

Cost's system of calisthenic exercises for the patent elastic calisthenic chest expander and other instruments invented by him.

Contributors

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COST'S
CALISTHENIC
EXERCISES

Edgar F. Cuyiasse

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COST'S SYSTEM
OF
CALISTHENIC EXERCISES,
FOR THE
PATENT ELASTIC
CALISTHENIC CHEST EXPANDER
AND
OTHER INSTRUMENTS INVENTED BY HIM.

“Exercise gives strength and firmness to the body and vigour to the mind.”—*Hippocrates.*

DESIGNED AS A GUIDE TO HIS PUPILS, AND A BOOK OF REFERENCE
TO THE PROFESSION, ETC.

ILLUSTRATED WITH EXPLANATORY PLATES BY BRANDARD.

THIRD EDITION.

ENLARGED WITH SEVERAL REMARKS ON PHYSICAL EDUCATION, AND AN EXTRA
PLATE DESCRIBING THE NAMES AND USES OF THE VARIOUS
MUSCLES MENTIONED IN THE EXERCISES.

Entered at Stationers' Hall.

LONDON: PUBLISHED AT THE AUTHOR'S RESIDENCE, X

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ADDRESS.

THE first and second editions of the present little work being entirely exhausted, and a third called for, I cannot omit this opportunity of expressing my grateful acknowledgments to all who have contributed to this end. With pride and pleasure I acknowledge that these thanks are due, not only to a large body of professors, who have adopted and employed my method, but also to many eminent members of the faculty, and to a great portion of the periodical press, whose approbation has naturally great influence with the public in general.

Since the publication of the preceding editions, I have continued to make the subject an object of anxious and constant study; and some of the results of my continued attention are here offered to the reader. Without any affected display of disinterestedness, I may, perhaps, be permitted to say—that one great motive for further extending my present production, is the firm conviction of the immense good likely

to result from any attempt to disseminate more widely a knowledge of the physiological principles upon which the health, and consequently the happiness, of mankind, so much depend.

It may be safely asserted, that some amount of anatomical knowledge is indispensable, not only to professors, to enable them, by judicious training, to develop each muscle of the human frame, but even to pupils, that they may the better understand their teacher's injunction, and the more effectually aid him in his desirable object. And yet it is no less true than lamentable, that this knowledge is far from being so widely diffused as, in all propriety, it ought. I speak without fear of contradiction when I say, that, amongst the great majority of the profession, the external *effect* is almost exclusively attended to, whilst the internal *cause* is comparatively neglected. A pleasing movement, a graceful attitude, is sedulously cultivated; whilst that general tone of healthy vigour—that easy play of every muscle—that happy equilibrium between each muscle and its antagonist, upon which all grace and freedom of motion depend—are entirely lost sight of; and this arises, not from a want of zeal, but simply from a neglect of the previous course of study which alone can qualify a man for the duties of his profession. But this is an age of progress, and now less than ever must the professor of any art flag in his exertions. For, as it has been well said, “If he omit to furnish himself with that knowledge of his profession which it is within the reach of zeal and

industry to acquire, he must not be surprised if they who observe his deficiencies undervalue his merits."*

On the other hand, pupils are often totally ignorant of the meanings of the terms we employ. How often, when explaining the various muscles called into action by any particular posture or exercise, have I been asked, "What is a muscle?" and also, "What is to be done in order to remedy this or that defect?" A far more important question would be, "What is to be left *undone*?" For as, in the great majority of cases, defects arise from some bad habit long and constantly indulged, the first and most essential point must necessarily be to eradicate this habit; remedial measures may then be pursued with reasonable hopes of success.

On both these points, I shall always be happy to give such advice as long experience may enable me to suggest.

It may now be necessary to say a few words on the "Patent Elastic Calisthenic Chest Expander," an instrument of which I am the inventor and patentee. The principle of this instrument is *gradually* to extend and develop the muscles of the chest and arms, not to violently force them. There is no occasion to dwell on the utility of this instrument, as it has been universally adopted and recommended by the professors of Calisthenics and the faculty. The "Spine Director," another instrument invented by me, is an apparatus fixed to the side of a room, and calculated to exercise and strengthen those muscles which have not been employed in the motions per-

* Shee's Elements of Arts.

formed with the Chest Expander, and distributing a general exercise throughout the human frame. The great principle on which my inventions are based (and it is one that cannot be too carefully observed by all concerned in physical education) is this: in order to promote the development and invigoration of the muscles, they must be *exercised*, not *fatigued*; invited and encouraged to healthy action, not cramped and bandaged in unnatural and painful positions. It is universally acknowledged that the Chest Expander possesses advantages over every other instrument that has yet been invented; it is exceedingly light (weighing only a few ounces), and may be accommodated to the power of a child, or of a person possessing great strength; it is elegant in form, and may be used without the slightest danger. My confidence in the utility of this instrument and these exercises has been strengthened by the encouraging approbation and sanction I have met with from several gentlemen whose anatomical experience and knowledge add weight to their opinion.

“The free and easy expansion of the chest,” says Dr. COMBES, in his “Principles of Physiology,” “is obviously indispensable to the full play and dilatation of the lungs: whatever impedes it, either in dress or in position, is prejudicial to health; and on the other hand, whatever favours the free expansion of the chest equally promotes the healthy fulfilment of the respiratory functions. Stays, corsets, and tight bands, operate most injuriously, by compressing the thoracic cavity and impeding the due dilatation of the lungs, and in many instances give rise to consumption.”

Mr. JAMES BOWER HARRISON, Surgeon, says:—"The phrase 'opening the chest' is very common, and exercise is recommended with this view. We have no objection in the world to good exercise, if it be only moderate and regular; but the *opening* of the chest is fortunately not accomplished by back-boards and dumb-bells. However, the phrase, though vague, is perhaps sufficiently understood, and not particularly coupled with any false practical views." Whilst on this subject, I may be allowed to state that the fashionable gymnastic exercises are,* in my opinion, by no means the most desirable kind of exercise. They are mostly calculated to do harm, and are used at a time of life when great mischief may result from them. Of this mischief I cannot particularize in this place, farther than to state that many important surgical diseases arise from undue straining, and continue to affect the whole of after-life.

It has been wisely remarked—"The fact of the diseases of the lungs and heart being more prevalent among the fair sex, may be partly accounted for from the flimsy, insufficient, half-dress which fashion has imposed upon them, and the baneful practice of tight lacing, which now, happily, is frequently exposed. The importance of a regular and full expansion of the chest, for preserving the organs it contains in a healthy

* The Author has been frequently asked, What is the difference between Gymnastics and Calisthenics? The difference is this: Gymnastics develop the muscles by violent measures and without grace, Calisthenics obtain the same end, only by gentle means, and give that grace to the figure that Gymnastics lack.

condition, as well as the influence exerted through those organs on the entire system, must be at once evident to anyone who will give the subject a moment's consideration. The lungs require a healthy exercise equally with the limbs; and, if we desire to maintain them in a vigorous state, they must be unfettered in their action, either by dress or position, to insure a healthy fulfilment of their allotted functions. But how can the chest perform its required duties when impacted in the common stay? When thus dressed, the muscles which expand and contract the chest cannot be brought into action, and the due dilatation of the lungs is prevented; the respiratory and circulating organs being impeded, congestions take place in the vessels of the lungs,* heart, and elsewhere, as in the arteries of the head, from which a numerous train of diseases follow.

