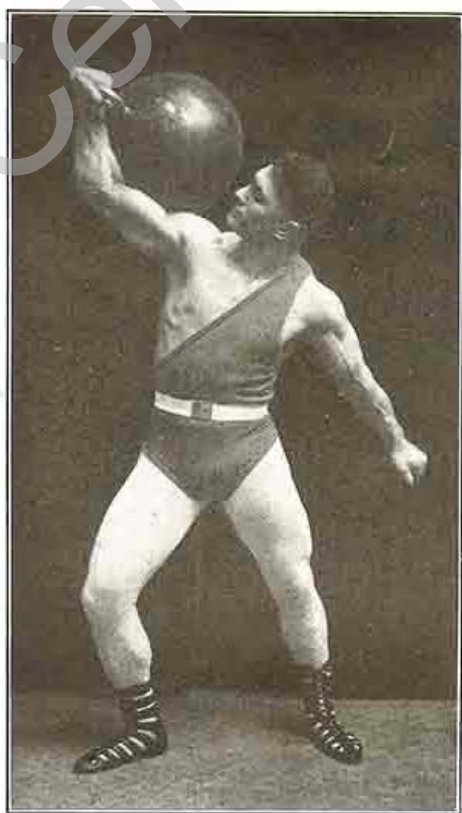


Figure 5. Massimo.

W. H. ODELL

Rochester, Pa., Dec. 11, 1916.

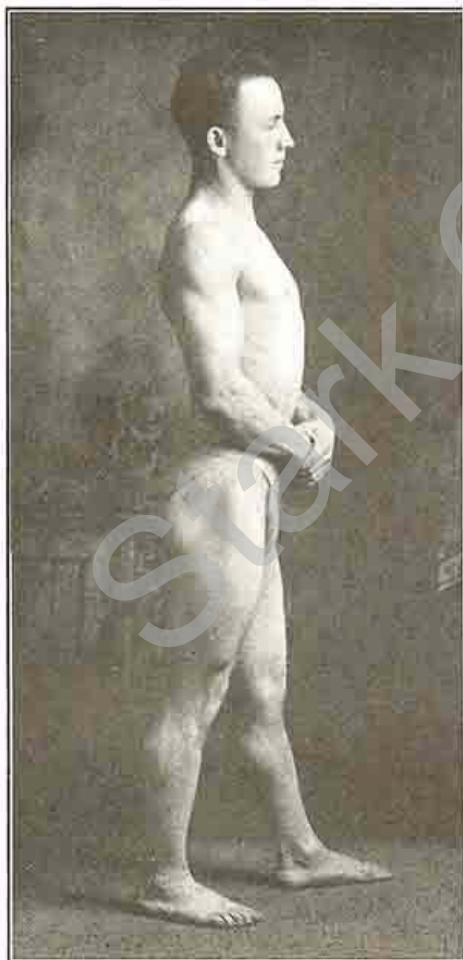
Mr. Alan Calvert,
The Milo Bar-Bell Co.,
Philadelphia.

Dear Sir:—

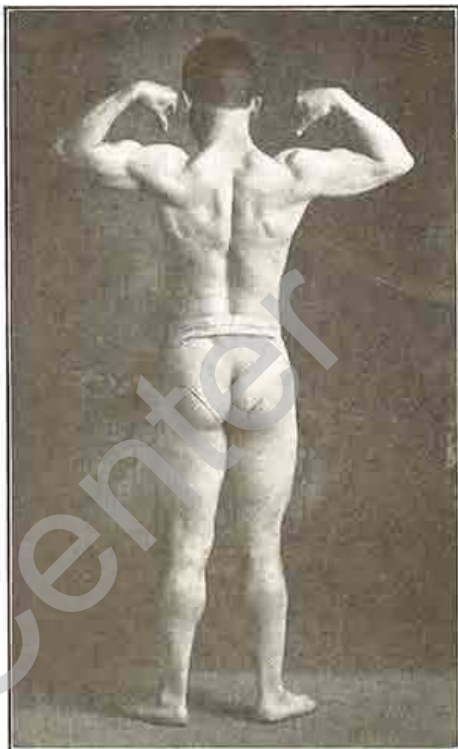
I am writing to let you know that I have completely out-grown the first bell I bought from you, and I am going to exchange it for a larger and heavier bell as suggested by you. I sent you my measurements on a separate sheet. I am very well pleased with these measurements, but I am not going to stop practicing, because I feel sure that I am capable of an even higher development. For instance, I want several more inches on my chest. All the fellows in my shop are very much interested in my strength and development; and while they used to consider me a little fellow, I have now earned the nickname of "Big Steve." With best wishes, I remain,

