

Mrs Mary Skove



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The Institute held its first session during the summer of 1861, and on the 5th of Sept. celebrated its first "Commencement," graduating a class of fourteen.

List of Graduates of the Class of 1861.

ABBY W. MAY,	Massachusetts.
EMMA A. BUGBEE,	Massachusetts.
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The Institute will hold two sessions annually, the first, beginning on the Second day of January, the second, on the Fifth day of July. Each term to continue Ten Weeks.

A faithful attendance during one term will secure to persons of aver-

age capacity the Diploma of the Institute.

Tickets for the course, . . .	\$75 00
Matriculation fee,	5 00
Diploma,	10 00

Ladies will be charged twenty-five per cent. less than the above prices, and that reduction is made because of the unjust disparity of compensation which everywhere obtains between male and female labor.

Good board and room can be procured in Boston, during the summer, for \$3.00, \$3.50, and \$4.00 per week. During the winter term, from \$3.50 to \$4.50.

The compensation for teaching the new gymnastics is much larger than teachers of our public schools receive. Indeed, any qualified teacher of these new, fascinating modes of gymnastic training, would, in any part of the Northern States, manage badly, if the earnings were not five times as large as are generally received in those schools. As no permanent fixtures are used, any hall with good light and ventilation might be occupied.

Were five thousand teachers now ready, they could all enter upon a splendid business. The graduates of the class of 1861, notwithstanding the paralysis resulting from the great war, entered at once upon profitable engagements.

It may be a consideration of interest to some persons, that ladies or gentlemen in delicate health will, in the new occupation, soon become healthy and strong. An exception to such a result would be scarcely possible.

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One department of LEWIS'S Gymnasium is devoted to the "Swedish Movement Cure." By no other means can Curvature of the Spine, Paralysis, and many other forms of Chronic Disease be radically cured.

An assistant of either sex will be in constant attendance, to render such aid as may be required in the prosecution of this special work.

LEWIS'S NORMAL INSTITUTE

—FOR—

PHYSICAL EDUCATION.

The next term of the "NORMAL INSTITUTE FOR PHYSICAL EDUCATION" will open on the 5th day of July next, and the Commencement Exercises will occur on the evening of September 15th.

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Several private institutions have already expressed an intention to place one of their teachers in the Normal Institute during the next course, in order to carry forward within themselves this branch of education.

A lady or gentleman possessing enterprise and industry, can come to Boston on the 5th day of July next, and on the 15th day of September can leave, prepared to practice a profession which is exceedingly useful, healthy, and in every part of the northern States, very profitable.

A Circular containing much information interesting to candidates for the new profession, will be forwarded to all applicants.

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Mr. Gannett has just now added to his elegant establishment in Pemberton Square, the beautiful hall known as Lyceum Hall, which will hereafter be used as the principal school room. In Lyceum Hall, *physical culture*, which has deeply and practically interested Mr. G. for years, will receive a new impulse.

I have had the honor to conduct this department of the Pemberton Square Seminary during the past two years, and shall add many facilities in the new hall.

WORKS IN PREPARATION.

Within the coming year, I shall publish Three Works, devoted to the *Movement Cure Treatment of Chronic Maladies*:—

“AFFECTIONS OF THE ORGANS OF THE CHEST, WITH THEIR TREATMENT BY THE MOVEMENT CURE.”

“AFFECTIONS OF THE ORGANS OF THE ABDOMEN, WITH THEIR TREATMENT BY THE MOVEMENT CURE.”

“SPINAL CURVATURES AND OTHER DEFORMITIES, WITH THEIR TREATMENT BY THE MOVEMENT CURE.”

DIO LEWIS, M. D.

- Count *Three*: Bend to the right angle, D.
 “ *Four*: Stretch it out.
 “ *Five*: Bent it to an acute angle, A.
 “ *Six*: Stretch it out.
 “ *Seven*: Bend until the hand approaches to the shoulder.
 “ *Eight*: Stretch it out.

Alternate by *inversion*.

It is useful to vary these movements, so that the bending and stretching of the arms, alternately or simultaneously, is executed slowly, or with swinging or *jerking* motions of the arms, or with the lower part of the arm striking out.



Figure 5.

2. At *Fig. 5*, the arm is in a position for the thrust. The reverse of this is the forward *thrust* or charge, when the arm is *stretched* out to its full extent, likewise in a straight line, *Fig. 5, B*. We regulate these two exercises thus: the arm is drawn in at count one; but the forward charge is in 2-2 or 3-3 time, according to how far the dumb bells are carried, whether 1-3 or 2-3 of the length to which the arm

will stretch. The drawing in may be done in time divisions if desired.

