"STRENGTH"

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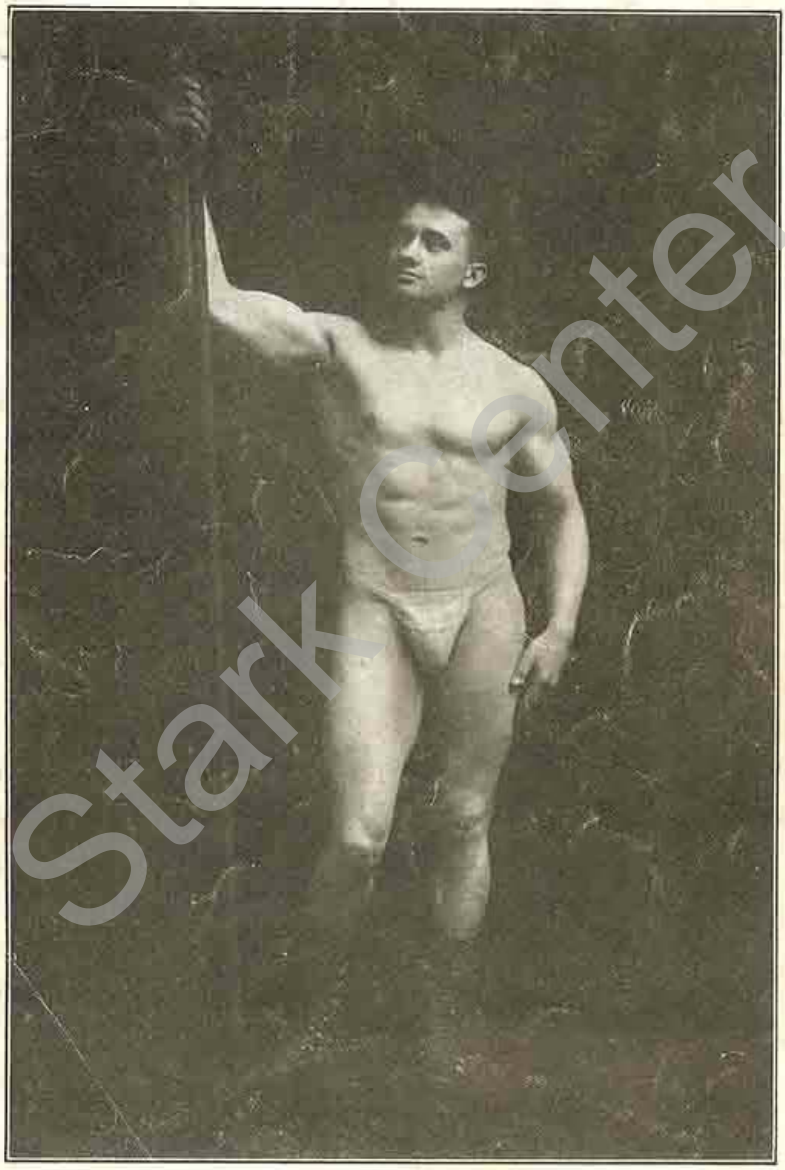
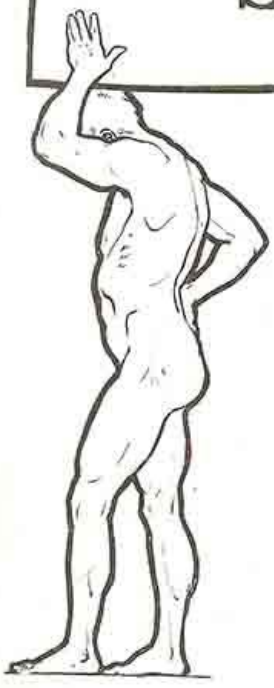
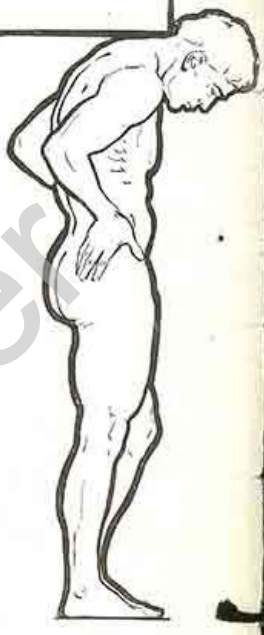


ANTHONY MATYSEK
posed as
"The Resting Gladiator"

"STRENGTH"

MAY, 1917





ANNOUNCEMENT

As this is the first issue of the magazine since I decided to sell it, instead of giving it away, it seems an appropriate time to announce the policy.

The STRENGTH magazine will be devoted to the interests of muscular development, physical strength and bodily symmetry and beauty. As most of my readers are enthusiasts about Progressive Dumbbell and Bar-Bell exercise, it is natural that many of the articles in the magazine will deal with that kind of exercise. In writing these articles I assume that my readers are all fairly posted on the general principles of bodily exercise. I will not, for instance, continually tell you that you should chew your food thoroughly, nor that you ought to take a bath every day, because I believe that you know those things, as most sensible people do.

In my many years of teaching, I have found that there are thousands upon thousands of men and boys who have had experience with light exercise, both the kind taught in gymnasiums, and the kind that is practiced at home. If light exercise produced the results its advocates claim for it, this country would be a nation of Apollos and Samsons; but the trouble with light exercise as ordinarily taught is that it does **not** produce results. There are countless enthusiasts to whom exercise is a pleasure. There are thousands of individuals who are willing to devote considerable time in acquiring a magnificently built and unusually strong body. These enthusiasts realize that the ordinary systems of exercise have failed, and they are looking for a system, or a method, if you choose to call it so, that will produce results. Every year more and more of these men are becoming interested in Pogressive Bar-Bell and Dumbbell Exercise, and in the study of advanced development methods. They are commencing to realize that the *kind* of exercise, and the *way in which it is taken*, count for a great deal more than the quantity of exercise. Also the principle is being recognized that an expert performs an exercise or athletic feat in an entirely different manner from the beginner or student. The expert has learned the exact method of performance which produces results. He has learned which muscles to use, and how to apply the strength of the muscles.

I believe that the teachings of The Milo Bar-Bell Company through the pages of STRENGTH have greatly aided in the spread of such knowledge, and I will continue to give the very best information possible to the readers of this magazine.

The "STRENGTH" Magazine

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Hip and Leg Development

An Important Factor in One's Personal Appearance

By ALAN CALVERT

Few people realize that in a picture of the whole figure the development and shape of the hips and legs contribute far more to the beauty of the figure than the development and shape of the arms and shoulders. I have said this before in the STRENGTH magazine, and I am going to continue saying it frequently, because I find that many physical culturists over-emphasize the importance of their arm and shoulder development.

Make a note of this: A man with finely developed legs and good wide hips and square-built waist, and only fair arms and shoulders, presents a far better appearance when stripped, than the man with tremendous arms and shoulders, and slender legs and hips. The man with the powerful legs gives the impression of great strength and activity. The man with the big arm and shoulder development, and slender legs, merely creates the impression that he is top-heavy. The American public is usually very accurate in its estimates. In this country when we say "athlete" we always think of a man who takes part in sports where the legs play an important part. When it is a question of arm strength alone we speak of "gymnasts." The American public dotes on athletic sports, but has comparatively little time for gymnastic sports. A track meet or a baseball or football game draws crowds. A gymnastic competition attracts only a mere handful of spectators. Professional dancers, especially those performers requiring athletic ability, are far greater attractions than club-swingers or horizontal bar performers. Some of these fancy dancers are very fine looking men. Three years ago Pavlowa had a leading male dancer named Novikoff, and I think that without exception this man had the finest looking pair of legs that I have ever seen. The development of the calves was particularly noticeable, and while his legs were evidently as strong as the "Pillars of Hercules" they gave no impression of heaviness or slowness, but their lines conveyed the idea of supreme activity. In one of his dances Novikoff appeared in conventional "Strong-Man" costume—that is, high-strapped sandals, and half-Leotard. His shoulders were fairly broad, his arms were only a trifle above the average size; but the development from the chest down was so absolutely perfect that you got the impression that the man was a supreme athlete.

When a man practices exercises to develop his legs, he is doing a great deal for his hips, waist and lower chest. A man who has specialized on leg development like these professional dancers have, are always fine jumpers, invariably have very strong waist muscles, and usually are able to shoulder and carry enormous weights.

A man can go into a gymnasium, and, by practicing on the swinging rings, horizontal bars, and parallel bars, can develop splendid muscles on his arms, shoulders, chest and upper back. But unless he takes equally vigorous work for his legs the result will be that his lower chest, his waist and his hips will always look weak. You cannot develop the waist and hip and lower back muscles by doing arm exercises, but you can get wonderful strength and vigor in the muscles of the waist and hip region by practicing *leg* exercises. The development of the waist muscles comes as a by-product to the development of the leg muscles.

In considering the development of the legs, the average enthusiast is

very prone to develop only a few of the leg muscles. Light exercises have been taught for the last generation, and in most of the so-called exercises only two leg exercises are given. In one exercise the pupil-in-training squats on his heels to develop the thigh muscles; in the other exercise he rises on his toes to develop the muscles on the calves of the legs. These two exercises are excellent in their way, but they leave untouched some of the most important muscles in the legs, and it is of these unused muscles that I wish to treat in this article.

In the first place, you cannot develop one part of the body to the full by working that part independently. For instance, you cannot develop the forearm muscles to their full capacity by simply practicing gripping with the fingers, and by bending the wrist. In order to get the highest possible forearm development you must practice arm exercises in which the forearm muscles work in concert with the biceps muscles.

The same principle applies to the muscles on the calves of the legs. You cannot get a full development by merely rising up and down on the toes. Roughly speaking, there are three sets of muscles on the calf of the leg. The first set lays over the shin, and will not be considered in this article. The other two muscles are on the back of the calf of the leg. One of them can be developed by rising on the toes. In order to develop the other muscle you have to perform exercises which involve the use of the muscles of the calf of the leg, and the muscles on the underside of the thigh, and occasionally the muscles of the buttocks. These three sets of muscles constitute part of the chain which might be called the "muscles of progression," that is, the muscles which carry the body forward in walking, or hurl it forward in running and jumping.