“The miseries proceeding from this reprehensible practice are not limited to the respiratory and circulating system; the lower ribs being unnaturally bent in, the stomach, liver, and other organs are injured thereby; and hence arise, in females, not only a host of diseases, but spinal curvatures, and other deformities, which endanger their lives. We have no hesitation in saying, that some thousands of lives are annually sacrificed to this horrid fashion. It is well known that the strength and development of the muscles increase in proportion to their healthful exercise; and that, when deprived of action, they waste and become enfeebled; and, by continual

~~* The lungs contain 600,000,000 air cells.~~

disuse, the nerves become changed from their natural structure, the blood-vessels are obliterated, the bones are softened, and the contractive power of the muscles and their appearance are altogether lost. From the construction of the human form, it is clear that man was intended for an active existence, and if we do not live in accordance with these intentions of nature, a sound state of the energies cannot be maintained.

“A sedentary life is the bane of thousands; and the frequent existence of nervous disorders, more especially among the higher classes, may be attributed in a great measure to this want of muscular activity.”

From a due observance of the preceding remarks, we may be satisfied that the delicacy of constitution so often observable in young females may be greatly ameliorated, or even entirely removed; and these important objects are obtained by following those exercises that favour the free and easy expansion of the chest, and all that belongs to it, which nature and reason alike point out.

Much will depend upon the manner in which the following exercises are performed; if unhealthy and awkward postures are indulged in, more harm than good will be the result. It will, therefore, be necessary that they should be constantly superintended by some one competent to the task. Another material point is perseverance; bad habits and unhealthy tendencies are not to be eradicated by a slight and transitory effort. The practice must be assiduous, and not taken up at distant intervals; it is only at the end of a certain period,

longer or shorter, according to circumstances, that any benefit can be expected; and if, just when the expected result is beginning to appear, the exercise which produced it be discontinued, and resumed irregularly or after too long a period, we shall be always beginning and never reach the desired end. It is after the age of seven or eight that the exercises will be found especially useful. Up to that period, children have, in general, exercise enough; much of their time is spent in the open air; and the sports of childhood, and the restless activity peculiar to that period, make them exert every muscle of the frame. Add to this, that many things are a greater exertion to them, which afterwards become comparatively easy. To mount a common staircase is, to a child, a prodigious effort. To climb upon a chair—to descend again—to carry the chair from one part of the room to another—to place a heavy book or toy upon the table—are, to its feeble powers, so many labours, of the magnitude of which we can only form an adequate idea by conceiving ourselves surrounded by articles of furniture as gigantic to us as ours are to the infant. As a child increases in size and strength, these efforts become less laborious, and a diminished quantity of exercise is the consequence. Now the time devoted to study necessarily increases; more sedentary occupations succeed childish amusements; and the youthful pupil begins to stoop over the book, the slate, and the sampler. *It is*

It is at this time that some counteracting influence is imperatively demanded, and now may these exercises be

most advantageously introduced. The necessity of an abundant supply of fresh air* in all places where a number of persons, young or old, are collected, has been long advocated by scientific men, and is beginning to be recognised by all classes of society.

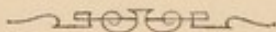
It requires but a knowledge of the important part played by the respiration in the human system, to convince us of the propriety of strict attention to the subject; and it is highly desirable, that by lectures, or otherwise, such information should be disseminated as widely as possible. I trust that any imperfections of style, or other error, will be looked upon by the reader with indulgence; for, in the course of the daily duties which devolve upon me, I have little time left for literary occupation.

A FEW OBSERVATIONS TO BE OBSERVED DURING THE GROWTH OF YOUTH.

A child should never be allowed to place its hands behind (unless the thumbs are uppermost and the arms straight), for it tends to round the shoulders and depress the chest. Some children have the bad habit of holding one elbow behind their back with the opposite hand; this should be avoided, as in

* According to Père Elisée, "Take air and exercise, remove trees from your house, curtains from your bed, and bandages from your body."

this position the spine and scapula are thrown out of place. Do not suffer a youth to sit upon a seat without an inclined back, as sitting upright is particularly fatiguing, and, indeed, injurious, when long continued. When writing, a book or cushion, about three inches high, should be placed under the left elbow—higher, if at a writing desk—which article should be avoided during growth. It is best that children should not sit in arm-chairs, as they generally recline on one arm only and so throw the shoulder up. In sleeping, a child should always be provided with a broad pillow, made to come well under the shoulders. In ascending and descending a staircase, children generally do so with one foot foremost; care should be taken to prevent this. Also, never allow a child to stand upon one leg, as deformity is frequently the result of this bad position. Low frocks should be avoided, as the child often acquires the habit of disturbing the shoulders; and long curls, it may be remarked, are also disadvantageous, as they throw the chin forward and the elbows behind.