Our readers will infer, from what has been previously said, how greatly this exercise may be varied.

The *twist thrust* is a variation particularly valuable. When a thrust has been made into the forward horizontal direction, spoke grasp, immediately after a short drawing back of the arm, a second thrust follows, in which the lower arm is twisted so that the thumb is thereby turned downward.



Figure 6.



Figure 7.

3. An easy exercise is formed from the previous one, with the *up* and *down* charge of the dumb bells, (*Fig. 6.*) Time 4-4. From the hanging down position of the arms, A, they are drawn back, B, ready for the charge at count *one*.

Two: Arms stretched to the position seen at c.

Three: Arms drawn back for the charge, dumb bells over the shoulders, little finger uppermost.

Four: Arms charge upwards, D.

The pupil may associate with this exercise local

walking in 4-4 time, accenting count *one* with a stamp, to designate the *up* or *down* charge. It becomes still more difficult, if with the local walking in 4-4 time, be united the upward charge of the dumb bells, holding them in this position during one measure.

4. When the arms are drawn back over the shoulder, the charge is upward; when under, it is downward; when in front, it is forward.

5. We designate the exercise shown in *Fig. 7*, as the HORSEMAN'S CUT.

In this exercise, the right hand is drawn over the left shoulder, as seen in *Fig. 7*, A. From this position a vigorous blow is executed, from high to low, the arm being fully stretched at the middle of the curve B, C. It is executed with the right and left alternately. The stroke can be made upward to the shoulder, from the hips, as well as downward, commencing with the left arm.

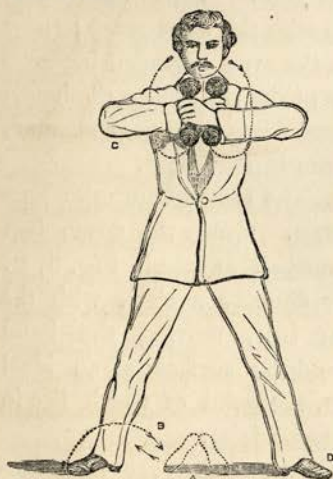


Figure 8.

6. THE FOREARM CIRCLE.

Take the bells with the spoke grasp, and bring them to the position seen in *Fig. 8*. The right arm makes a circle around the left arm, whilst the left arm makes a circle around the right arm. It may be reversed, alternated, and made more or less rapidly. The upper part of the arm is kept in the horizontal position.

7. The THRUST STRIKING EXERCISE. This is an agreeable exercise, compounded of thrusting and striking movements. It is executed in 3-3 time, thus :

Count *One* : The arms are swung from the sides, in the direction of the curve A, to the position seen in *Fig. 9*.

Two : Made to cut the curve B, C.

Three : Thrust down.

In making the upward curve, the arms should be kept perfectly straight.

C.

Hand Exercises with Dumb Bells.

There are but a limited number of these, on account of the limited action of the wrist joint. We introduce the following :

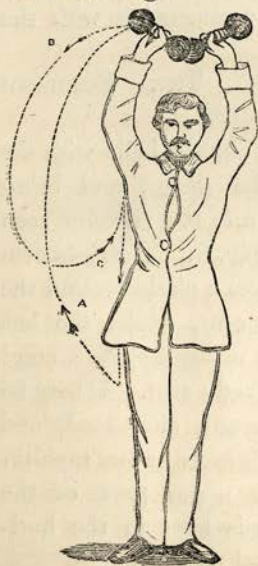


Figure 9.

1. The UPTURNING HAND EXERCISE. Take the dumb bells with the wrist grasp ; now with the arms extended horizontally at the side, move the hands up and down in an easy manner, as seen in *Fig. 3, F*.

2. The HAND CIRCLING EXERCISE. Grasp the dumb bell by one ball, as seen in *Fig. 3, E*. Now describe a circle with the other ball, moving the hand around the surface of an ideal cone, the point of which lies in the wrist joint.

These exercises are very useful to those who habitually have

cold hands; to those who in writing or similar labor, produce a one-sided activity of that member, or where there is a weakness in the wrist joint. They should be executed with the arms extended.

D.