A man can practice squatting, and rising on his toes and thereby develop good muscles on the front of his thighs, and equally good muscles in part of the calf of the leg, but his whole leg will never present the athletic appearance of a leg that has been developed by running or jumping or practicing exercises which involve the use of the whole leg, especially of the underside of the leg. The muscles referred to are part of the chain which hold the body upright. If you bend over and pick up a heavy weight, you will notice that the muscles on the underside of the thigh and the back of the calf of the leg are in a state of high contraction; that is, they are working vigorously. These muscles are not developed by picking up an enormous weight once or twice, but by picking up a moderate weight (100 pounds or thereabouts) a great number of times. Whenever you can find a man who can lean over in this way and pick a heavy weight off the ground you will also find that that man has splendid under-leg development and is capable not only of lifting weights from the ground, but also of running at a very fast pace, and jumping for a great height or distance.

The muscles on the front of the thigh are important, of course, but not any more important, if as important, as the muscles we are now discussing. Adolph Nordquest, whose pictures appear on other pages, has wonderful development in the parts we are discussing; so has Massimo, whose pictures appeared in the March

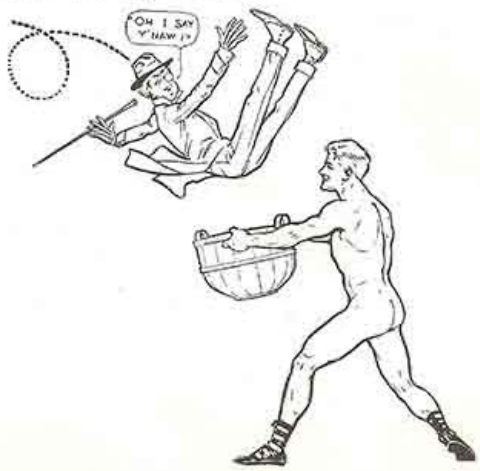
STRENGTH; so have the advanced pupils whose pictures appear in the pages of this magazine.

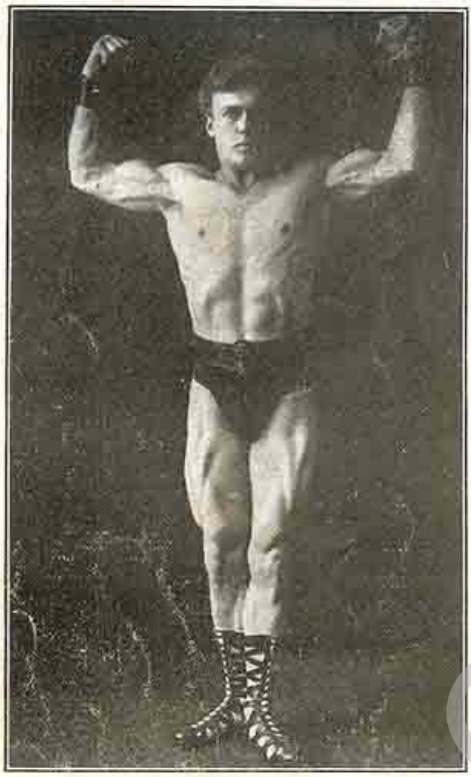
Study the pictures of physical culturists as they appear in other magazines and other publications, and then study the pictures of the athletes in this magazine. The ordinary physical culturist is flat on the back of the leg, and has very little calf development. Men who have developed their legs by special exercise with bar-bells have wonderfully symmetrical legs. Look, for example, at the picture of Mr. Cothran on page 9, the pictures of Mr. Kirgan on page 18, especially that picture where Mr. Kirgan is making a one-arm Press; also note that the men in Mr. Newman's drawings owe part of their powerful appearance to the swelling muscle on the back of the thigh.

There are many ways of developing the muscles in question. Short-distance running, jumping of any kind, or, best of all, hopping on one foot; but the easiest and simplest way is to use a bar-bell of moderate weight and lift it off the floor a great many times in succession while standing with the legs rigidly stiff. The men who can lift tremendous weights off the ground are noted for the size of the calves of their legs. Cyr, probably all round the strongest man that America ever produced, had calves measuring 21 inches around. I once heard of a gentleman who had an 18-inch calf of the leg, and who could lift 1500 pounds off the ground. Whenever you get a splendidly developed calf you will find it accompanied with an equally good development on the underside of the thighs. The man who practices only the exercise of rising on his toes will in course of time develop a calf that is wide from side to side, but has little depth from front to back. Therefore, in order to get a well-rounded calf of the leg, he must practice exercises that develop simultaneously the underside of the thigh and the back of the calf of the leg, and exercises for the muscles of the shin.

Many laborers, porters, longshoremen, and men whose work consists of lifting and carrying very heavy objects, have splendid under-leg development, and this development is the result of leaning over and picking up heavy weights, or else of pushing or carrying heavy objects.

In France they used to have a yearly contest open to all strong men. The man who could push the heaviest laden wheelbarrow up a certain slope was the winner. Gigantic porters, laborers, wrestlers, and weight lifters, took part in these contests. *That is exactly as it should be.* We should have *standard* strength tests which give an equal advantage to all classes of contestants. If possible, we should devise tests that give a fair chance to the strong farmer, mechanic, or laboring man just as much as to the trained lifter. The latter can usually far outdo the best efforts of the strongest laborer, merely because his muscles are of higher quality and are better trained. In the past, some professional "Strong Men" have never allowed the public to compete except at the professionals' own pet tricks; the outsider was never allowed to show his ability in a lift with bar-bells or dumbbells where pure strength was the only requisite. There are several such pure strength lifts, lifts in which the novice can do far better than in some fancy lifts where skill and balance are big factors.





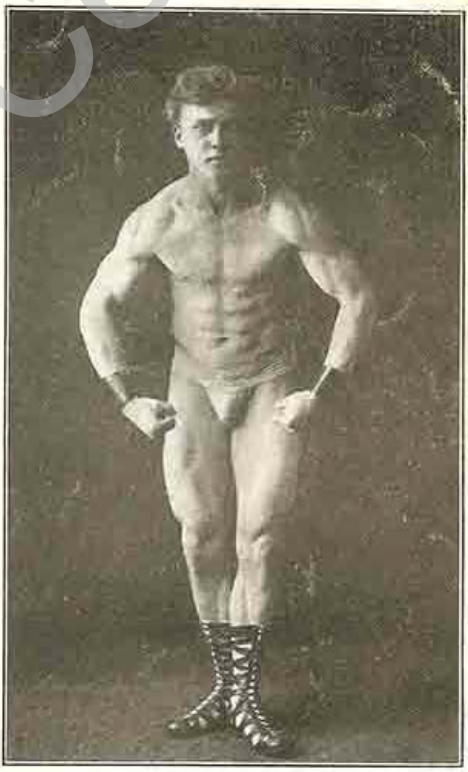
F. ROHDE

Mr. Rohde, of San Francisco, whose pictures appear on this page, acquired his development by a few months' practice of Progressive Bar-Bell exercise. In writing to me, he says:

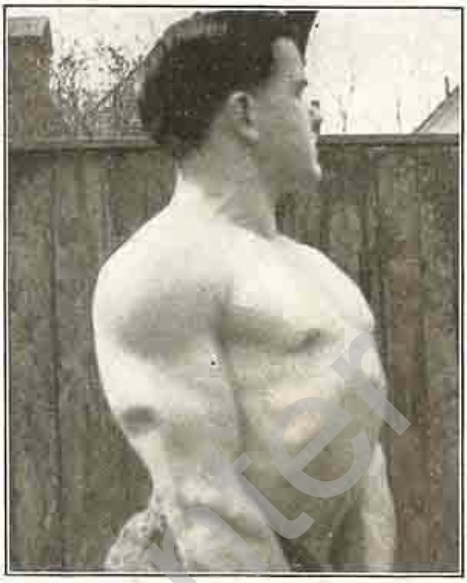
"Your system of training is the only real system for health and muscular development. It builds up a man in every part of his body, and brings his strength and development to a point where he commands the respect of his friends, and is redoubtable to his enemies."

Mr. Rohde's muscles have the clean-cut outlines which denote great strength and contractile power. As I have said many times, the shape of a muscle is almost as important as its size. Many a fat man has a biceps measuring 16 inches, but such an arm is not half so strong as a muscular and correctly shaped arm which measures only 14 inches in girth. When you can get both size and shape, you have supreme strength. Shape is also an indicator of condition. A muscle which is infiltrated with fat has lost part of its power; a muscle which looks thin and stringy is overtrained; a muscle which stands out prominently and has a pleasing outline is in fine condition.

Mr. Rohde gets a great effect in these pictures by simultaneously flexing all the muscles in his body. In the upper picture you get a good idea of his fine upper arm development, the breadth of his chest, and the unusual development on the outside of his thighs. The lower pose was intended to display the abdominal muscles, but it also shows his arms and legs to great advantage, and it brings into particular prominence the deltoid and pectoral muscles to which I refer in the article on pages 21 to 24 of this number.



H. F. BAILEY

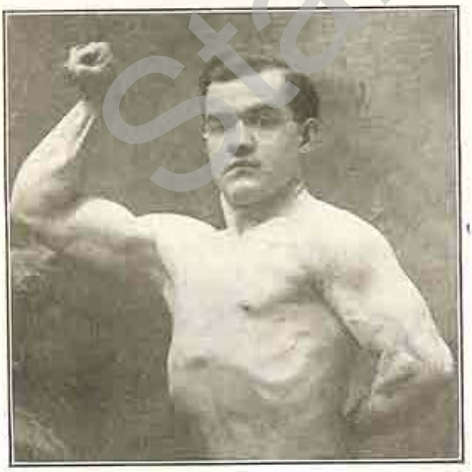


H. F. Bailey

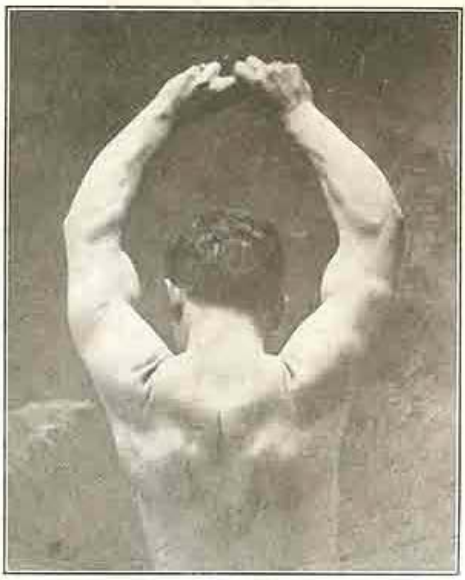
Readers of STRENGTH will remember the pictures of Mr. Bailey, of Buffalo, N. Y., which were shown in the January number. The pictures on these pages show the progress he has made in the last four months. His chest has increased wonderfully in size. The muscles on his back, arms and shoulders are very clear-cut, and are much larger than they were four months ago. If Mr. Bailey is able to train regularly, he should by the beginning of next winter equal the development of Maurice Deriaz, the famous Swiss Strong Man and wrestler. Deriaz and Bailey are both the same height, viz: 5 feet 4½ inches, but Deriaz is 40 pounds heavier than Bailey.