Yours truly,

W. H. ODELL



W. H. Odell. A pose which displays the thigh development and unusual size of the muscles of the calf of the leg.



W. H. Odell. Note the breadth of the hips and the fine development of the shoulder muscles.

The two pictures on this page show Mr. W. H. Odell, of Rochester, Pa. Mr. Odell's case illustrates my theory of ideal measurements. Mr. Odell stands five feet six inches in height. I append herewith a table showing his measurements before and after training at my System.

	At Start	Now
Biceps	13½ inches	15¼ inches
Forearm	11¼ "	13½ "
Normal Chest ...	36 "	40 "
Thigh	22 "	23½ "
Calf	14 "	15½ "
Wrist	7 "	7 "

You will see that Mr. Odell has exceeded my standard in the measurements of his legs and arms, and is slightly beyond the standard in the chest. When he started his training, his legs were distinctly well developed, but his arms and chest were only as large as those of the average Physical Culturist.

His arms and legs are now perfectly developed for a man of his height, and in a couple of months' more work he can bring his chest beyond the standard. At present the most noticeable points about Mr. Odell are his splendid thighs, and shoulder muscles.

The Back Muscles

(Continued)

By ALAN CALVERT

There are several muscles on the back which do not appear immediately under the skin. For instance, there is a pair of long muscles that run along each side of the spine called the *erector-spinae* muscles. Their function is to straighten the back and control the movements of the spinal column. These muscles are round and thick, but for almost their full length they are overlaid by other muscles. From the waist upwards to the middle of the back these muscles are covered by the thin fibres of the *latissimus-dorsi* muscle. Nevertheless, you can see the shape of the *erector* muscles very plainly, especially when they are