*Special Importance of the Dumb Bell Exercises,
described in A, B, and C.*

Our readers have no doubt seen, and perhaps experienced in their own persons, that the exercises already described, affect the whole muscular system, and particularly the muscles of the shoulders, arms and upper half of the trunk, in which is contained those important organs—the lungs, heart, large vessels and nerves. Upon the size of this chest cavity and the mobility of its walls, depend the perfection of respiration. Physicians ascribe those numberless diseases of the lungs and heart, including that depopulating disease, Consumption, (which carries away its millions) to a contracted chest, which lessens the space for the play of those organs contained within it. These exercises all tend to the enlargement of this cavity, and to the normal arching of its walls. The broadly arched chest of those who have had gymnastic training, forms an agreeable contrast with the weak, contracted chests of those who inherited predisposition to pulmonary affections, and who are readily recognized by their short breath, stooping forms and constant disposition to cough. As the size of the chest is increased by these exercises, so is the size of the lungs augmented, respiration perfected, and a susceptibility to those insidious diseases lessened.

A second advantage of these exercises is, that

thereby the irritability of the nerves is distributed more evenly over the body; and, as in pulmonary diseases the lungs are particularly irritable, to equalize it, is exceedingly important. If every one would make it his special care to strengthen those organs, lung diseases would become rare.

The heart is greatly improved by these exercises. With every movement its activity is accelerated, and being a muscle, like other muscles, it must increase in steadiness, size and vigor. There is a close connection between the size and power of the heart and the amount of exercise taken. Anatomists always find this organ large and firm in those who devote their lives to muscular labor, but small and flabby in those of sedentary habits.

Dumb bell exercises have an important effect on the skin. Many dangerous diseases are caused by a feeble circulation in this organ; and there exists no more effective means for securing its normal development, than vigorous muscular exercise.

To those whose organization demands special care, we advise, first those exercises described for the hands; next those for the elbows, and then those for the arms.

CHAPTER IV.

Dumb Bell Exercises with varied positions, having special reference to the Development of the Lower half of the body.

Although the arms, to some extent, participate in the exercises given in this chapter, their relation to the development of the abdominal organs, legs and feet, is the same that those given in Chapter III, sustain to the development of the chest, arms and hands. When

united with a changing of the position, their scope is very great.

A.

Movements of the Leg.

1. In the previous chapter was shown, how dumb bell exercises could be combined with local walking; in this we add, that they can also be combined with walking from place to place. The exercise may be varied by walking forward two steps on *tip toe*, and alternating with two common steps. When walking on tip toe, the dumb bells should be carried in the sideways, horizontal, or oblique position; when the usual step is taken, they should be in the hanging down position.

There is one kind of walking especially adapted to unite with our dumb bell exercises, and which is practiced in 2-2 time. The pupil stands in the locked position of the feet.

Count *One*: Left foot takes one step sideways.

“ *Two*: Right foot follows, and the locked position is restored. This may be varied by taking a forward step with the left foot at *one*, and following it with the right foot at *two*. When the forward step is taken with the left foot, raise the left arm to the horizontal position and let it sink down when the right foot follows; in the same manner the right arm is raised, when the right foot takes the first forward step. Finally follows the raising or thrusting out of both arms at each forward step, and the falling down or drawing back of the arms at the second step.

An exercise in which the lower extremities participate with still more energy, may be executed in this

manner: First, take the forward step with a light spring or jump. Second, let the same step be a little to the left, and come down upon the point of the left foot in such a manner, that the weight will be supported by an elastic bending at the knee and foot. When the spring step is taken, swing up the dumbbells to the sideways oblique position. When the next step is taken, which brings the support of the body on the point of the left foot, the dumb bells are to be let down again.

We introduce next an exercise more easy of execution. Feet in the locked position. Both dumb bells are taken in the manner indicated by *Fig. 12, A*. Time, 4-4 moderate. Count *one* and *two*. Raise the body upon the points of the feet, and let it down slowly upon the soles again; simultaneously with this movement, stretch out both arms to the upward pointing position, and draw them back again. Count *three*

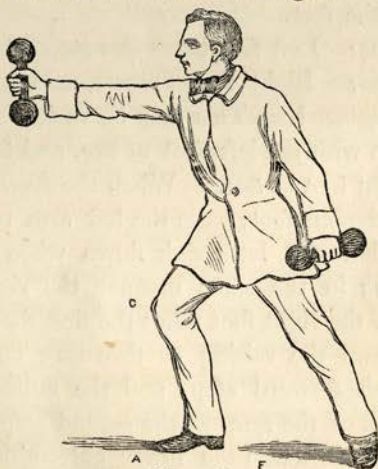


Figure 10.

and *four*; spring forward to the right or left, the arms

not in action. To this we subjoin *the triple stamp*, in which a quick movement of the feet takes place, and which may prove a remedy for cold feet. On counting *one*, three steps are taken, each one a stamp, and they follow each other rapidly: left foot down first, then right, then left. Count *two*. Back again; when right foot is down first, then left, then right. These are *sideways* steps, and the exercise may be varied by taking them forward and backward. The speed and distance of the steps may also be increased.