In the top picture on this page you should note the immense depth of Mr. Bailey's chest. In the lower right-hand picture I wish to call your attention to the very sharp-cut muscles on his back and shoulders. This photograph is a very clear one and reveals Mr. Bailey's perfect physical condition by showing the perfect condition of his skin. The lower left-hand picture shows the great development on the inside of the forearm, and the remarkable size of the biceps and triceps muscles, and Mr. Bailey's unusual power of chest expansion.

When I last heard from Mr. Bailey he told me he expected to enlist in the Aviation Corps, and in case he goes to camp his training will necessarily be interrupted. He promises me, however, new pictures from time to time. Even if he cannot work with the bar-bell during the coming summer and winter, he can easily retain his present development by taking a few minutes hard exercise each day.



H. F. Bailey



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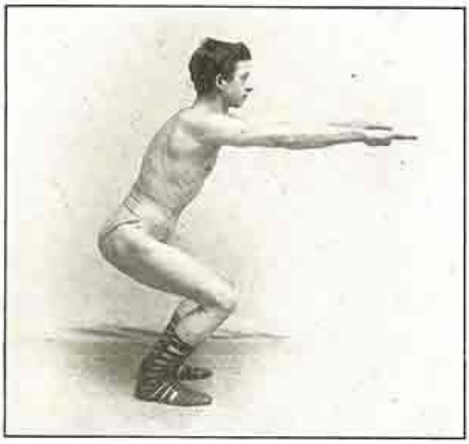


Figure 13

Figure 14

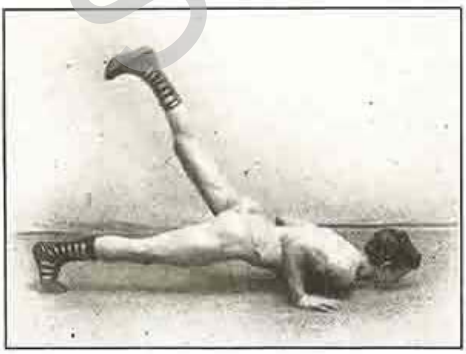


Figure 15

LIGHT EXERCISE

(*Continued*)

These four movements complete the set of Light Exercises which was started in the September, 1916, number of STRENGTH.

It should be understood by the reader of STRENGTH that these exercises have no relation whatever to the different courses in Progressive Dumbbell and Bar-Bell exercise which are furnished by this Company in connection with adjustable bar-bells and dumbbells. These Light Exercises will keep a man in condition, and will enable any man or boy to acquire a fair degree of development, but they *cannot* possibly produce *great* results, or anything marked in the way of muscular development.

EXERCISE NO. 13—TO DEVELOP THE MUSCLES OF THE SHIN: Stand with feet about 10 inches apart, and exactly parallel to each other (do not turn the toes out). Hold the arms out straight in front of you, and bend down, as shown in Figure 13. Do *not* try to squat all the way down, and do not allow the heels to leave the floor. Bend half-way down and force the knees forward as far as possible, and if you keep the feet flat on the floor you will feel a tremendous demand on the muscles on the shins. Full development of these muscles is absolutely necessary if a shapely lower leg is desired.

EXERCISE NO. 14—TO DEVELOP THE MUSCLES OF THE OUTSIDE OF THE THIGH AND THE SIDES OF THE WAIST: Lie down on the side, and then raise the body so that it is supported on the side of the left foot and on the left hand. Keep the body rigidly straight, and do not allow it to sag at the waist. Now simultaneously raise your right arm and right leg, as shown in Figure 14. Lower the arm and leg, and repeat as many times as you can.

After you thoroughly exercise the right side, reverse your position, rest your weight on the right hand and the outside of the right foot, and then raise the left arm and leg.

This exercise will strengthen all the muscles along the sides from the armpits to the knees.

EXERCISE NO. 15—After a moment's rest, lie face downwards on the floor, then raise the body from the ground and allow the weight to rest on

the palms of the hands and the toes, exactly as you do when you are going to perform the ordinary floor dip. Then bend the arms, lower your body until the chest touches the ground, and at the same time raise the left leg as high to the rear as possible. Raise the body by straightening the arms, and allow the left foot to come to the ground. Again bend the arms and lower the body, but this time raise the *right* leg. Repeat as many times as you can.

This exercise is much harder than the ordinary floor dip, and is a good leg developer, because it brings into play the muscles on the front and back of the thighs.

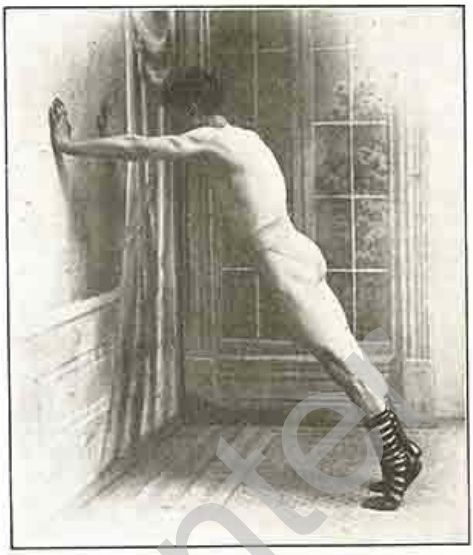


Figure 16

EXERCISE NO. 16—TO DEVELOP THE CALVES OF THE LEGS: Stand facing the wall, with feet about 30 inches from the surbase. Rest the hands against the wall on a level with the face. Now rise up on the toes, and at the same time press the hands against the wall as hard as possible. The calf muscles will be developed by the effort necessary to raise the heels against the pressure exerted by the arms. Besides, this position places the calf muscles in the best and proper position for a full contraction.

By looking at Figure 16 you can see the position of the foot is the same as it would be at the end of a stride. You cannot develop the leg muscles properly by raising straight up on the toes, because the function of the calf muscles is to drive the body forward as well as to lift the heel.

C. D. Cothran

C. D. COTHRAN

To illustrate the principles discussed on page 3, I want to show this picture of Mr. C. D. Cothran, of Selma, Alabama. It is reproduced from a very small snap-shot, and does not give you a real idea of Mr. Cothran's development. Mr. Cothran's arms and shoulders are not extraordinarily large, but by reason of his fine chest, wide hips, and splendid leg development, he presents a better appearance than some of the celebrated gymnasts who have a top-heavy development, that is, fine arms and shoulders and puny legs. Mr. Cothran has a very capable looking physique. He would make a fine oarsman, or a good line-breaking fullback for a football team. His legs and back have the proper driving power. I will show you some more pictures of Mr. Cothran in a future issue.

The May Lifting Exhibition

By ALAN CALVERT

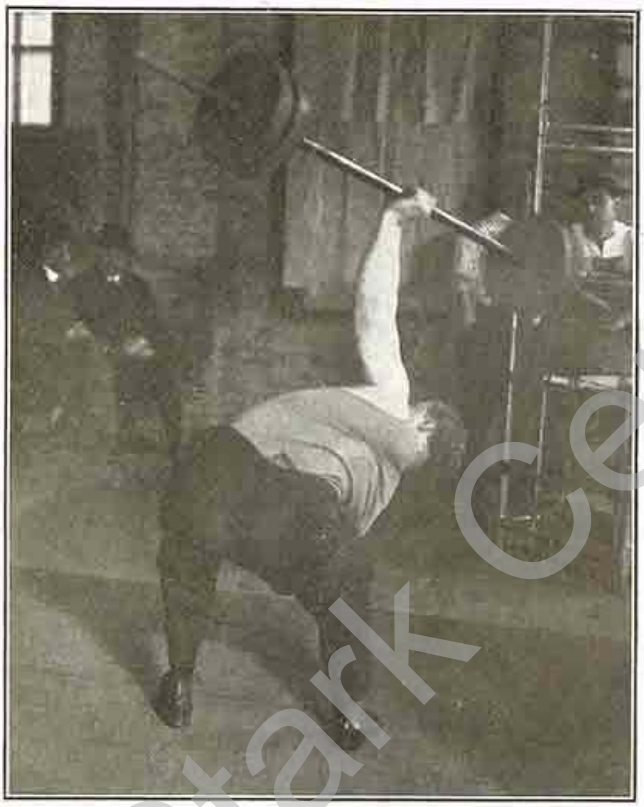


Figure 1. Joe Nordquest does an exhibition one-arm Press with 228 pounds.

The afternoon of Saturday, May 12th, at the factory of The Milo Bar-Bell Company, was devoted to competitive and exhibition lifting. Edward Schultner exceeded his own previous best record in the hand-and-knee lift on our dead-weight lifting platform. Champion Joseph Nordquest was unsuccessful in an attempt to create a world's record in pressing a bar-bell aloft with the left arm. Joe's brother, Adolph Nordquest, created a new world's record in the "Hands-alone" lift; and Anthony Matysek created an American record in his own lift in the Shoulder-stand.

The hand-and-knee lift was the first event on the program, and Mr. Karklin gave the first exhibition. He has been lifting only a few months, but has already become able to make a one-arm press with a 150-pound barbell. He has very strong back and legs, and he lifted 1000 pounds in the hand-and-knee style without much trouble. Mr. Karklin was succeeded on the platform by Mr. Schultner, who made four lifts, the highest weight raised being 1350 pounds, which is 27 pounds more than he lifted in February. Schultner introduced a slight change in his style, which made his lift a new variation of the accepted hand-and-knee lift (as described on page 16, March STRENGTH), and permits him to use the strength of his back in a different way; therefore, his February record of 1323 pounds will stand as our best factory record in the regular hand-and-knee style. It is only fair, however, to say that Schultner is undoubtedly capable of raising over 1400 pounds in the regular style. A couple of weeks of steady practice is all that will be necessary to enable him to reach that mark.