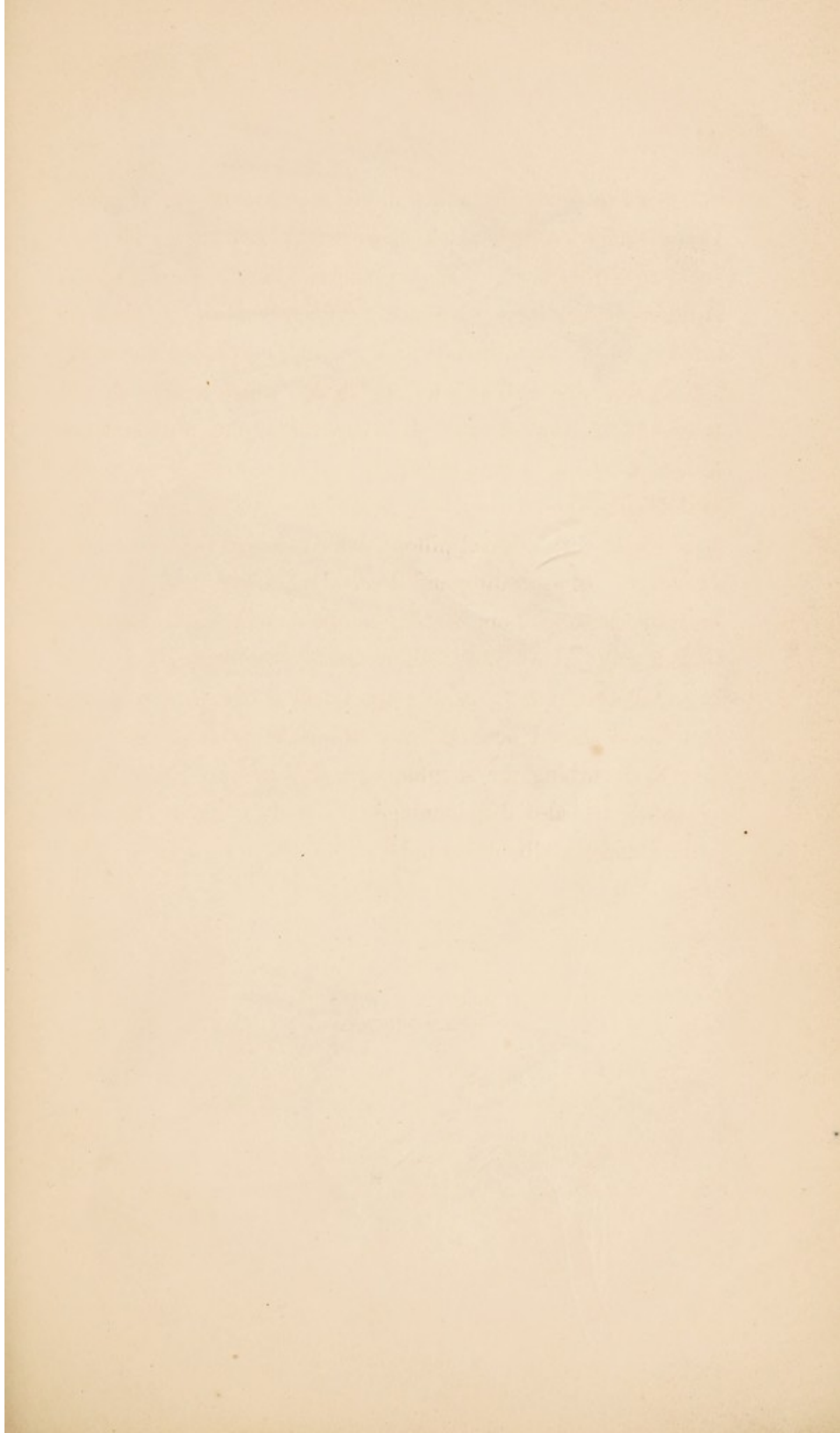


PLATE 1

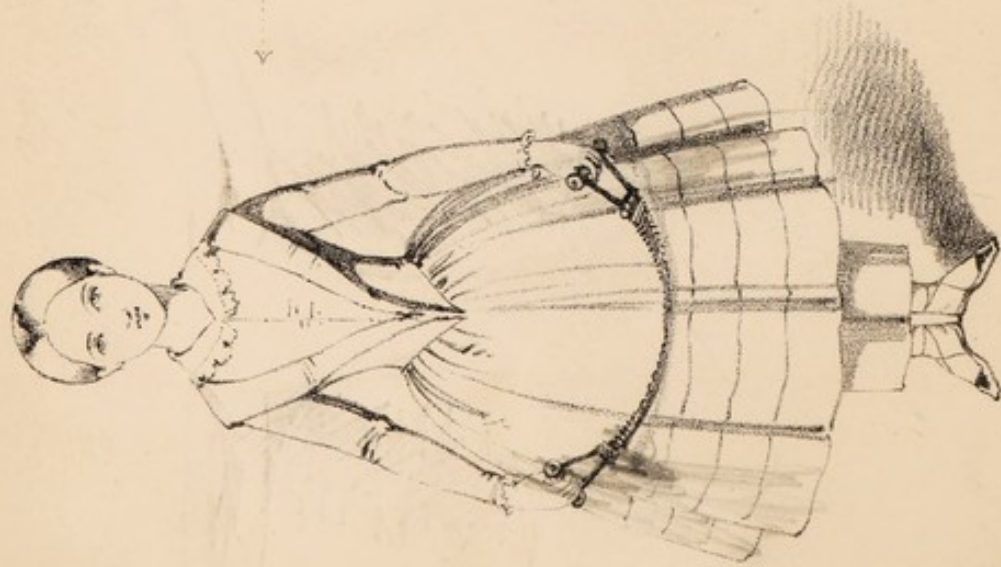


Fig. 1.

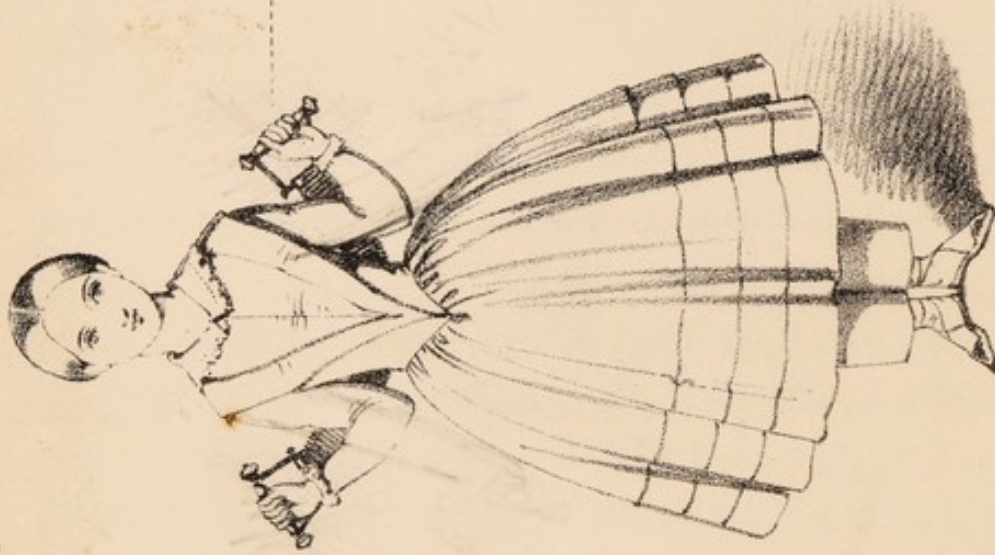


Fig. 2.

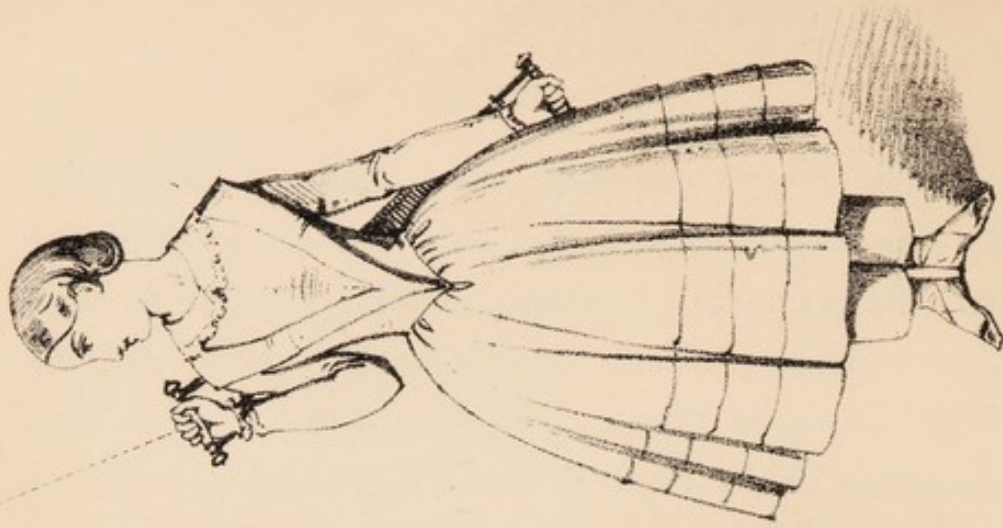
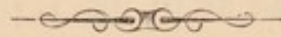


Fig. 3.

First Series of Calisthenic Exercises.



X

FIRST EXERCISE.

THE pupil to hold the Chest Expander in front, with the thumbs uppermost (*see* plate 1, fig. 1), the wrists to be turned, lowering the thumbs, so as to leave the palms of the hands outwards, and the little finger uppermost. In this position the Chest Expander is to be passed over the head, the arms being extended as much as possible; great care must be taken to clear the head and back: return the instrument in the same manner to the front position as at the commencement.

This exercise to be performed sixteen times, counting four slowly to each pass.

SECOND EXERCISE.

Perform the preceding exercise with the arms, marching four steps forward, and the same back, without turning.

THIRD EXERCISE.

Repeat the first exercise with the arms, and rise slowly on the toes: when the arms are extended above the head, lower the heels very slowly.

FOURTH EXERCISE.