An exercise which is especially useful, consists in taking the forward spring step with the leg which is put forward, bent at the knee joint like *Fig. 10, c*; the upper part of the body is kept as erect as possible. Unite with this the thrusting out of the arm on the same side, as the leg which takes the forward step. The time may be regulated thus: Count *one, two*, to the forward step, and *three* to after step.

The different arm exercises, the *arm revolving, mill revolving, tunnel circling, up and down charging* of the dumb bells, *arm thrusting* and *arm striking*, can be united with the walking, in 3-3 or 4-4 time.

2. In this course of exercises, the free participation of the legs can take place only by their *alternate* action. In order to understand the leg exercises, our readers must refer to *Fig. 11*. The first are the *spreading out* exercises, in which the locked position of the feet is taken, and the leg moves from the hip joint—with the leg firmly stretched—either in a straight line, as much as possible in the upward pointing position, or in a semi-circle line, cone-shaped. When it moves in a straight line, the right leg is first moved sideways to a small angle, upon which the angle in the direction *c*,

D, E, *Fig. 11*, is gradually enlarged, perhaps to the acute angle. After each elevation of the leg, one may with a swing return it to the locked position, which movement may be regulated by time measure, if desired.

In repeating the previous exercise, may be introduced the gradual raising of the dumb bells in a similar direction. It is practiced by a continued alternation, from right to left, and left to right, the *locked* position always intervening.

A good exercise is the *leg beat*, towards the hand F, *Fig. 11*, where the dumb bells are raised to the forward horizontal position, alternately, the left and right hand; and the leg which corresponds with the outstretched arm, is swung upwards until it touches the

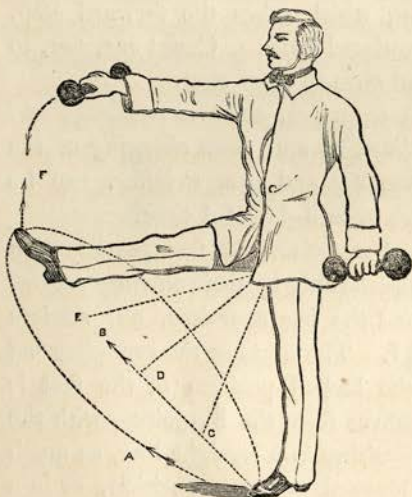


Figure 11.



Figure 12.

dumb bell; this is facilitated by slightly lowering the dumb bell towards the foot.

The *bow spreading*, Fig. 11, A, is easily comprehended, and may be made larger or smaller, according to the size of the bow to be described. The *revolving mill dumb bell exercise*, is appropriate to be united with the *bow spreading*.

3. The exercises which result from a co-operation between the upper and lower parts of the leg, through bending at the knee joint, may be formed analogous to the elbow exercises. When the leg is lifted up, and the lower half of the leg is thereby drawn up towards the upper, this is called *lift bending* of the knees; the lower part of the leg is so far extended that the heel touches the seat; this is called the *heel touch*. Carrying the thigh up towards the abdomen, we call the *knee spring*. The *heel touch*, with both legs, simultaneously, is called the *double beat*. The *knee spring*, executed with both legs, is called the *quick double leap*.

The drawing up of the leg, and position of the foot for the push or stroke which is to follow, Fig. 12, c, will, in connection with the stroke, correspond with the arm-striking dumb bell exercise, which may be easily united with these leg exercises.

4. The movement which occurs when the *locked* position is changed to the *apart* position, we use, by associating with it dumb bell exercises: thus see Fig. 8. From the locked position, upon counting

One, the left foot moves half a step to the left.

Two, the right “ “ “ “ “ right.

Three, the left “ returns to its original place.

Four, the right “ “ “ “ “

At the same time that the left foot takes its step, the dumb bell in the left hand is carried up to the horizontal position of the arm: this occurs upon the *first* count.

Two, down again. *Three*, dumb bell in right hand is carried up. *Four*, down again. The movements with hands and feet are simultaneous.

This exercise may be changed by substituting the forward for the side step.