Joe Nordquest was the victim of overtraining. I had told him to prepare for a record-breaking attempt to take place in the latter part of April, and he was in magnificent form at that time and had, on a number of occasions, pressed more than 300 pounds aloft in practice. But the lifting event had to be postponed, which made Joe continue to work at his arduous practice, with the result that on the

day of the exhibition he was "stale," that is, overtrained, and he very wisely refrained from trying 300 pounds, after a warm-up press of 228 pounds had satisfied him that he was not in his best form. The picture on this page shows him in the act of pressing the 228-pound bell.

All of you ambitious young lifters should take a lesson from this experience of Nordquest. In training parlance he "eats work" that is, he takes his exercise in tremendous quantities. No man can do his best *every* day. If you are training for a contest or an exhibition in any line of athletic work, you should practice about four times a week, taking things easy three of the days, and then cutting loose and doing all you can on the fourth day. Joe's ambition led him to do his best every time he practiced, and no one can do that and keep at top-notch form. The 300 pounds will be easy for Joe the next time he goes after it.

Remember, no American lifter has ever publicly made a one-arm press with 300 pounds. Three men (one German, and two Englishmen) have beaten 300 pounds with the right arm; and no one but Joe Nordquest ever has, or can at present, press 300 pounds aloft with the *left* arm.

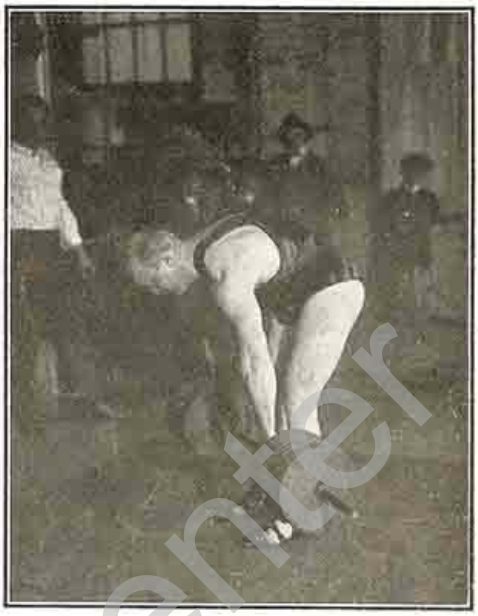


Figure 2. This is the lift in which Adolph Nordquest made his world's record of 638 pounds. It is called the "Hands-Alone Left."

Next we had a most interesting display of strength by Adolph Nordquest, an older brother of the champion. This gentleman has long been a dumbbell and bar-bell enthusiast, and for some years gave a Strong Act on the stage, using the name "Young Sandow." He possesses an amazingly strong back, and he has, in all probability, the greatest gripping power of any athlete in this country. Last summer, when exhibiting at Coney Island, Joe used in one lift a bar-bell weighing over 350 pounds. George Hackenschmidt is supposed to be one of the strongest men who ever lived. In one of his books on training he states that he once lifted off the ground a bar-bell weighing 550 pounds; the handle of the bar-bell was 1¼ inch thick. In making this lift Hackenschmidt merely bent over and grasped the handle of the bar-bell, the knuckles of both hands being to the front. (This is called the *over*-grip.) Hackenschmidt further stated that he had *heard* that a German athlete had lifted 583 pounds in the same way. Adolph Nordquest coveted that record. He brought with him from New York a handle-bar 1¼ inch in diameter. We loaded that handle for him with iron plates, and at his first attempt he lifted 638 pounds fully 10 inches off the ground, breaking the previous world's record by 55 pounds. He then attempted a heavier weight, but in loading the bell we inadvertently made one end a trifle heavier than the other, and this uneven balance caused him to fail in an attempt to lift 675 pounds.

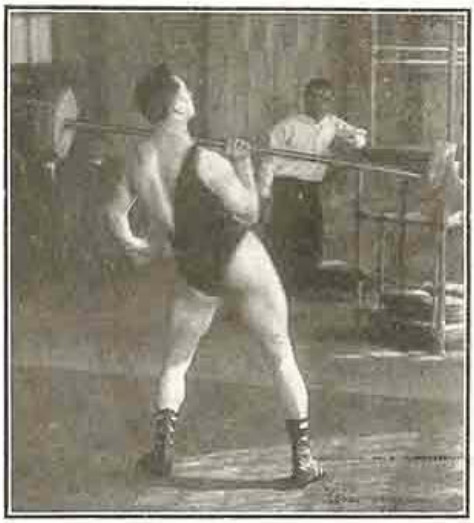


Figure 3. Matysek half way through his one-arm lift.

The picture at top of page 11 shows the method Adolph Nordquest used in making the lift. This is, perhaps, the severest test of strength to which a man can be subjected. If a fairly thick handle-bar is used, the demand on the gripping power of the fingers is tremendous. When you attempt to lift a heavy weight, either your fingers straighten out, or else the bar-bell will roll out over the ends of your fingers. I daresay there are some men who could lift 638 pounds from the ground if they were allowed to use the reverse grip,—that is, with the palms of the hands pointed in *opposite* directions, but I doubt if anyone could equal Nordquest's record if both hands were held in the "over-grip" position.

Next Anthony Matysek attempted to create an American record in the one-hand-clean lift. In this lift the athlete has to raise the bar from the ground to the shoulder, and then from the shoulder to arm's length above the head, and is permitted to touch the bar-bell with one hand only. In pulling the bell to the shoulder, Matysek elected to use the French style—that is, he pulled the bell from ground to shoulder with the over-grip. He pulled 190 pounds quite easily, and pressed it aloft. Figure 3 shows a snap-shot taken just as the bell reached the shoulder, and before he started to press the bell aloft. He then failed at 201 pounds. If he had used the English style, pulling the bell to the shoulder with the under-grip, he would have found it easier to pull 220 pounds in that style than to pull 201 pounds in the French style,—just as it is easier to "chin the bar" when the palms of the hands are toward you, than it is to do the same trick when the palms of the hands are away from you.

Joe Nordquest then obliged with an exhibition two-arm Press. This is a pure strength test. After raising the bell to the shoulders the athlete is compelled to stand erect and slowly and steadily push the bar-bell aloft. The muscles of the shoulders and upper arms do most of the work. No assistance can be gained through the strength of the legs and back. Nordquest pressed easily 245 pounds, as shown in Figure 4. Arthur Saxon's best mark in this lift was 260 pounds. Nordquest has never specialized on this lift, but could probably do better than Saxon's mark with a little practice.

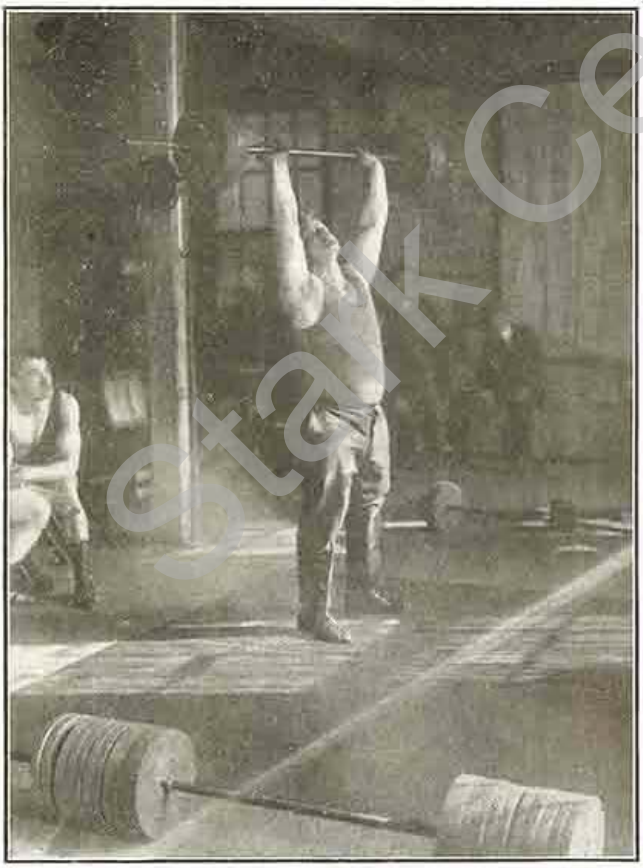


Figure 4. Joe Nordquest makes a two-arm Press with 245 pounds. In the foreground is seen the bar-bell with which Adolph Nordquest made his record.

Matysek then created his new record in the shoulder-stand lift. A description of this lift is in order. Lying flat on the back he pulls a large bar-bell across the face until it is above the chest. Then he gets his feet under the bell and letting go with his hands he pushes the bell upwards by straightening his legs, and after the legs are straight he raises the body until he is balanced on his shoulders and back of his head, as in Figure 5. Anthony started off with a lift of 225 pounds, and afterwards did 250 pounds. At this point, considerable interest was aroused by the entry in competition of Louis Goelz, of Camden. He asked Matysek's permission to try the lift, and quickly demonstrated that he was very familiar with the feat by first raising 225 pounds, and

afterwards duplicating Matysek's 250 pounds. Spurred by this competition, Matysek then succeeded in raising 278 pounds, which, so far as I know, is the world's record in this style of lift. Much more has been *supported* in this way, but the hard part of the lift comes first, that is, at the stage where the lifter has to pull the bell from floor to above the chest and then get his feet under the bar. Goelz is an experienced lifter. He has practiced my system for some time. He only weighs 145 pounds, but can raise almost 200 pounds in the Bent Press, and he is amazingly strong for a man of his size and weight. Matysek invited him to compete at this lift at the next exhibition, and Goelz promptly accepted. Afterwards Schultner asked to be allowed to compete, and so we will have a triangular contest at the next matinee between three of the best lifters in the country.