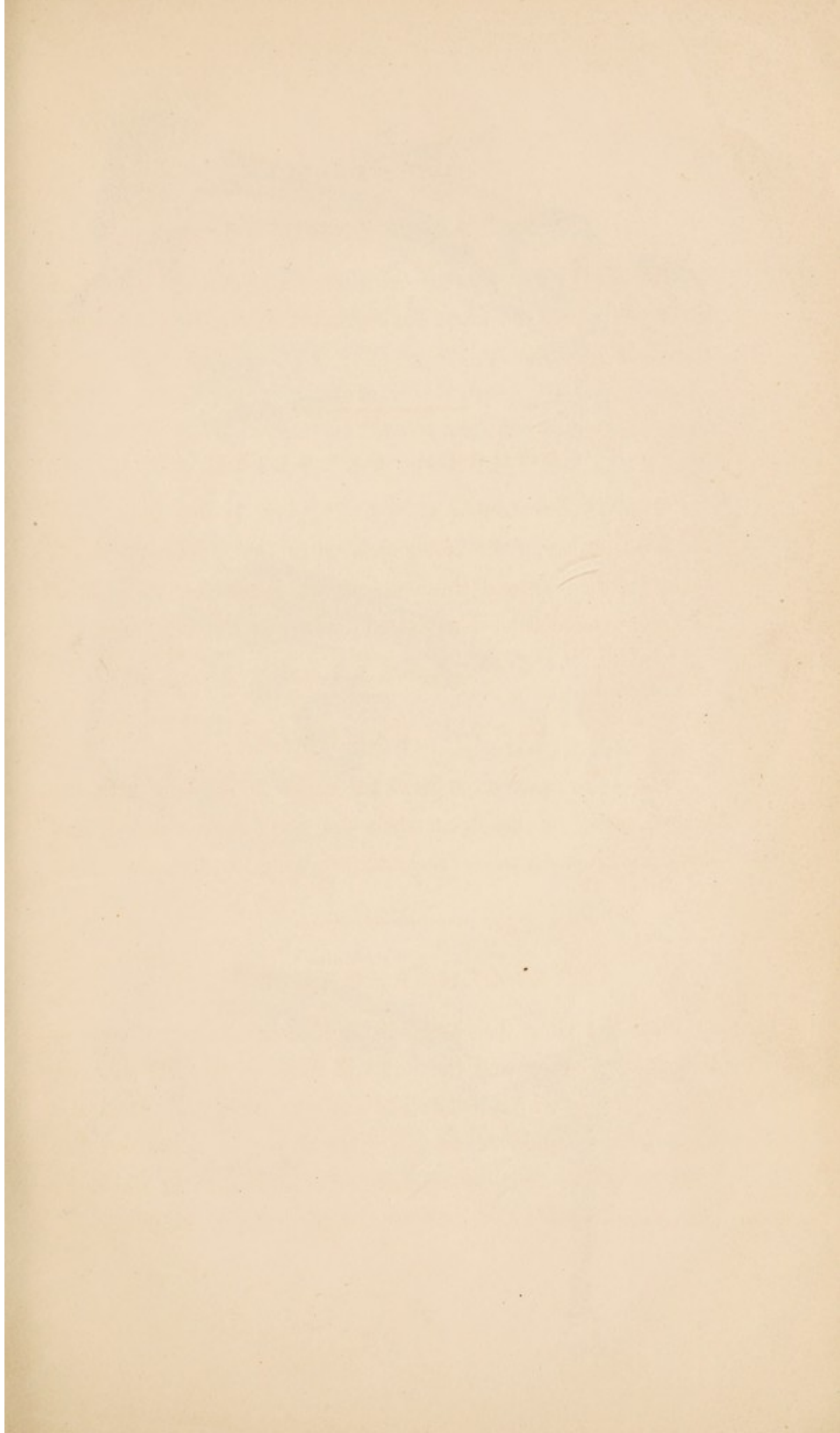
x Hold the instrument as in fig. 1, plate 1, and pass it over the head, bringing the hands close to the shoulders (*see* fig. 2, plate 1), then extend the arms as far as possible in a direct line from the shoulders as dotted; return to the shoulders.

FIFTH EXERCISE.

The same movement with the arms as in the fourth exercise, rising on the toes when the arms are extended, and lowering the heels when the hands are brought to the shoulders.

SIXTH EXERCISE.

† Pass the Chest Expander behind, place the right hand to the right shoulder and the left arm close to the left side (*see* fig. 3, plate 1), extend the right arm as dotted, and return the hand to the shoulder: do this three times: then reverse this with the other arm, by lowering the right arm to the right side and raising the left hand to the shoulder; repeat the same.



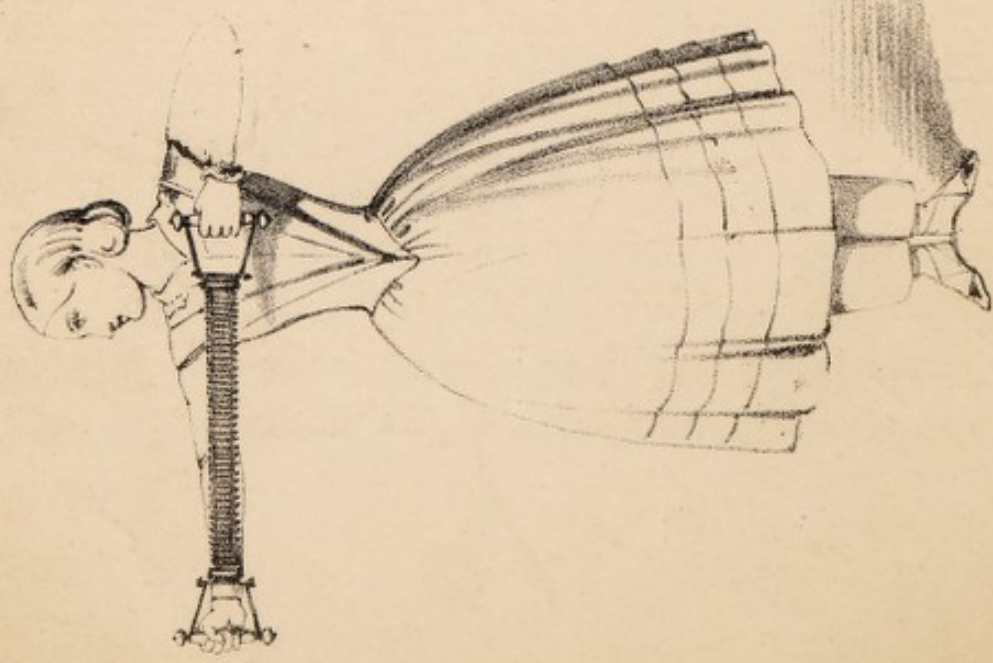


Fig. 1.