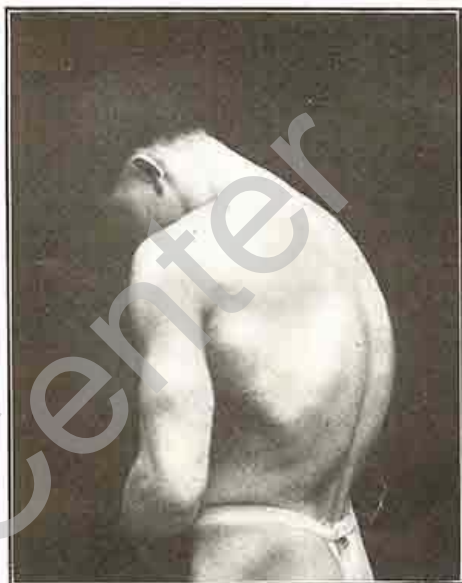


Fig. B. Matysek

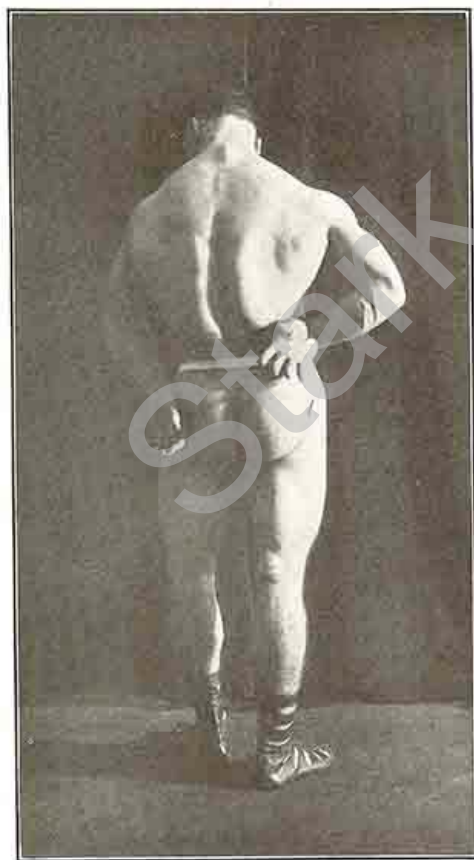


Fig. A. Massimo

well developed, and when their owner is standing upright, or is leaning backwards from the waist. In some men these muscles are so powerfully developed that when the body is erect they form two great ridges with a channel between. The ordinary man has to lean back in order to bring the muscles out in that way, but very well developed men show the formation of the *erector* muscles even when they are leaning slightly forward.

For example, see Figure A. The light comes from the side, so as to make the shadows vertical and bring out the enormous size of the *erector* muscles.

As I said in my last article, the *latissimus* muscle, which covers the whole back from the line of the armpits to the waist, is fastened at its upper and outer corner to the bone of the upper arm. Therefore, by moving the shoulders forward and holding the arms slightly in front of you, as in Figure B, you can spread the *latissimus* muscle to its greatest width. In this figure you can plainly see the outer edge of the *latissimus* as a heavy shadow on the athlete's side, and you can faintly see the top line of the muscle running horizontally across

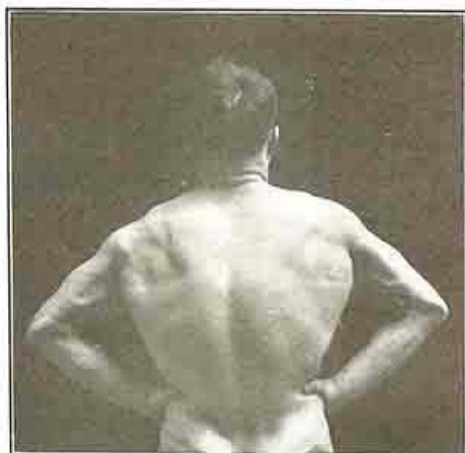


Fig. C. Matysek

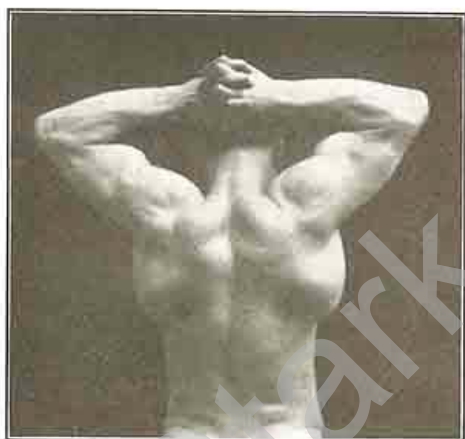


Fig. D. Matysek

the back from the armpit to the point where the vertical shadow along the spine vanishes.

The fibres of the *latissimus* are very thin at the inner edges of the muscles where they arise from the spine. The fibres of the muscle thicken as they approach the sides of the body. Figure B will give you an idea of the thickness of the outer edge of the *latissimus* muscle.

The upper part of the back between the shoulders and up to the base of the skull is covered by the *trapezius* muscles, which I described in a former article. These muscles together form the shape of a four-sided kite with the upper point at the base of the skull. The two upper edges run from that point to the edges of the deltoid muscles on the shoulders, and the two lower sides converge to a point about half-way down the back. You can see the lower points of the *trapezius* muscle very plainly in the picture of Arco, page 13, of the September number of *STRENGTH*.

The shoulder-blades, as you probably know, are a pair of flat triangular bones which overlay the ribs between the shoulders.

Each shoulder-blade is roughly triangular in shape. When the right arm is hanging by the side, the shoulder-blade lies as follows: Starting from where it connects with the bone of the right arm, the top edge of the shoulder-blade runs horizontally towards the spine; the inner edge runs up and down parallel to the spine, and two or three inches from it. The outer or diagonal edge runs from the middle of the back upwards and outwards to where the blade connects with the arm-bone. As the arm is moved and the upper back muscles flexed, the shoulder-blade assumes many different positions, as can be seen by an examination of the pictures in this article.