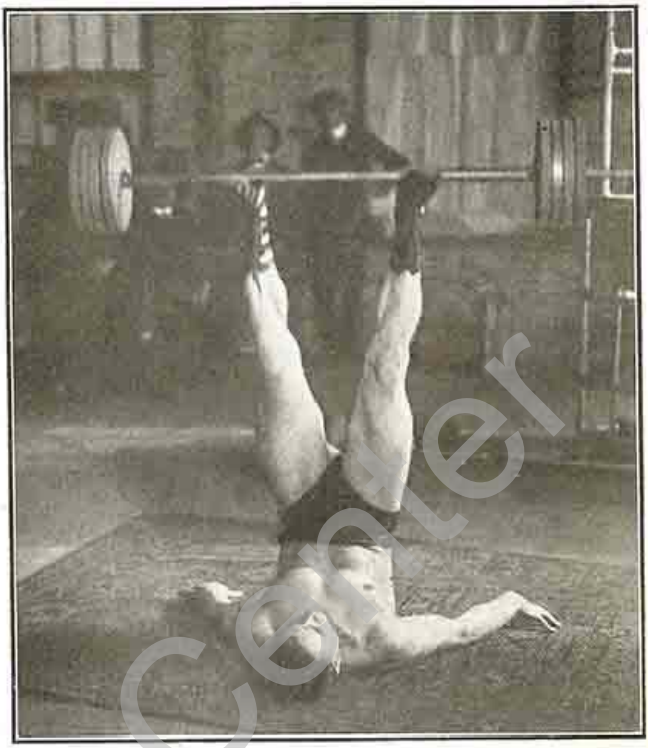


Figure 5. Matysek lifting 225 pounds in the "Shoulder-Stand."

As usually happens, after the completion of the regular program, there were a number of impromptu exhibitions. One of these was the back-hand curl with a special bar-bell. This feat was performed with a special bar-bell of which you can dimly see the outlines in Figure 6. The handle-bar is nearly 3 inches in diameter. The athlete grasps it with the knuckles upward, and the thumbs underneath the bar, then by bending his arms, he slowly raises it from the thighs to the chest. It is a foul if the elbows leave the sides, so in this competition a belt was put around each competitor so that the upper arms could not leave the body. The bar-bell was laid on the pile of boxes and each athlete in turn picked it up at the height of the knees and curled it slowly. Matysek won the event with 88 pounds.

This lift was difficult by reason of the thickness of the bar. It is easier to make a back-hand curl of 125 pounds with a one-inch bar, than to curl half that weight with a bar nearly three inches thick.

At our next exhibition we hope to see a new record created by Joe Nordquest. We have a plan to have a contest at the two-arm Jerk open to all lifters, and we expect to see a keen competition in the shoulder-stand lift between Matysek, Goelz, and Schultner. Other events not yet decided upon will complete the program.

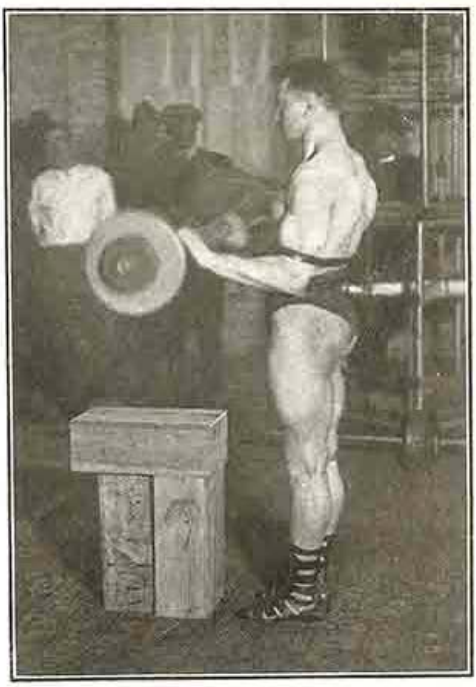
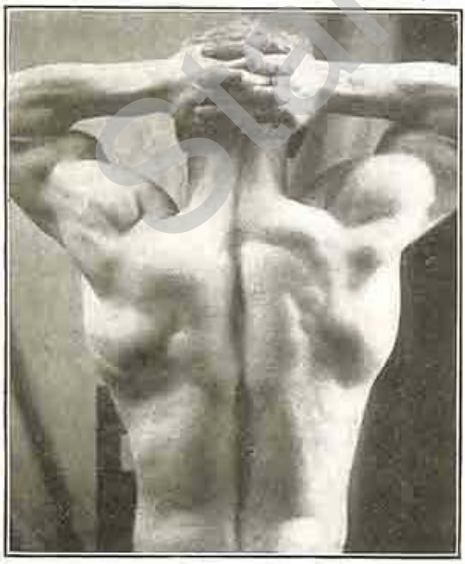


Figure 6. Matysek curling 70 pounds in the Back-Hand Curl.

Adolph Nordquest



Adolph Nordquest

ADOLPH NORDQUEST

On pages 14 and 15 you will find three very beautiful pictures of Adolph Nordquest, whose world's record lift was described on pages 11 and 12. Adolph is the next to the oldest of the Nordquest brothers. I sold a dumbbell to the oldest brother, Arthur, a dozen years ago. All the family used it, more or less. Joe learned to lift with it.

Adolph is built on rather more slender lines than his brother Joe. His bones are smaller, and his limbs are more tapering. At first glance, Joe's forearm appears much larger than Adolph's but that is because Joe's arm is very large right above the wrist on account of his having larger bones. At a point just below the elbow, Adolph's arm is almost as large as Joe's—it has to be big and strong to account for that tremendous gripping power which Adolph possesses. But all his strength is not confined in his forearms. If you look at these pictures you will be unable to detect a weak spot in his makeup.

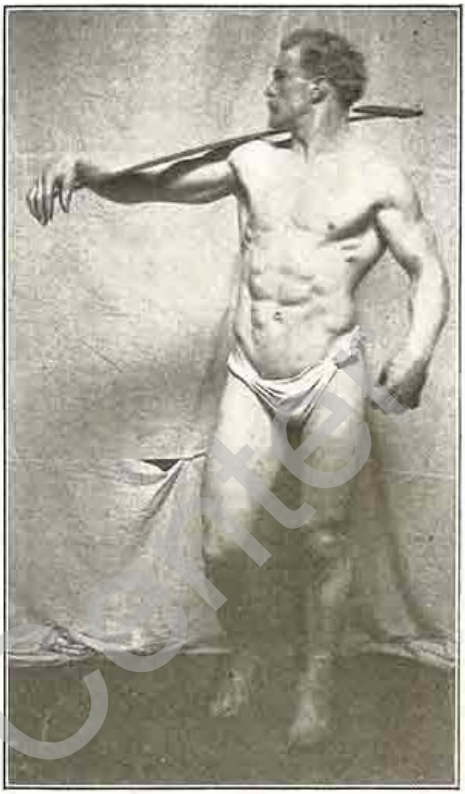
Adolph is the ideal type for a gladiator. He has wide shoulders and very deep chest, but his waist is comparatively small and compact, and the tapering shape of his arms and legs lend an air of lightness and speed to his appearance. He is about 30 years old. Ten years ago he had a great reputation as a sprinter, and he is still able to cover 100 yards in very fast time, and he is one of the best in the country at the standing broad jump. All this supports my contention that the muscles used in raising a heavy weight from the ground are the same muscles that are of principal value in sprinting and jumping.

Nordquest has been interested in lifting for years, but has only lately made up his mind to train for records. In lifting weights from the ground with hands alone he is almost in a class by himself, and I expect to see him establish several new records this fall. When he was training with his barbells he could make a one-arm press with 250 pounds from shoulder to above head, and in his stage act he used to press his partner (weight 168 pounds) aloft with one arm at least a dozen times during the act. Besides being a stage performer, Adolph has marked ability as a writer and as a musician.

In regard to the pictures. One hardly knows which to praise the most. Personally, my preference is for the standing position, although many critics

to whom I have shown the pictures prefer the seated figure. In the back view I wish to call particular attention to the tremendously developed muscles which lie on each side of the spine. I do not think you have ever seen another athlete where the channels between the muscles are so deep.

NOTE: In connection with this lift of Nordquest's, I wish to state that it is not the kind of lift that a beginner should attempt, for the simple reason that there is a great deal of compression on the abdomen. In the "Hand-and-Knee" lift, as described in the March number of STRENGTH, and as practiced by Schultner, MacMahon, and others, there is practically no strain whatever on the abdomen; all the work is done by the muscles of the shoulders, arms, back and legs. The body is held upright, or even bent a bit backwards, so that there is no compression, or no strain, on the abdomen.



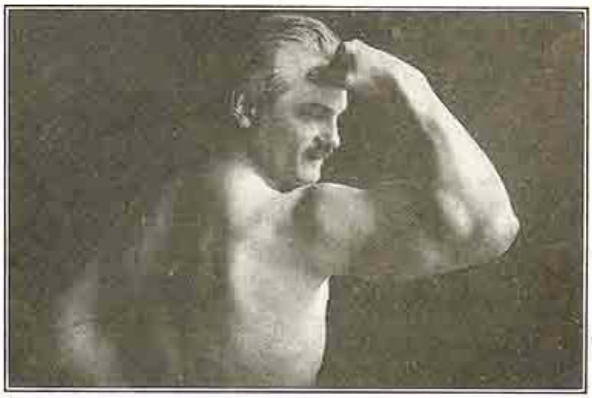
Adolph Nordquest

But in the "Hands-Alone" lift, as demonstrated by Nordquest, the athlete bends over by arching his spine, and when he lifts the weight off the ground the chest and abdomen are compressed or crowded together, and no one should attempt this lift unless he has a remarkably strong set of muscles covering the abdomen, the sides of the waist, and the groin. In Nordquest, these muscles are so immensely powerful that he can safely subject them to strains which might injure a weaker man. When a man handles bar-bells and dumbbells there is practically no strain on the abdomen whatever. In a Bent Press, or any other single or double-arm lift above the head, you never feel any strain on the abdomen, that is why you practically never hear of a bar-bell lifter being injured.

H. CLAY ROCKWELL

Just as the magazine was going to press, I received this picture from Mr. H. Clay Rockwell, of Falls Church, Va., who writes that he is a Milo Bar-Bell enthusiast, and that he practices regularly with the Milo Triplex bell he bought several years ago.

At the age of 40 some men think that they are old. Mr. Rockwell is prepared to prove that in strength and activity he can outclass ninety out of every hundred youths of 20. This picture shows how easy it is to keep in condition by a few minutes heavy work every day.



H. Clay Rockwell

PICTURES AS PREMIUMS

For Susbscriptions to this Magazine

During the past two years hundreds of readers of STRENGTH have written to me and asked me whether they could obtain copies of the pictures which are published in the pages of this magazine. Up to now I have always had to answer such inquiries in the negative, because I did not care to sell original photographs.

The demand for pictures has grown so large that I have decided to reproduce 25 of the best muscular poses which have appeared in the magazine, and I am offering this collection as a premium to those who secure subscriptions for STRENGTH, and I am also selling the pictures direct to those who do not care to ask their friends to subscribe.