The second variation in the change of position is produced thus : whilst *one*, *two*, are counted, the change is made from the *locked* position to the *apart* position ; when *three* is counted a spring is made with both feet, simultaneously, to their first position ; the leap is to be executed as lightly as possible by coming upon the points of the feet. This transition into the *apart* position, and leaping back upon the points of the feet to the *locked* position, may be repeated in 3-3 time. The arms we make participators in such a way, that they are held in the drawn-back position, for the thrust, as at *Fig. 6, B*. When the first spring is made, both arms are thrust forward in a horizontal position ; whilst at the second step they are drawn back, and thus they continue to alternate.

A third variation of our changing positions consists in this : that the change to the *apart* position, and the spring back to the *locked* position, takes place as it is indicated by *Fig. 8, D*. The method of uniting with this the dumb bell exercises, we leave to our readers.

The changing-position exercises are of themselves very effective if executed with a spring, whilst the dumb bells remain fixed in the horizontal, oblique, or upward position.

One form of exercise we will here call attention to, where the spring, *locked* position and *apart* position alternate in such a manner that they are gradually enlarged by every change.

One: Spring from the locked position into a short apart position.

Two: Legs still more apart, by a similar movement.

Three: Legs as far apart as possible, by a similar movement.

Four: Back again to the locked position.

This exercise becomes still more effective if one returns after *each* enlarged apart position into the locked position.

5. More difficult and vigorous yet are these exercises, where the bending and stretching of the lower extremities takes place in such a manner that they have to bear the whole weight of the body.



Figure 13.

This *sinking bend* of the knees is accomplished first with both legs, which are in the locked position, and by means of this bending of the knees the upper part of the body is lowered to the floor. Commence this exercise in a very moderate manner, from the attainment of a point, in which the relative position of the thigh and leg produce an obtuse angle, to one in which an acute angle is produced, and finally to one, where

the thigh and leg almost touch, and the body comes close upon the ground. (*Fig. 13.*)

The *straight stretch* movement is the reverse of that which takes place in the *sinking bend*. The upper part of the body and the upper part of the leg are stretched as far distant as possible from the lower part of the leg, whilst remaining in the same direction with it. The upper part of the body must remain in an erect position.

We compose a few exercises from the *sinking bend*, and the *straight stretch*, which are particularly recommended to our dumb bell friends, and especially to the hypochondriac and to those who have a weak abdomen.

A. From the locked position, go through the three degrees of the *sinking bend*, to 3-3 time. From the squatting position reached at the third count, go through the *straight stretch* in 4-4 time, reaching the erect position at the fourth count. The arms, as in *Fig. 13, C*, are drawn back, and are in three gradations stretched until they reach the horizontal sideways position, *Fig. 13, D*. With the *straight stretch* comes the swinging bend of both arms for the drawn back position, which precedes the thrust.

B. The sinking bend position, through the three degrees, down to the squatting position, takes place when *one* is counted. *Two, three* and *four* indicate successively the three degrees which follow the straight stretch; the third count finds the pupil erect. The accompanying dumb bell exercise for this is the same as in A, but in a reversed order.

C. Each *sinking bend* of greater or lesser angle is followed each time by a stretch position. In 6-6 time, the three degrees in sinking bend may take place respectively

upon *one, three* and *five*. Two, four and six indicate three degrees of the straight stretch ; this exercise may be repeatedly performed. From what has already been written, our readers will be able to devise the appropriate dumb bell exercises to accompany these exercises of the leg and body.

D. The *sinking bend* may also, in 6-6 time, alternate in such a manner with the *straight stretch*, that when *one* is counted, the squatting position of the sinking bend is taken ; while, when two, four and six are counted, the rising up, in degrees of the *straight stretch* is accomplished.

E. From the *apart position*, the sinking bend and straight stretch involve a more vigorous exercise, and one which is at the same time more effective for the lower limbs.

F. The *sinking bend*, executed in such a way that the whole weight of the body rests more especially upon one leg, is a more difficult exercise, and should only be undertaken after both legs have been for some time subject to practice. To accomplish this, one leg takes the forward step position, *Fig. 13, A*, and supports the other, *B*, when the latter, in a similar manner and connection as in the sinking bend exercise executed with both legs, assumes the principal labor ; right and left are to be practiced, and to be united with dumb bell exercises as indicated by *Fig. 13*.