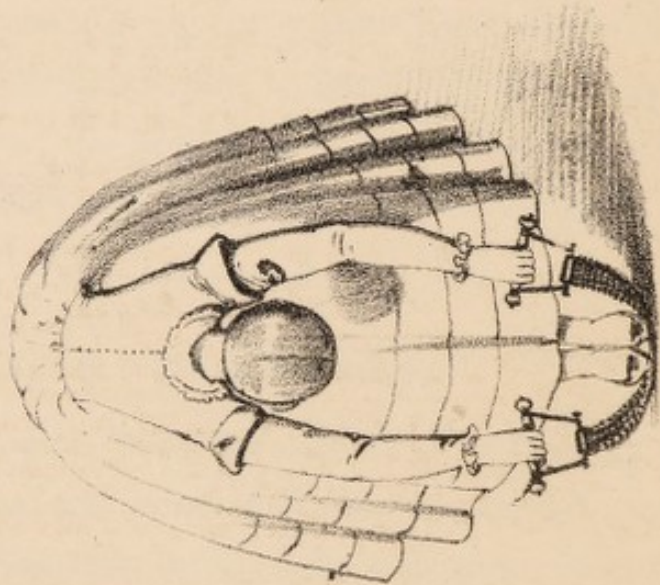


Fig. 2

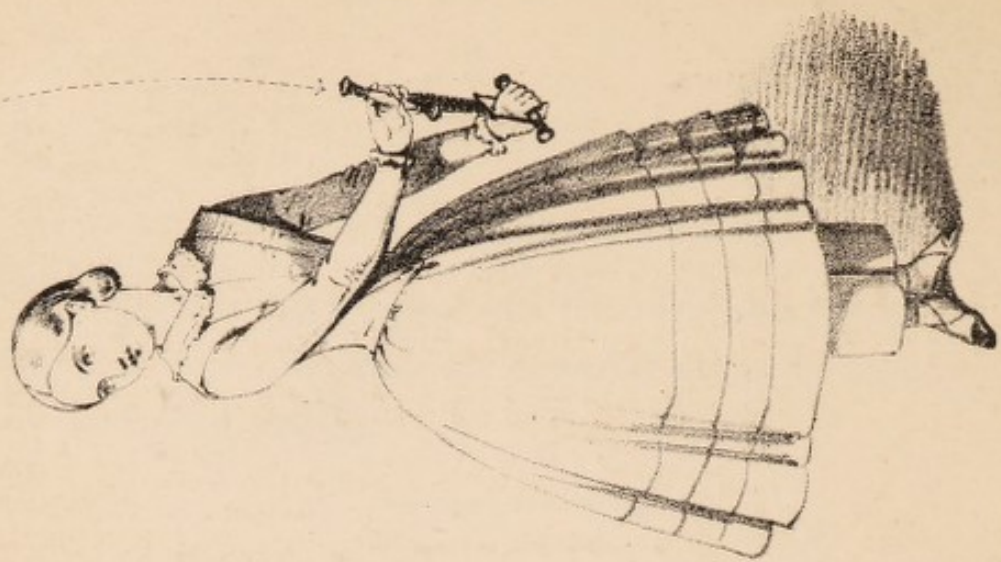


Fig. 3.

SEVENTH EXERCISE.

Hold the Expander in front in a line with the shoulders, the right arm extended (as in fig. 1, plate 2). Extend the instrument with the left arm as far as possible along the dotted line, return the hands to the same position, pass the Expander to the left side, and repeat the same movement. Strict attention must be paid to the hand and elbow being kept in a line with the shoulders during the whole of the exercise, which is to be performed eight times.

EIGHTH EXERCISE.

Hold the Expander behind with the hands well lowered, raise it far above the head, and lower the body slowly forward towards the toes (*see* fig. 2, plate 2), then rise slowly and pass the instrument behind as at the commencement. This exercise must be performed very slowly, and care taken to keep the knees perfectly straight.

NINTH EXERCISE.

Holding the Expander with both hands on the left side, the head turned to the right (*see* fig. 3, plate 2), keep the left arm in a fixed position, raise the right arm as marked, and return; pass the Expander to the right side, and repeat the same with the left arm.

A

TENTH EXERCISE.

Take the position of fig. 3, plate 1; extend the right arm as marked, and return to the shoulder; lower it to the side, and raise the left hand to the left shoulder; the same to be repeated with the left arm.

ELEVENTH EXERCISE.

Take the position of fig. 3, plate 2; raise the right arm, pass the Expander over the head, and lower it well behind; raise the left arm and pass it over the head to the front, and return to the first position.

*Repeat — then
commence with left arm.*

TWELFTH EXERCISE.

Stand in the position of fig. 1, plate 3; raise the right foot and pass it to the fourth position behind, well extended, at the same time raising the right arm and lowering the left as marked; return to the same position: this is to be performed eight times. The same exercise with the left foot and right arm.

THIRTEENTH EXERCISE.

The same movement as last exercise with the arms, with a step forward to each change; begin with the right foot and left arm, second step, left foot and right arm; and the same for eight steps forward and eight back.