Each one of these pictures is *printed on a separate sheet five by seven inches in size.* In making these prints we use heavy enameled paper of the very best quality obtainable, as it is necessary to have high quality paper in order to bring out every detail of the muscles. These pictures are suitable for framnig, or can be tacked up on the wall to decorate your room or den. Readers who have already secured their portfolios say that they have never before seen such a wonderful collection of muscular poses.

In case some of my readers have not seen the special offers in connection with these pictures, I print them below.

SPECIAL OFFER No. 1

The Portfolio of Pictures for 50 cents
(Send stamps, coin, or money order)

We also are giving this Portfolio of Pictures as a premium for subscriptions to STRENGTH, as described in the following offers:

SPECIAL OFFER No. 2

One (1) year's subscription to STRENGTH . .	$ .25
Portfolio of 25 pictures	.50
Total	$ .75

Both for 65c.

(If you take SPECIAL OFFER No. 2, send in your name and address and 65 cents in stamps or coin, or a money order for that amount; we cannot use small checks)

SPECIAL OFFER No. 3

Four (4) subscriptions to STRENGTH at 25c. .	$1.00
(Your own name will count as one of the four)	
Portfolio of 25 Pictures	.50
Total	$1.50

All for $1.00

(If you take SPECIAL OFFER No. 3, you must write out PLAINLY the names and addresses of each of the four subscribers, and mail to us, together with a dollar bill, or a money order for that amount; we cannot use small checks)

And send to THE MILO BAR-BELL CO., Subscription Dep't, 1118 Olive St., Phila.

HOW DOES HE DO IT?

There is a prevailing impression that every Strong Man is built like a brewery horse, and that even when in street clothes the passerby can pick him out by his overdeveloped neck and tremendously thick shoulders.

As a matter of fact, outside of broad shoulders, few of our strongest men show their development when in street clothes. George Hackenschmidt was one of the most powerfully developed men the world has known; yet he was so perfectly proportioned that in street clothes no one would have imagined that he carried an 18-inch arm in his sleeve, or that his thigh was as big around as the waist of the average young man. Some wrestlers present a poor appearance in street costume because they have overdeveloped their necks to such an extent that their heads look unduly small. At one time there was a fad for this tremendous neck development, but it has passed away.

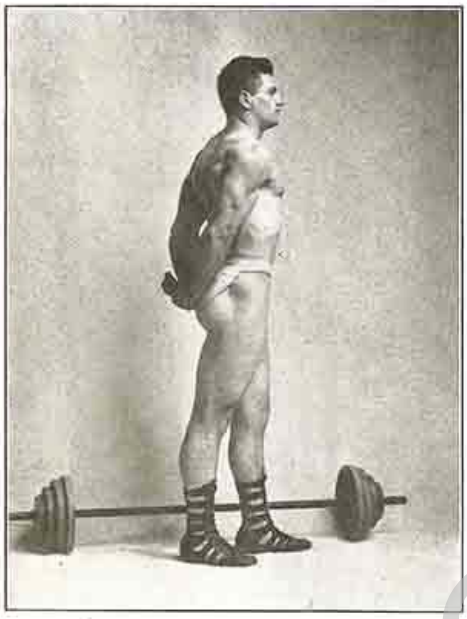
On the left-hand side of this page you see a picture of Matysek stripped for exercise. On the right-hand side, a picture of the same gentleman in street attire. Some authorities call Matysek the most beautifully proportioned man in America, and while his muscles are magnificently developed, he is built on slender lines, and when in street costume no one would imagine that under his perfectly fitting clothes he carries such a panoply of muscles. Matysek carries himself very erect, but there is not the slightest sign of stiffness in his bearing. Anyone seeing him walking along the street would realize that he is a man very light and active on his feet, but there is nothing about his appearance in street costume to betray his marvelous strength and muscular development.

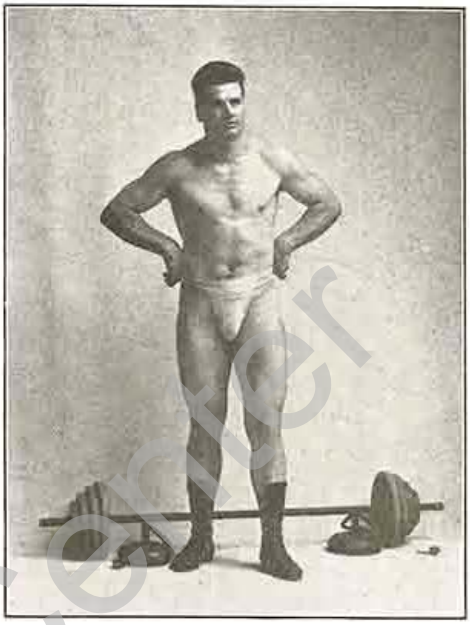
The spectators at the May lifting event gasped with surprise when they saw Matysek's development. They could hardly recognize him as the same young man whom they had seen entering the building in street costume a half hour previously. As one man expressed it:

"How is it possible for a man with such wonderful development to squeeze himself into an ordinary business suit?"

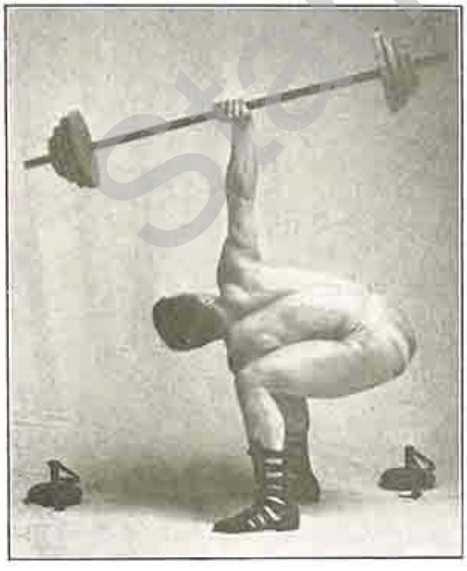
The point, of course, is that it is not an ordinary business suit. If the average man got in Matysek's clothes they would hang on him in folds, because Matysek has a 16-inch neck, and a 44-inch chest, and, as you can see, very powerfully developed arms and legs; and yet his proportions are so perfect that no one who sees him in ordinary garb would suspect the wonderful muscular development which his clothes conceal.

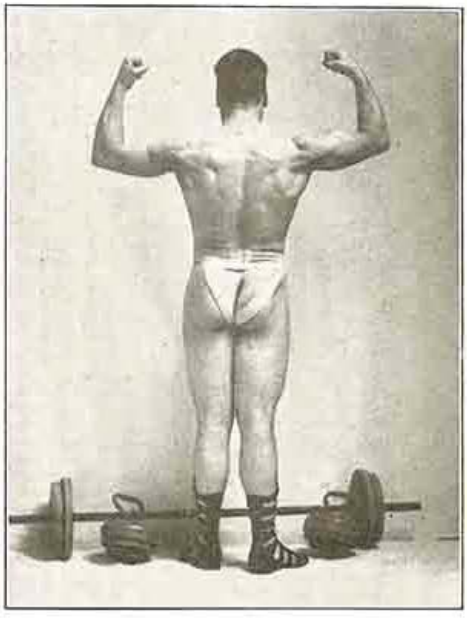
JOHN KIRGAN, JR.





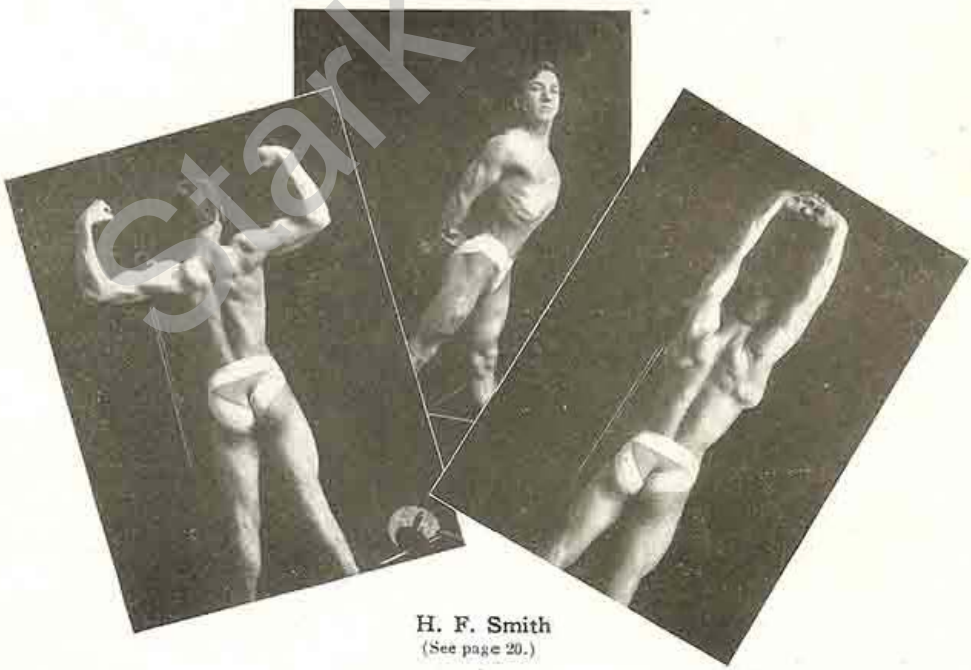
Mr. Kirgan, of Phillipsburg, N. J., took up lifting in the spring of 1916. He started practice after his 22d birthday, and inside of a year he has increased his weight 22 pounds, his normal chest has increased 4 inches (now measuring 42 inches), his biceps has increased to 15⅛ inches, his thigh has increased to 24⅛ inches, his forearm has increased from 11½ to 13⅛ inches, and his wrist now measures 7½ inches. He is 5 feet 10 inches tall.





There are a number of writers on physical culture who claim that the wrist and ankles cannot be increased in size after the individual has passed the age of 21. I do not believe that such a theory can be maintained. Any instructor who trains fancy dancers will tell you that if a young woman takes up the more vigorous forms of fancy dancing she will not only acquire remarkable development on the muscles of the lower leg, but also her ankle will become thicker and much stronger. This is especially true of those artistes who practice toe dancing. Strong muscles require strong bones to give them purchase. Wrists and ankles cannot be increased appreciably by the mere thickening of the tendons which connect the muscles with the bones. Therefore, in a case like Kirgan's and many similar cases, I believe that there is an actual growth in the size of the bones of the forearm. Any man who handles bar-bells has to have a strong wrist. If his wrist is not strong at the start it rapidly becomes so. A man might have magnificently developed biceps, but unless his wrist is strong he would not be able to raise any great weight in one hand.