G. Finally, we recommend to our readers an exercise of more easy execution, in the following form : Position—the body balanced upon the points of the feet ; exercise : the *sinking bend* ; this may be alternated with the sole of the feet on the floor. Two steps can be taken forward, and two back again ; or two can be

taken sideways, right and left to 4-4 time. Also in 2-2 or 3-3 time, the sinking bend and straight stretch exercises may be connected with the dumb bell exercise from the drawn back position, whence may be executed the horizontal sinking down or thrusting out movements.

All the exercises which have been executed thus far, (especially those under 5,) provoke a vigorous and uniform action of the muscles of the legs. They acquire their physiological importance, from their being the means of exciting to action the functions of the abdomen, and especially the process of digestion.

6. As our readers are already acquainted with the *stepping forward* position, the *sally*, (*Fig. 10*,) we now give an exercise which resembles the *thrust strike*, B, *Fig. 7*, and which is called the *thrust throw*, (*Fig. 14*.) From the *locked position*, when *one* is counted, the dumb bells are carried back as far as designated by *Fig. 14*, D. *Two!* Swung forward in the direction pointed by the arrow at B, and are brought into a position by the sides of the chest, where they will be ready for the next movement. *Three!* The dumb bells are thrust forward horizontally as at C. Simultaneous with the *thrust throw* takes place the stepping out and bending movement of alternate legs. This exercise is repeated in the following manner: *One!* The dumb bells are carried with outstretched arms in the direction A; backward again, simultaneously with the return of the foot and leg which had taken the forward step to the locked position. The thrust throw is continued in this manner in 3-3 time.

7. *Fig. 14* explains the BOXING EXERCISE. When *one* is counted, take the position seen at C,

Fig. 14. *Two!* The *thrust-out* takes place precisely as in *Fig. 14*, accompanied with stepping out.



Figure 14.

8. A third exercise upon *Fig. 14*, is a beautiful one. The dumb bells are held in a forward horizontal position, (*Fig. 14*, c); the feet in the locked position. Count *One*:— With the left foot step forward to the fall out position, simultaneously both arms are swung backwards, as in the *shoulder trial*, (*Fig. 4*, A.) Count *Two*: The foot returns

to the locked position, the dumb bells being at the same time carried forward to the horizontal position.

9. An entertaining and effective exercise is catching the dumb bell. The position for this is illustrated in *Fig. 10*, κ. The dumb bell is held with the wrist grasp so that the wrist joint is highest; let it fall, but catch it again with a sudden grasp. It may be permitted to fall lower and lower, as one becomes practiced in the exercise. It may also be practiced with the fall-out step to the left.

10. As a very useful, though fatiguing exercise, we will introduce the GRASS HOPPER LEAP. The *squatting position*, (*Fig. 13*, B,) is taken; the knees are kept firmly together, and one hops with both legs. With the first leap, the dumb bells are swung back, (*Fig. 14*, A,) but at the second leap, they are carried to the upward position.

B.
Body Movements.

In the dumb bell exercises which have been described thus far, the limbs have been especially called into activity, and they embody to a considerable degree the body movements, especially with the arms. Physiological considerations render it important that a thorough exercise of the muscles of the back be provided for, and for this purpose we describe some amusing exercises.



Figure 15.

1. The **TWIST SWING** is a simple exercise, and is executed from the apart position. The dumb bells are held as seen in *Fig. 15*, hands close to each other; they are carried in a swinging manner, first to the right, then to the left, accompanied by a twisting of the whole body. After a short time, the dumb bells can be held at a greater distance from the body, which will make the trunk-twisting more vigorous.

2. The **BOW SWINGING**, (*Fig. 16.*) must also be executed from the apart position, and with it the upper part of the body must be bent forward; the arms hang down, the thumbs towards each other, and the dumb bells are swung in a large semi-circle to the right and to the left, as seen in *Fig. 16.* The whole body follows the motion of the dumb bells, by turning first to one side and then to the other. The feet twist themselves at the same time in

this manner: with the bow spring to the left, the point of the left foot turns to the left; and with the bow spring to the right, the point of the right foot turns to the right. The curve swept by the dumb bells extends from near the floor as high as the head.

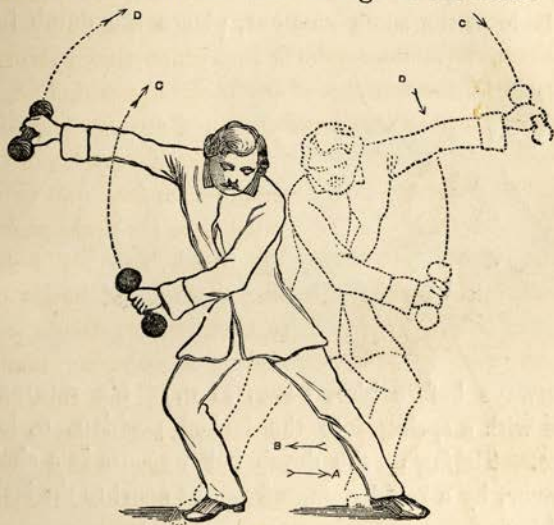


Figure 16.