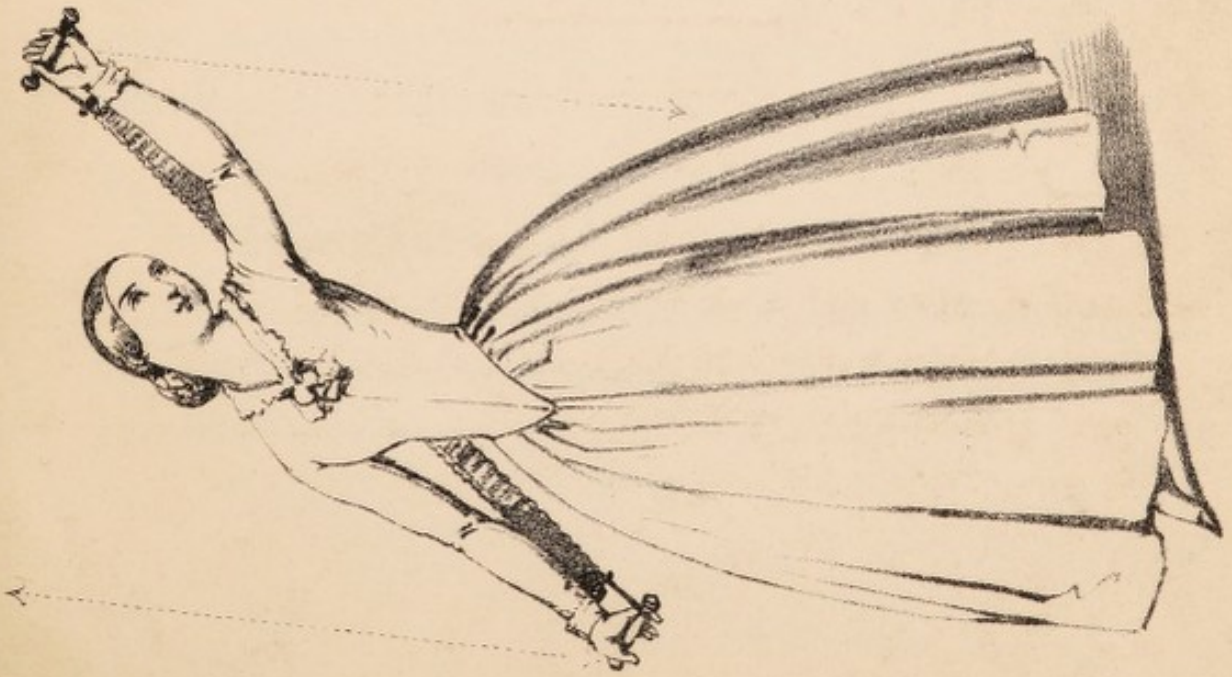


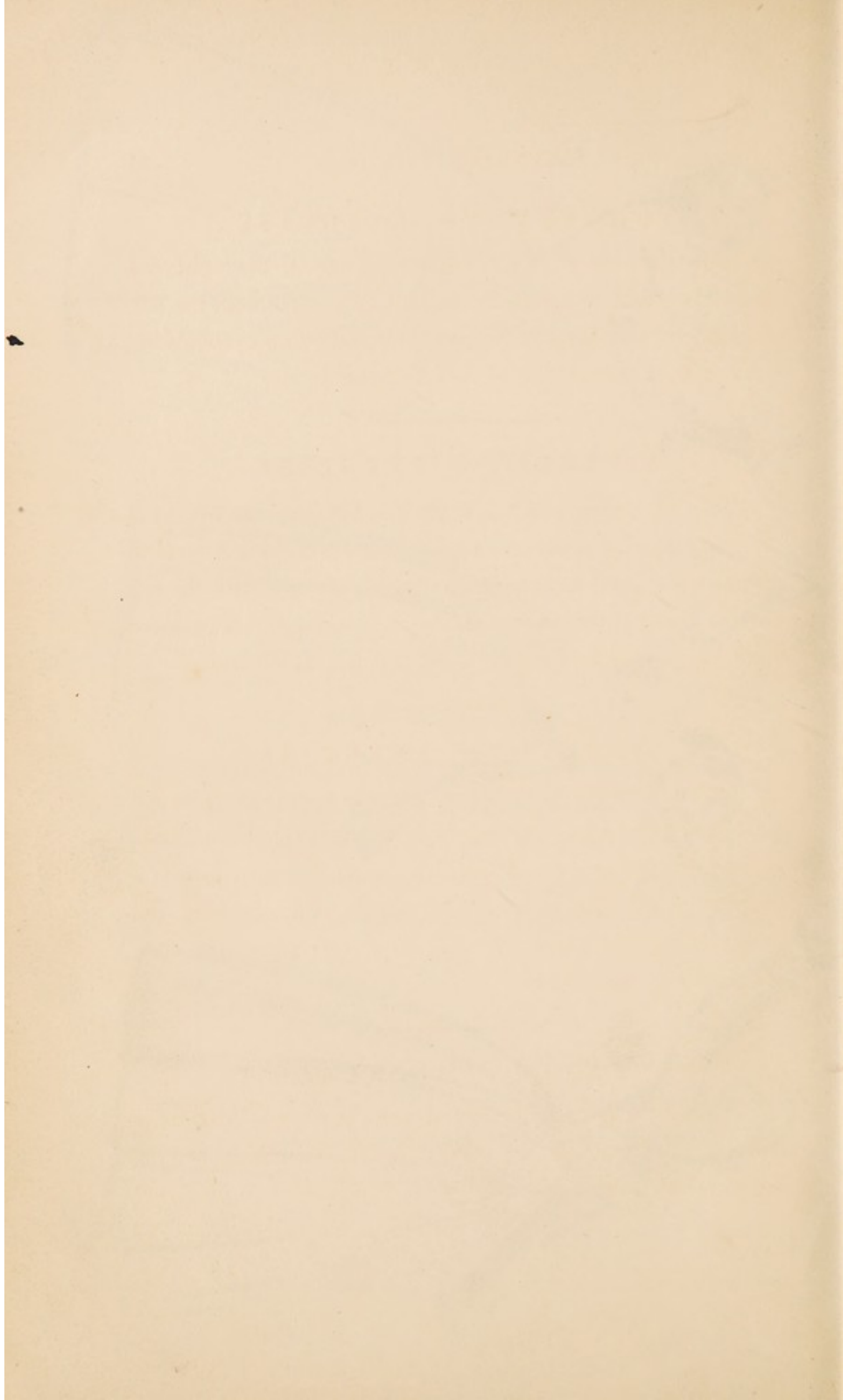
FIG 1



FIG 2



FIG 3



X

FOURTEENTH EXERCISE.

Take the position of fig. 2, plate 1; extend the right arm as marked, and return to the shoulder, the same with the left, then extend both arms at the same time and return to shoulders; each of these movements to be well marked.

FIFTEENTH EXERCISE.

Take the position of fig. 1, plate 3, but keep the weight of the body equally balanced on both feet; lower the left hand to the shoulder, and raise it again; march forward with the left foot, and repeat the same with the right arm; this movement to be repeated eight times forward, and the same back.

SIXTEENTH EXERCISE.

Incline the body to the right, with the right foot extended in the second position; expand the instrument behind, with the left arm raised (*see* fig. 2, plate 3); raise the right foot and place it in the fifth position in front, the body erect and the arms extended in a line with the shoulders; repeat the same movement on the left side.

SEVENTEENTH EXERCISE.

The same movement as the last, to be performed by raising the foot twice when in the second position, counting four to complete the movement.

EIGHTEENTH EXERCISE.

Hold the Expander as in fig. 1, plate 1; step to the side with the right foot, at the same time raising the instrument with both hands to the right, the head to look well back over the left shoulder (*see* fig. 3, plate 3); pass the Expander over the head and back again, and finish with the instrument in front, as at the commencement.

NINETEENTH EXERCISE.

This exercise to be performed by two persons (with two Expanders) standing back to back, at a little distance apart (*see* plate 4); lower the raised instrument to the side, and return with the foot well extended behind; this movement to be performed in the same position on the other side.

TWENTIETH EXERCISE.

Take the same position as in the last exercise, and pass the Expander over the head along the whole of the dotted line, so that the hand may fall nearly to the waist on the opposite side; return, and perform the same movement on the other side.

TWENTY-FIRST EXERCISE.

Take the position of fig. 1, plate 1; walk forward with four steps, curtsey on to the back foot, at the same time passing the instrument slowly over the head; repeat the four steps, and return the instrument whilst making the curtsey.



Fig 1

Fig 2.

Plate, 5.

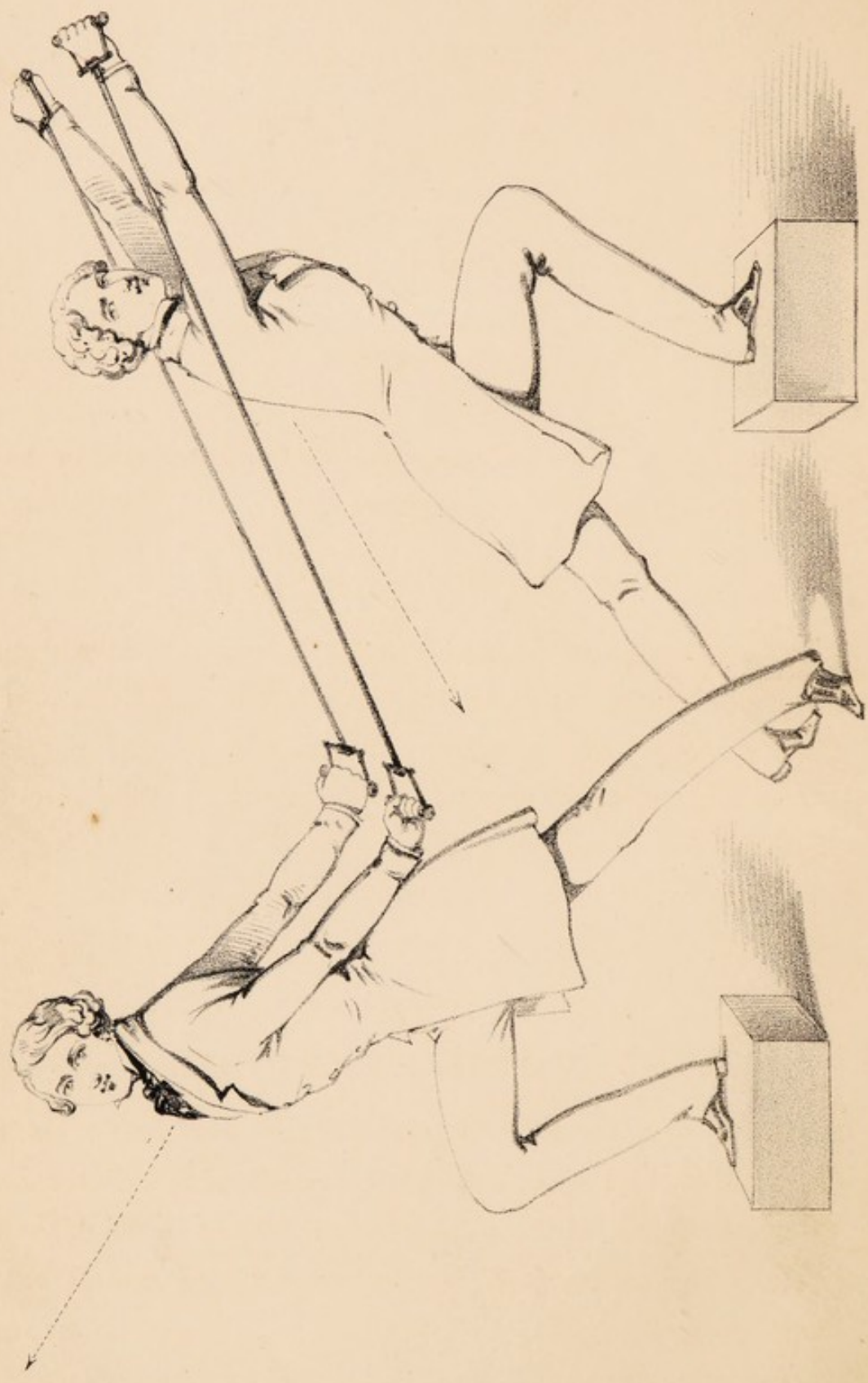
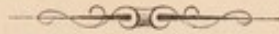


Fig. 1.