You should particularly note the chain of muscles which run along the back of Mr. Kirgan's body and limbs from the neck to the heels. As I said in my article on pages 4 and 5, the muscles of progression, i. e., the muscles used in walking, running and jumping, are the same muscles which are most valuable in lifting heavy weights from the ground, or in supporting the body when it is in a bent position. Look at the picture of Mr. Kirgan where he is making a one-arm Press. His body is bent forward to enable him to straighten his arm under the weight. The ordinary man could not hold himself for one second in that position, but every trained lifter has wonderfully strong muscles along the spine and on the underside of the thighs, and on the back of the calves of the legs, and these muscles enable him to bend the body far forward without losing his balance. In the picture of Kirgan you can see the muscles on the underside of the legs standing out very prominently as they take their share of the work. When he is in this position with a 190-pound bar-bell aloft the muscles are working as hard as they would be if he were lifting a weight of four or five hundred pounds from the floor.



H. F. Smith

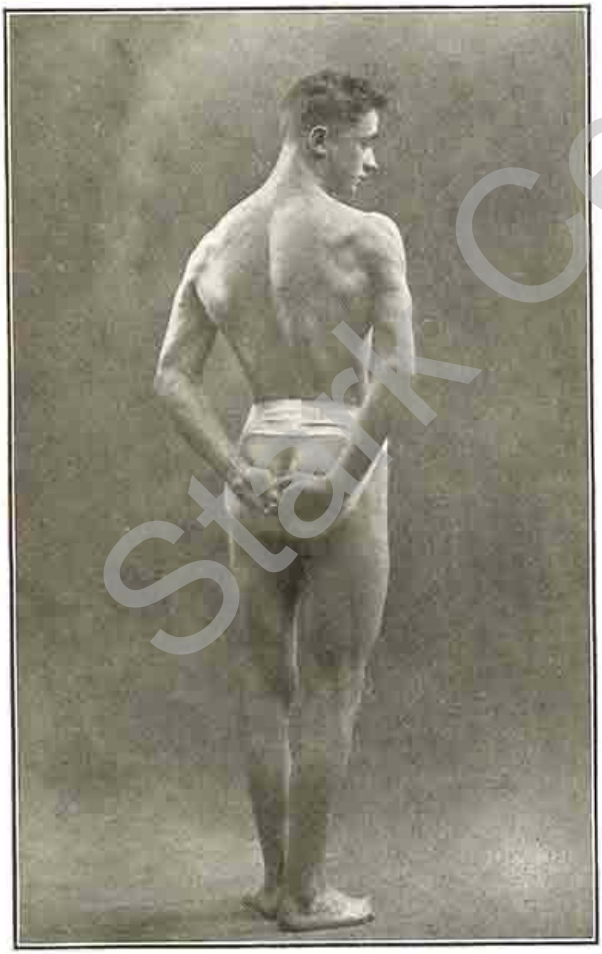
(See page 20.)

H. F. SMITH

H. F. Smith, of Seattle, Washington, whose pictures appear on page 19, acquired his development by a few months practice of Progressive Bar-Bell Exercise. The above photographs were taken last winter, and show the results of about four months' steady practice. His measurements at present are as follows: Normal chest 38 inches, biceps 14 inches, thigh 22 inches, height 5 feet 5½ inches, weight 149 lbs.

He can raise 110 pounds in a one-arm lift above the head, and about 150 pounds in a two-arm lift, and these are very good performances for a beginner of Mr. Smith's size and weight. He tells me that his family and friends are amazed at the improvement in his physique, and they consider him the strongest 18-year-old boy they have ever seen.

Since taking up bar-bell exercise, Mr. Smith has become very fond of those particular lifts which require balance as well as strength. He is giving particular attention to this kind of work, and has become able to balance on his chin a bar-bell weighing 115 pounds. Such feats require great control over all the muscles. Smith sent me some pictures showing his balancing feats, but they were too small for proper reproduction. I expect to show you some more pictures of him in future numbers of STRENGTH.



VERNON C. WEBB

A great many physical culturists have the idea that a slender man will always be slender, and that no man can improve upon the development that nature has given him. For the benefit of those who hold the above belief, I call attention to this picture of Mr. Vernon C. Webb who lives in York, Pa.

Mr. Webb is naturally of a slender build, but he has acquired a fine development by persistent practice of Progressive Bar-Bell Exercise. This picture was taken to show his wonderful back development. The pose he has assumed does not display the full size of his arms, but it will give you an idea of the very graceful lines of his figure and of the great width of his shoulders, and the unusual size of his chest.

When Mr. Webb started training he was extremely slender; today he could pose as a model for a statue of Apollo. His muscles are very clearly marked, and are at the same time very long and flexible, which will doubtless be a surprise to those who think that all lifters have short knotty muscles. The average man is unable to put up with one hand a 50-pound dumbbell; Mr. Webb has become so strong that he is able to take a 175-pound barbell and raise it above the head with the right arm. His present measurements are as follows: Normal chest 39½ inches, thigh 20½ inches, waist 28½ inches, neck 14½ inches, arm 13 inches, weight 142 pounds.

The Chest and Shoulder Muscles

By ALAN CALVERT
Proprietor The Milo Bar-Bell Co.

In this number we will consider the great muscles on the front of the chest (pectorals) and the points of the shoulders (deltoids).

THE PECTORAL MUSCLES

The pectoral muscles cover the front upper part of the chest. There are two muscles on each side of the breast-bone: — the pectoralis major, which covers the upper front chest; and the pectoralis minor, which underlies the major muscle, and does not have much influence on the surface form. There are two pectoralis major muscles, one on each side of the breast-bone. These muscles are fastened at their base to the inner part of the collar-bone (that is, the part nearest the breast-bone), to the breast-bone itself, to several of the ribs, and to the great side muscle. All the fibres of the pectoralis major muscle converge to a flat point, and are fastened to the bone of the upper arm.

In the old Greek statues and drawings of athletes the artist would rarely indicate the outlines of any particular muscles; but in all Greek statues you will find the outline of the pectoral muscles very plainly marked—in fact in many of these statues the only muscles indicated are those of the chest, and the sides of the waist. In most modern men these chest muscles hardly show. While a great many athletes have finely developed arms, shoulders and back, comparatively few have large and powerful muscles on the chest. It is a singular fact that the men of several savage nations resemble the ancient Greeks in their possession of very marked development of the muscles on the chest.

Almost all gymnasts have large pectoral muscles. Practice on the parallel bars and the flying rings seems to develop these muscles to a very great extent. The simple exercise of dipping on the floor helps to enlarge and strengthen them. However, I have never seen any gymnast who could show as large pectoral muscles as are possessed by some of our star lifters.

In Figure 1 we see a picture of Anthony Matysek, with the pectoral muscles relaxed. In Figures 2, 3 and

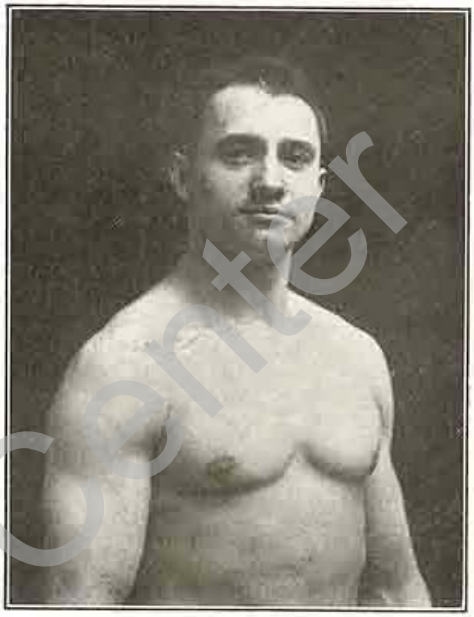


Figure 1

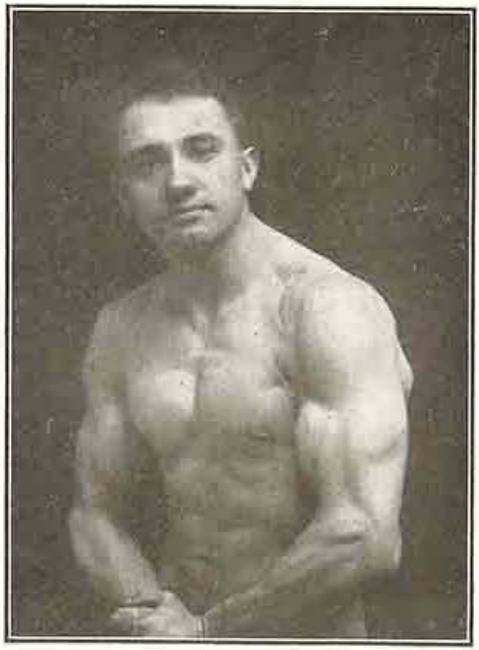


Figure 2

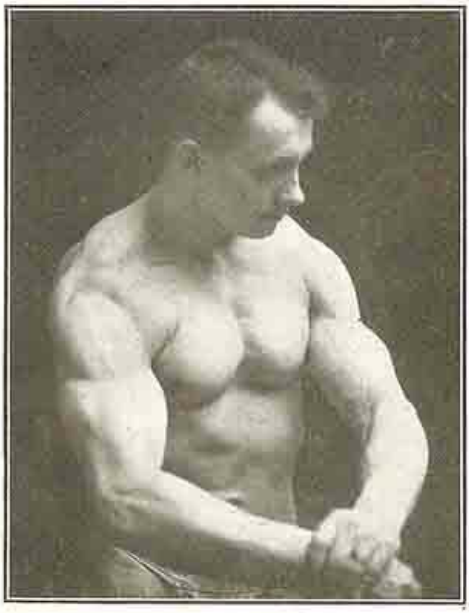


Figure 3

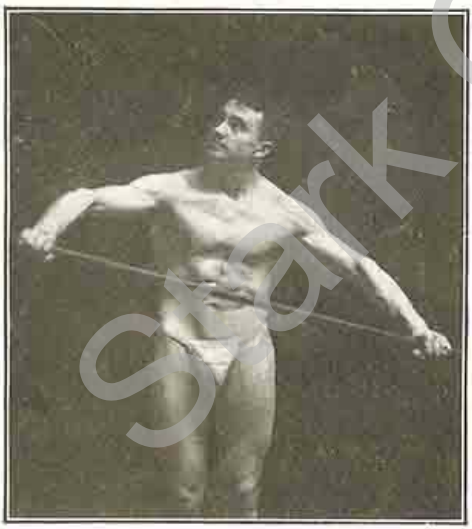


Figure 4

5, the same athlete has flexed the pectoral muscles by pressing his hands together. Note how these muscles lose their roundness and become firm and square when they are tensed and flexed.