3. **THE BOW MILL EXERCISE.** The apart position is taken, from which the dumb bells are made to describe a circle, the circumference of which shall be as near as possible to the floor, and as high up on the right as possible, and thus is followed by another circle of the same description to the left.

4. **THE TRANSFER OF DUMB BELLS.** This is an entertaining and effective exercise, which is made plain by a study of *Fig. 17*. The far-apart position is taken; the dumb bells are removed from left to right, and right to left, as far as possible.

Taking up and putting down the dumb bells: this

may appropriately follow the preceding exercise, and may be used at any time when in the course of his exercises the pupil wishes to put his dumb bells down. *One*, by a spring changes his position from the locked to the apart position, and with a bending movement of the body at the same moment, places the dumb bells

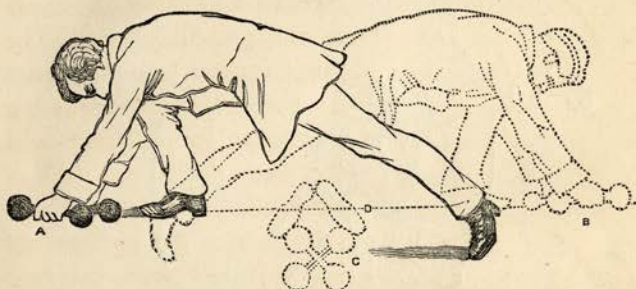


Figure 17.

crossways before him, (*Fig. 17 c.*) He returns at once with a spring into the locked position, *D*, body erect. *Taking up* the dumb bells, occurs in a similar manner, by a rapid change from the apart to the locked position.

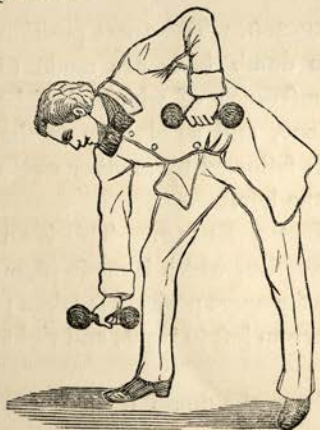


Figure 18.

6. The **STAMPING EXERCISE**, (*Fig. 18,*) is executed from the apart position, with the body bent forward; the arms are drawn back and thrust forward alternately, as illustrated in *Fig. 18*.

7. The **WOOD SAWYER** is an exercise of an amusing nature. From the lock position (with the dumb

bells held in the upward pointing position) spring to the apart position, and bring the dumb bells down to a point between the legs. The dumb bells are then swung up again and at the same time the apart position is resumed. Time 2-2. (*Fig. 19.*)

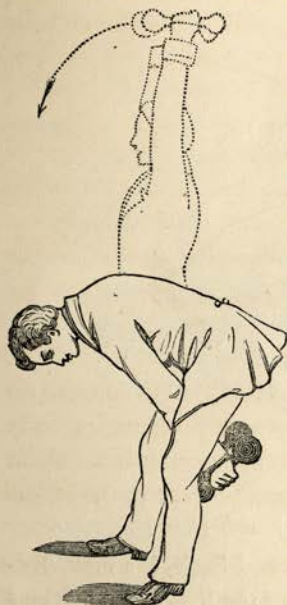


Figure 19.

8. The UP AND DOWN SPRING EXERCISE is similar to the preceding one. The pupil springs into the apart position, whilst also assuming the squatting position; and the dumb bells are laid at either side of the feet. From this position he springs up into the erect ones, carrying up the dumb bells to the position indicated in *Fig. 19.*

We close this series of exercises with the ROCKING LEAP, (*Fig. 20.*) to accomplish which one must have already acquired considerable agility. The position is plainly indicated in the cut.

The left foot is forward at point C; the dumb bells are held in the horizontal forward position; the two arcs of a circle are described in succession, first by the left foot from C to A, followed almost simultaneously by the right foot to B; the right foot then becomes the forward one. Whilst this change of position is being accomplished, the dumb bells are drawn in as indicated by the dotted line, and thrust out again as soon as the change is accomplished. One performs

this movement from right to left, and from left to right.
It is a beautiful exercise.