Fig. 2.

Second Series of Exercises.



The seven following exercises to be performed by two persons, with two Chest Expanders.

FIRST EXERCISE.

Two persons to take the position described by the figures in plate 5; fig. 2 to extend both arms to the end of the dotted lines, return to the shoulders, and remain in that position whilst fig. 1 performs the same movement; this may be repeated sixteen times slowly.

Care should be taken to stand at a proper distance apart, so that the instruments may extend to the distance required.

SECOND EXERCISE.

Stand as in the preceding exercise; let each person extend the right arm along the dotted line, and return to the shoulder; repeat the same with the left arms: this movement to be repeated eight times with the right foot forward, and the same with the left.

THIRD EXERCISE.

Each person stands in the first position perfectly erect, at a convenient distance for the working of the instruments, with the hands to the side as low as possible without bending the knees; first movement, raise the hands to the shoulders; second movement, extend the arms horizontally to the side; third movement, above the head as high as possible, at the same time rising on the toes; fourth movement, lower the arms to the side as described at the commencement of the exercise.

FOURTH EXERCISE.

Each person stands in an upright position, *dos à dos*, about two feet apart, with the hands to the side; first person extends the arms before him as far as possible, keeping the elbows perfectly straight; second person allowing the arms to be carried back, and *vice versâ*, so that the movement describes the action of a pendulum.

FIFTH EXERCISE.

Take the position of last exercise, with the arms to the side (figs. 1 and 2) raise the opposite arms as described by plate 4; lower the hands to the shoulders, raise them again and lower to the side, whilst the opposite arms are raised to perform the same movement.

SIXTH EXERCISE.

Commence as before; let each person extend the right arm forward and right foot back; lower slowly on the right knee, and rise; repeat the same with the left arm and foot.

SEVENTH EXERCISE.

Each person stands as in fig. 1, plate 5, back to back, with the left foot extended behind; first movement of fig. 1, place the hands on the shoulders; second movement, extend the arms along the dotted lines; third movement, return to the shoulders; fourth movement, extend both arms to the side in a line with the shoulders; fifth movement, raise the hands as far above the head as possible; sixth movement, lower them behind as at the commencement. Fig. 2 remains quiet during the performance of fig. 1, and then he repeats the same.

EIGHTH EXERCISE.

TO BE PERFORMED BY ONE PERSON ONLY.

X Stand with the right foot and left arm forward, the Chest Expander well extended behind; lower slowly on the left knee, and incline the body back, so that the right hand nearly touches the heel of the left foot, the head turned to the left (*see* fig. 1, plate 6); change slowly, so as to bring the right arm forward, and the left hand towards the heel of the

left foot; return to the former position, and rise; then step forward with the left foot and right arm raised, and repeat the movement.

NINTH EXERCISE.

X Commence as described in last exercise, with right foot and left arm forward; count one, lower on the knee; count two (*see* fig. 1, plate 6), lower the left hand to the floor, as dotted; count three, raise it again; count four, rise on the feet; count five and six, repeat the same, commencing with left foot and right arm.

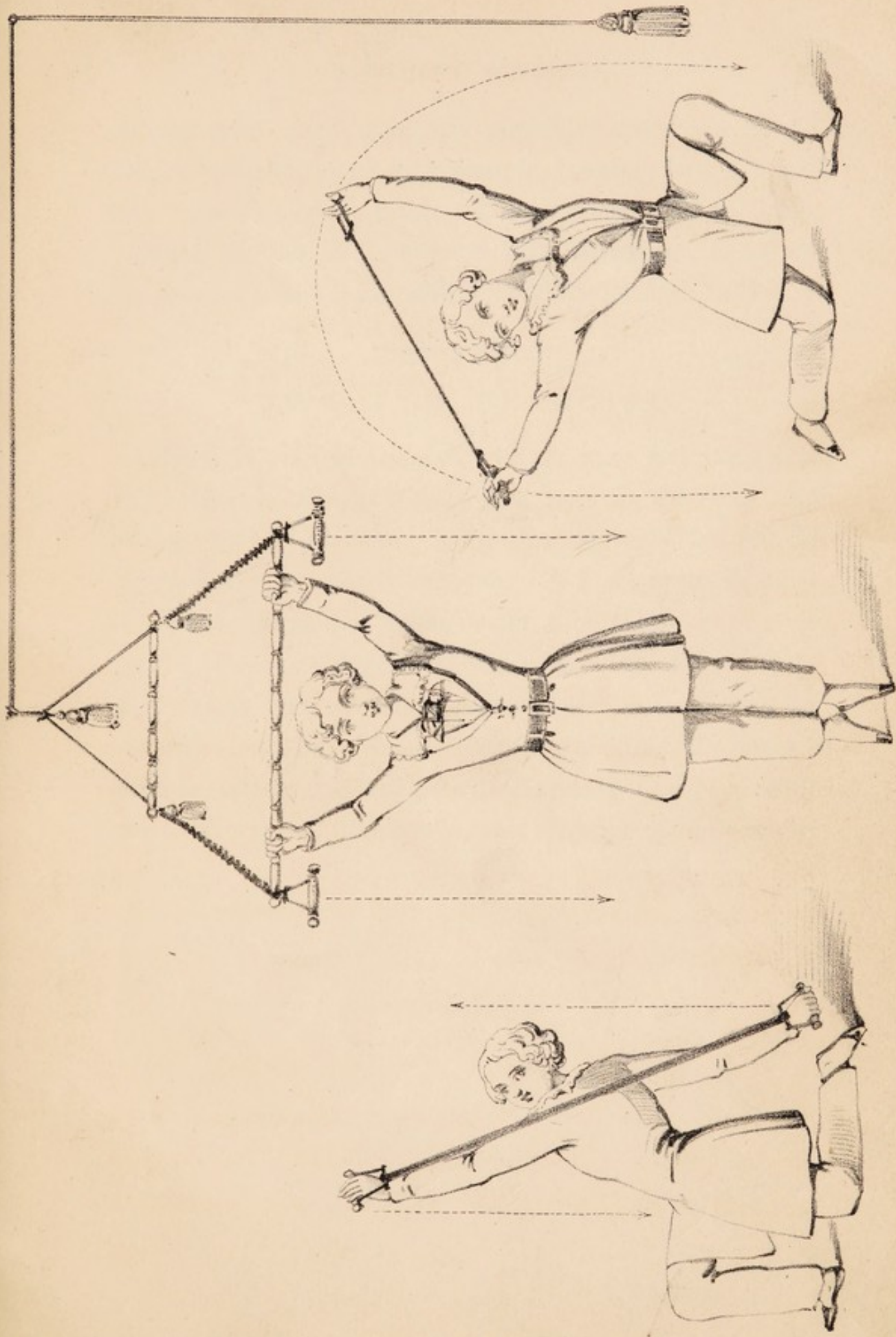
TENTH EXERCISE.