The pectoral muscles are tremendously large and powerful. When they are flexed they pull the arms forward across the chest, or if the arms are raised above the head the pectoral muscles assist in pulling the arms downward.

In Figure 4 we have a very good exhibition of the way in which the pectoral muscles act. Matysek has hold of a rod, and is making an effort to pull his hands toward each other. This draws the pectoral muscles into a state of high contraction, and you can plainly see that the main base of the muscles is along each side of the breast-bone, and the fibres converge to a point where they apparently pass underneath the deltoid muscle.

Any muscle when developed and in good condition, exerts a slight but constant pull between its points of origin and attachment—that is, between its two ends. There are a great many physical culturists who have made the great mistake of trying to increase their chest measurement by practicing exercises to thicken and enlarge the pectoral muscles. Naturally, the size of the chest is governed by two factors, viz: the size of the rib-box; and the thickness of the muscles of the chest and back. Some badly instructed students have figured that by thickening the chest muscles they could add considerably to the chest measurement, whereas the truth is that if these muscles are *over*-developed they pull the arm bones forward and make the athlete round-shouldered, and then to cramp the front part of the chest. It is a fine thing to have a big strong chest, but don't make the mistake of over-developing the pectoral muscles. Big muscles on the front of the chest do not necessarily mean that a man has great lung capacity, nor, on the other hand, the fact that a man has big lungs does not mean that he is unusually strong. The most desirable combination is a large lung capacity and a powerfully developed set of muscles on shoulders, chest, sides and back. You cannot develop the pectoral muscles by exercises in which the elbows are kept close to the sides. To develop the pectoral muscles you must perform exercises in which the whole arm is moved forward or downward, or both. Big muscles on the arms are useless unless they are supported by proportionately big and strong muscles on the chest, shoulders, and back. Most light dumbbell exercises develop only the upper arms, whereas bar-bell exercises develop the trunk muscles that control the arms, as well as developing the arms themselves. The man who practices light exercise thinks he is wonderful if he can repeat the floor dip 30 times in succession. Almost every one

of my advanced pupils can, on a test, repeat the floor dip 100 times in succession, and many of them can do it 25 or 30 times in succession with **one** arm. They do not practice the floor dip as an exercise, but the great strength of their arm, shoulder and chest muscles makes it easy for them to excel in this feat.

THE DELTOID MUSCLES

The deltoid muscles lie on the points of the shoulders. When the arms are hanging by the side, the deltoids are shaped like an inverted triangle. They take their name from the Greek letter, "delta" (Δ). The deltoid muscle is attached at its base to the upper part of the shoulder-blade, the bones which form the shoulder girdle, and to the outside half of the collar-bone. The fibres of the deltoid converge to a point and they are fastened by a tendon to the upper arm-bone at a point about midway between the shoulder and elbow joints. The deltoid muscle is really divided into three sections: the anterior, or front section, which raises the arm forward and upward; the lateral, or side section, which raises the arm straight out to the side and upwards; and the posterior section which raises the arm upwards and backwards. When the hand is at the shoulder, all the fibres of the deltoid combine to help raise the arm upwards, that is why the deltoid is the most important of all muscles to a weight lifter.

The shape of the deltoid is plainly shown in Figures 5, 6 and 7. In Figure 6 the athlete has contracted the front and side fibres of the deltoid, with the result that there is a prominence on his left shoulder about the size of a canteloupe. In Figure 2 you can see the right shoulder muscle in a state of vigorous flexion. In Figure 7 the athlete has extended his arms sideways, and is pushing backwards with his hands in order to bring out the rear fibres of the deltoid. If you will study this figure carefully you will see, first, below the base of the neck the top part of the trapezius muscles forming the shape of a basin, and then on the points of the shoulders the huge triangular shaped deltoids.

In Figure 8 the athlete is pushing a heavy dumbbell overhead, and this action brings into play every part of the deltoid muscle. The front fibres of the deltoid form the big curve that runs from the base of the neck to the biceps muscle. In the centre of the muscle you can see the middle fibres lying in

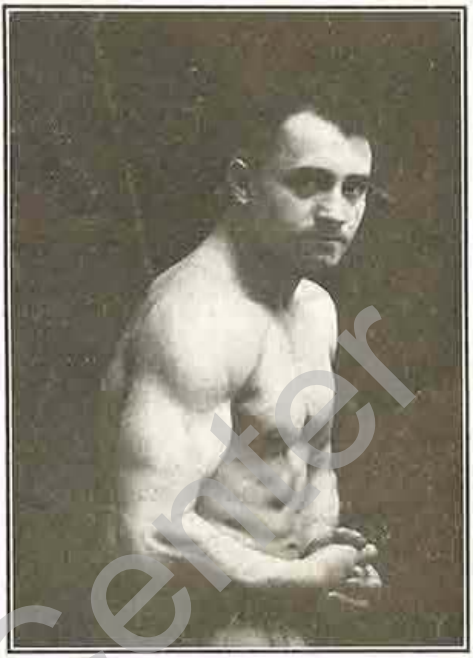


Figure 5

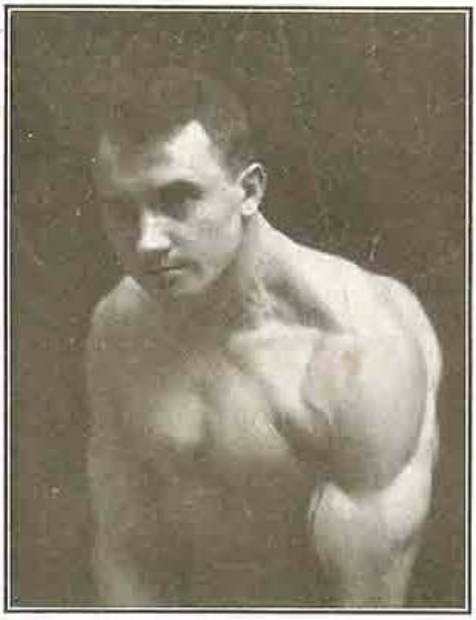


Figure 6

layers, and the back fibres of the deltoid muscle are apparent alongside the point where the upper arm joins the line of the side.

The peculiar rounded shape of the deltoids is partly due to the fact that the muscle covers and protects the shoulder joint.

The more you work the deltoid muscles, the bigger and rounder they become. In the thin man who takes no exercise you can almost feel the top of the upper arm-bone through the muscle. In the well developed man the deltoid muscles are big and round, and they have a very marked effect upon the breadth of the shoulders. If by the proper kind of exercise you can make each deltoid muscle one inch thicker than it previously was, you can in that way add over two inches to the breadth of your shoulders; and let me tell you that an increase of one inch in shoulder breadth would make a very marked change in your personal appearance. The difference between a broad-shouldered man and a *very* broad-shouldered man is only a matter of an inch or so.

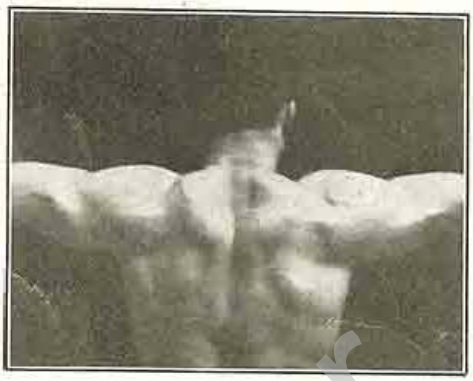


Figure 7

The deltoid muscle cannot be developed *to its limit* unless you practice exercises which raise the arm and at the same time straighten the arm. You cannot develop the deltoids to any great extent by dipping on the parallel bars, because in that exercise when you straighten the arms you push them downwards. Only a few fibres of the deltoid can be developed by dipping on the floor, for in that exercise you push the arms forward as you straighten them. You **can** develop the deltoids by practicing exercises on the flying rings, by practicing hand-balancing, by making hand stands; and, easiest of all, by pushing a bar-bell or dumbbell overhead.

It is believed by many that a well developed deltoid muscle is a sign of vigor and vitality. This may or may not be so, but it is an undoubted fact that the deltoid muscles are the first to decline in size and strength when an athlete goes out of training, and the thinning of the deltoid muscles and the consequent narrowing of the shoulders is often pointed out as a sign of approaching old age. It is a curious fact that most men with very powerful deltoid muscles have tremendous lung power. I have often noticed that of my advanced pupils the ones who have the biggest deltoid muscles can keep up hard exercise far longer than the ones with less deltoid development. The only explanation I can think of is that in the course of acquiring such deltoid muscles these men have raised their arms aloft a great many times against great resistance, and, as we know, the more vigorously the arm is trust aloft, the more vigorous is the action of the muscles which raise and spread the ribs apart.

In almost all countries, the palm for strength is given to the man with the strongest shoulder muscles. In almost all communities the strongest man is considered to be the one who can "muscle-out"—that is, hold at arm's length sideways—the greatest weight, and that particular feat is the best possible test of strength of the deltoid muscle, and of the vigor of the athlete who performs the feat.

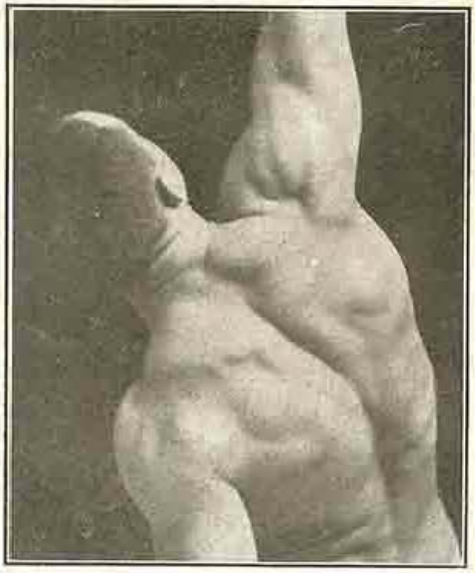


Figure 8