Whenever you raise the arm upwards and forwards the lower part of the shoulder-blade is pulled outwards—that is, it is pulled away from the spine and towards the edge of the body. In an undeveloped man this sideways motion is hardly perceptible, but in the well developed man the movement of the shoulder-

blade is very perceptible. If you want to get control of the muscles which force the shoulder-blades outwards, raise the arms straight above the head, and hook the fingers of the two hands together. Now reach upward just as far as possible with the hands. The further you reach up the more the shoulder-blades will be drawn outward. This is the way the effect is obtained in the picture of Nordquest, page 24, of the July *STRENGTH*; the picture of Matysek, page 10, of the September *STRENGTH*, and the picture of Snyder, on page 23 of the January *STRENGTH*.

In the last number I mentioned the *serratus-magnus* mus-

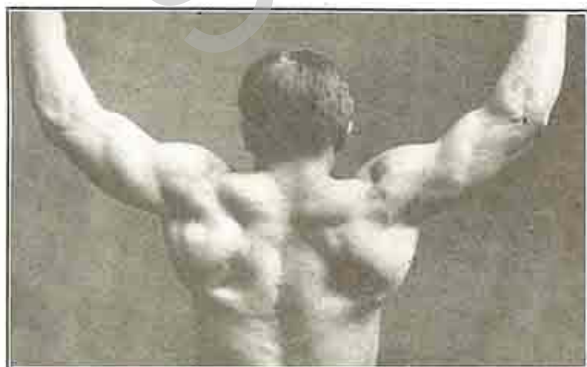


Fig. E. Herold

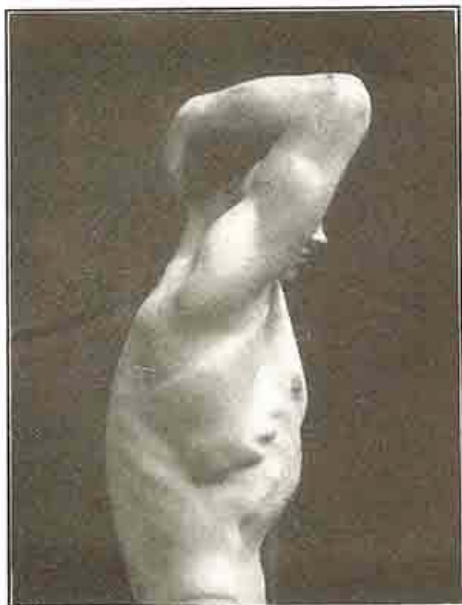


Fig. F. Matysek

the shoulder-blades are pulled outwards, that is, towards the arms and away from the spine. *Second*, if we hold the shoulder-blades stationary and contract the muscles, the arms are drawn downward; or if they are hanging by the side they are drawn close to the spine.

In Figure D the athlete has raised his arms and fixed them firmly by clasping his hands on his head, then he has contracted the *teres* muscles, with the result that the shoulder-blades are drawn outwards, so that they project beyond the line of the body in a high round curve.

In Figure E the athlete is actually pulling downwards with his arms. He is trying to stretch a heavy rubber cord; therefore, he has fixed his shoulder-blades as much as possible, and the muscles are contracting so that they will pull the arm bones downward until the arms are horizontal; therefore, the shoulder-blades are nearer the spine and they project only in a flat curve from the line of the body. If the athlete succeeds in stretching the cord and bringing his arms to a horizontal line, the projection of the shoulder-blades will disappear. In Figure E you can easily trace the upper fibres of the *latissimus* running over the bottom point of the shoulder-blades and upwards to the arm bone. The huge projections on the shoulder-blades are not the bones themselves, but the tense muscles which cover them.

In Figure F the athlete has raised his elbow forwards and to the front. At the same time he has flexed his *serratus* muscles so as to draw the shoulder-blade forward while keeping it close to the ribs. Just below the armpit you will see a long white line running diagonally forwards and upwards. This is the top edge of the *latissimus* muscle. Underneath the *latissimus* you can faintly trace the outline of the shoulder-blade.