Figure 20.

C.

Special Importance of these Dumb Bell Exercises.

Laxity of the hip, abdomen and back, is a more frequent cause of diseases affecting the liver, stomach and bowels, and of hysteria and hypochondria, than is usually supposed. To preserve these organs in health, and to cure them when diseased, these muscles must be thoroughly invigorated. This is most effectually accomplished by the exercises given in this chapter. They are highly recommended by physicians for the removal of constipation, piles, dyspepsia, flatulency, intestinal rheumatism, &c. For the sedentary they are especially valuable, as they are frequent subjects of these diseases.

CHAPTER V.

Restrictions in the use of Dumb Bells, to be observed by Invalids.

Invalids should calculate closely the amount of exercise they can bear. They should also be careful in selecting what is adapted to their wants. It will be well for them to consult their family physician on this point. Physicians of late years have not only given attention to gymnastics as a means of preserving health, but they also prescribe them for relieving and curing many diseases. To them it will not be difficult to designate those which must be avoided, and such as will answer the requirements of the patient.

Our dumb bell exercises have particular reference to pulmonary and abdominal diseases. Of the former Prof. RICHTER observes, that "Gymnastics may prove a valuable remedy; or, they may do great injury." Where there exists tubercles in the lungs, expansion of the thorax is important; where asthmatic disease exists, in which the lungs tend to enlarge beyond their normal size, contraction is desirable. To both these conditions, gymnastic exercises are applicable.

Dumb bell arm exercises, with deep inhalations for enlarging the upper part of the chest, can be recommended where tubercles have begun to form. Where the adhesive state has been reached, great caution is necessary, in order to avoid laceration or hemorrhage. They should not be continued so as to produce palpitation of the heart, or congestion of the lungs. Where tubercles are far advanced, no exercises which call into action the muscles of the thorax should be used; but those which affect the lower part of the arm, or at most the bending and stretching exercise for the upper

part of the arm, all these must be executed very slowly. The following succession may be observed :

1. The **HAND EXERCISES**, in a position that will not produce too much exertion—the *oblique downward* position.

2. The following from among the **ELBOW EXERCISES** :

A. The bending and stretching of the lower part of the arms : first, in the hanging down position ; then in the oblique ; and lastly in the horizontal position.

B. The *lower arm circling*, (Chapter III, B, B,) first with hanging down, and then with raised elbows.

C. The *up and down changing* of the dumb bells, (Chapter III, B, 3.)

3. The following from among the **ARM EXERCISES** :

A. Carrying the dumb bells up to the oblique, and then to the horizontal sideways position.

B. The *bow swing* exercise, from the hanging down position.

C. The *cloak* exercise.

D. The *mill revolving*.

E. The *tunnel circle*.

These exercises must be brought into use gradually, as the patient is able to bear them ; and difficult ones, affecting the chest, must not be introduced until these have produced considerable relief. For tuberculated lungs, the chief benefit is afforded by such training as shall increase the inhalation.

Dumb bell exercises must not be practiced by persons having diseases of the heart, or blood vessels ; and all exercises which have a heating tendency, should be avoided by those suffering with diseases of the blood. In affections of the brain and spine, such of those

COMMENDATORY NOTICES.

"Dr. Lewis has for many years been devoted to the subject of Physical Education, and his new and admirable system of Gymnastic Training has elicited the warmest expressions of approbation from those who have witnessed its beneficial results. We bespeak for his noble enterprise the liberal patronage which it so richly merits."—*Knickerbocker*.

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Dr. Lewis, of Boston, is doing a great and good work for the physical development of the American people. His means for effecting this are, the publication of a "Journal of Physical Culture" in Boston, which explains the importance of training the body, and the methods by which it may safely and properly be done; and the establishment, not only of a gymnasium for the use and instruction of the citizens of Boston and vicinity, but a NORMAL SCHOOL for the education of teachers of Gymnastics, and with a competent corps of teachers, gives to pupils of both sexes a thorough education in this noble and useful art, giving, at graduation, diplomas to all pupils qualified to receive them. On the 5th day of September, 1860, the first commencement exercises took place at the Institution, on which occasion President Felton, of Harvard College, occupied the chair, and conferred the diplomas, when Dr. Lewis, Edward Quincy, Esq., Rev. Dr. Kirk, Mr. Hagar, and President Felton addressed the class and the audience. It was an occasion of great interest, and we hail with pleasure this great move in the right direction and with the right means.

—*American Phrenological Journal*.

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