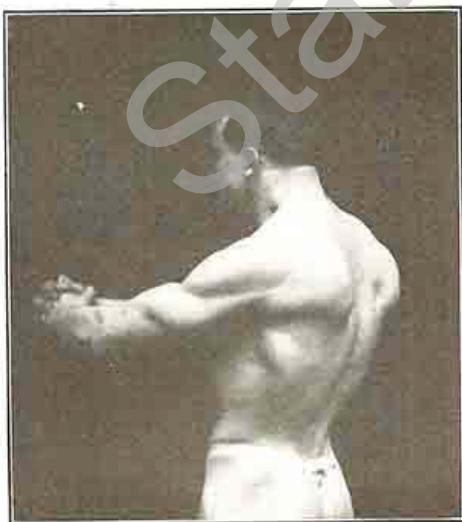


Fig. G. Matysek

In Figure G we have a most unusual muscular display. The athlete has clasped his hands in front of him, and then by relaxing the *trapezius* and *serratus* muscles and contracting the *teres* and *infra-spinatus* muscles, has made the inner edges of the shoulder-blades project outwards and to the rear. The heavy shadow running from the armpit almost to the spine shows the strongly contracted *teres-major* muscle, which runs across to the lower point of the shoulder-blade. Underneath the armpit you see what appears to be a broad spearpoint. This is formed by the contraction of the *latissimus* muscles. Along each side of the lower spine you see the two swelling ropes of the *erector* muscles; on the point of the left shoulder you see very clearly outlined the *deltoid* muscle on the left shoulder; and on the left upper arm, curving backwards under the *deltoid* muscle and towards the shoulder-blade, you see the long head of the *triceps*.

In Figure H we get a most unusual effect, because the picture is lighted from the side, and shows vertical shadows. The body is bent backwards, making the *erector* muscles stand out like cables. The left arm is being pushed downwards with the result that all the muscles lying along the left shoulder-blade are contracted and stand out in lumps. At the same time both shoulder-blades are drawn nearer the spine by the contraction of the *trapezius* muscles. This pair of huge muscles can be seen running from the base of the head to the top of the *erector* muscles. When contracted in this way they make a shape like a huge basin with a depression in the centre.

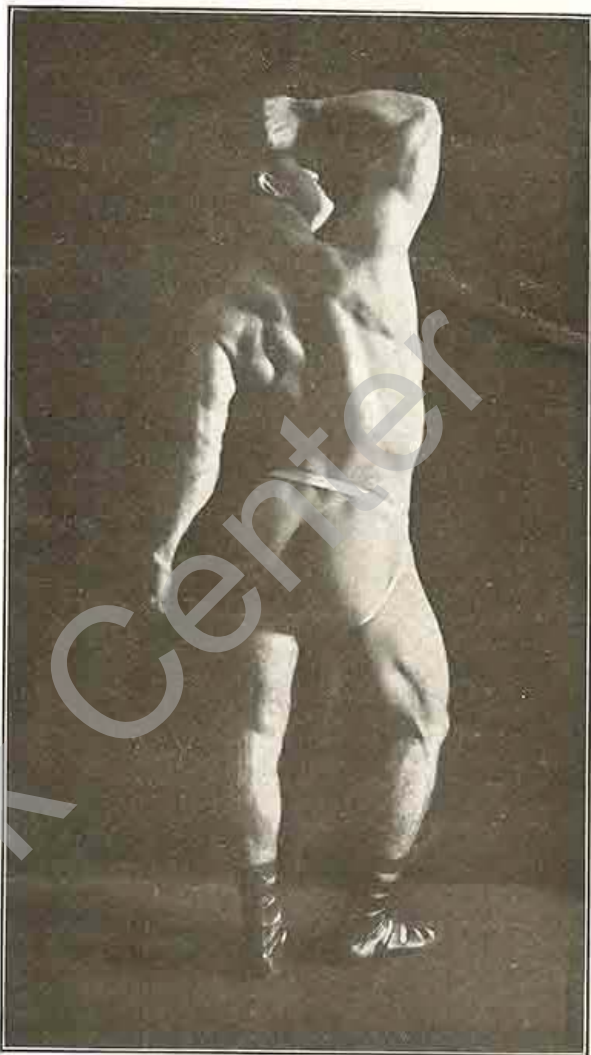


Fig. H. Massimo



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