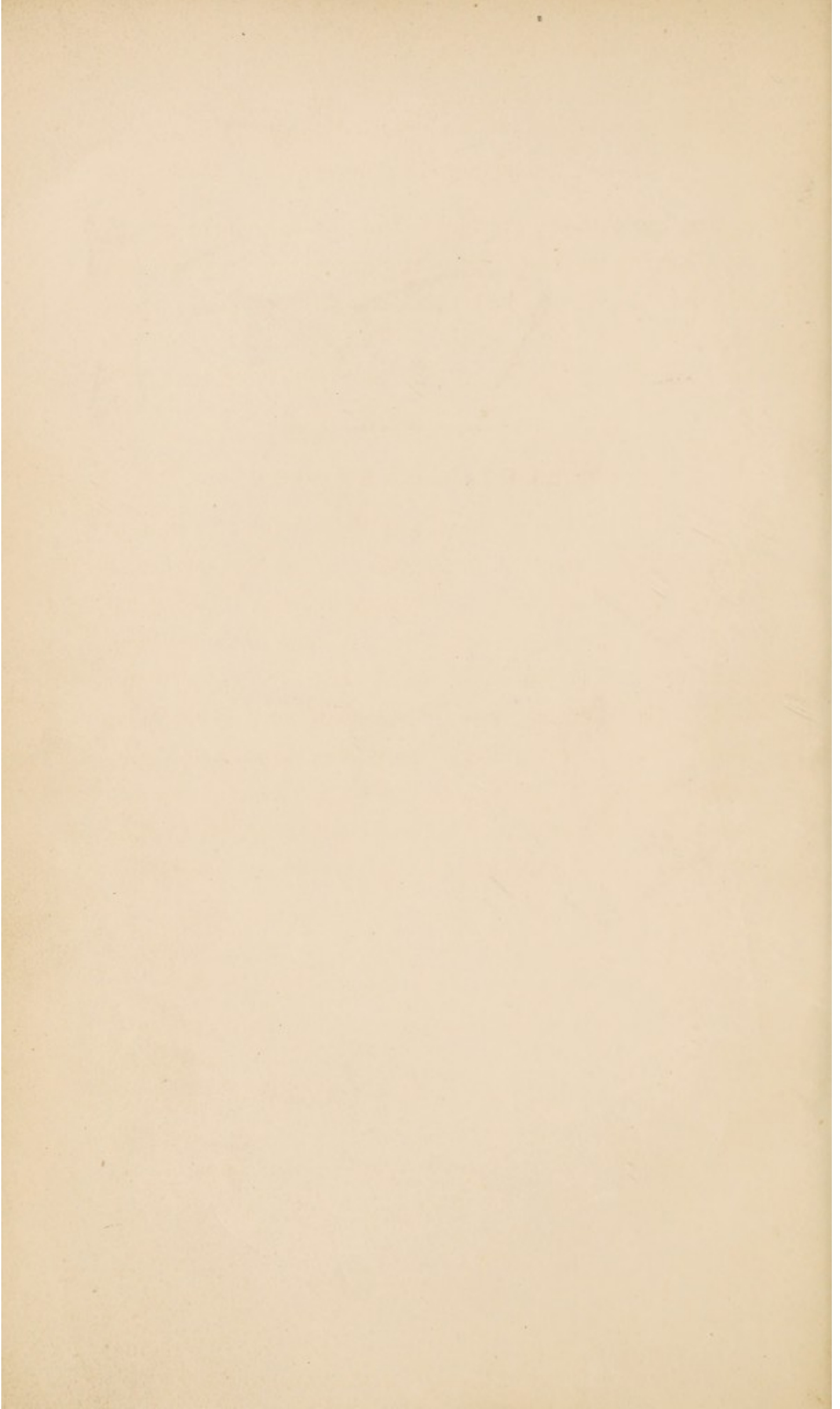
March forward with left foot, holding the Chest Expander in front; lower on the right knee, at the same time passing the instrument behind (*see* fig. 3, plate 6); return the Chest Expander to the end of the dotted line, as marked; then pass and repass three or four times; rise, change the foot, and repeat the same movement.

ELEVENTH EXERCISE.

X Stand as in fig. 2, plate 1, only the arms quite down; hands to the shoulders, count one; to the side (full extension on both sides), count two; extend the arms towards the

Plate. 6.

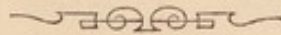




ceiling, count three; gradually place the instrument on the floor, keeping the knees quite straight, counting four, five, and six; raise the figure, making a large circle with the arms, counting another six; repeat the first movement, to recover the Expander, and finish with the arms quite down behind.


T W E L F T H E X E R C I S E .

Stand in the first position, with the arms and instrument down behind; march forward one step, at the same time raising the left arm (as in fig. 1, plate 3), with both feet flat on the floor; count one; bring the left hand to the shoulder, count two; extend it again, count three; pass it over the head to the right side, count four; kneel on the left knee, at the same time extending the left hand as far as possible, count five; return the hand, count six; rise from the kneeling position, at the same time pass the Expander behind, counting one to six; repeat the exercise, only with the opposite limbs.



EXPLANATION OF PLATE 7.

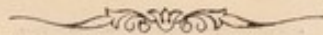
Plate 7 is intended to shew the various muscles that are called into use by the different exercises and positions. The Author thinks it highly necessary that professors and pupils, more especially the former, should have at least a superficial knowledge of the anatomy of the human frame. Acting upon this, he has inserted this figure in this the third edition, accompanied by a list of the names of the muscles, and their various uses.


 GENERAL USES OF THE MUSCLES.

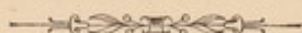
(THE FIGURES REFER TO THE PLATE.)

1. *Sterno Cleido Mastoideus*.—Turns the head to one side and bends it forwards.
2. *Pectoralis Major*.—Moves the arm forwards and obliquely upwards towards the sternum (*i.e.* the breast-bone).
3. *Deltoides*.—To pull the arm forwards, upwards, and backwards.
4. *Biceps Flexor Cubitii*.—To bend the fore-arm.
5. *Triceps Extensor Cubitii*.—To extend the fore-arm.
6. *Supinator Radii Longus*.—Turns the palm of the hand upwards.
7. *Intercostales*.—To raise the ribs during the time of respiration.
8. *Quadratus Lumborum*.—Moves the loins to one side.
9. *Rectus Abdominis*.—Compresses the stomach.
10. *Gluteus*.—Pulls the thigh backwards.

11. *Vastus Externus*.—Extends the leg.
12. *Rectus Femoris*.—Extends the leg in a powerful manner.
13. *Triceps Adductor Femoris*.—To bring the thigh inwards and upwards.
14. *Psoas Magnus*.—Bends the thigh forwards and assists in bending the body.
15. *Pectinalis*.—Brings the thigh upwards and inwards, and gives it a degree of rotation outwards.
16. *Sartorius*.—Bends the leg obliquely inwards and brings one leg across the other.
17. *Vastus Internus*.—Assists the vastus externus in extending the leg.
18. *Gastrocnemeius*.—To point the toes.
19. *Soleus*.—Assists the gastrocnemeius.
20. *Tibialis Anticus*.—Bends the foot by drawing it upwards, and at the same time turns the toes inwards.
21. *Tibialis Posticus*—The same.
22. *Annular Ligament*—To bind the tendons in their places.
Trapezius (not shown in the figure).—A large muscle that covers the upper part of the back.



Exercises for the Spine Director.



Hold the instrument as in plate 7, only the feet together, the hands down to the side and the wrists turned out.

FIRST EXERCISE.

1, hands meet over the head; 2, down to the side.



SECOND EXERCISE.

The same as the 1st, single handed.



THIRD EXERCISE.

1, hands to shoulders; 2, extend to the side; 3, down.



FOURTH EXERCISE.

1, hands raised above the head; 2, to the shoulders; 3, extend in front; 4, shoulders; 5, to the side; 6, to the shoulders; 7, lowered to side; 8, shoulders.

FIFTH EXERCISE.

1, large circles with the arms at the side; 2, same inverted.

SIXTH EXERCISE.

1, right foot forward and left hand (*see* plate 7); 2, draw the foot back and lower the hand; 3 and 4, same with the left foot and right hand.

SEVENTH EXERCISE.

1, same as the last; 2, hand to shoulder; 3, to ceiling; 4, recover. Repeat with opposite limbs.

EIGHTH EXERCISE.

1, same as last; 2, pass the raised hand over the head. Return, counting four, five, and six.

NINTH EXERCISE.

1, stand in the 1st position, hand straight forward; 2, ceiling; 3, to the shoulders.

TENTH EXERCISE.

1, point the right foot behind and right hand forward; 2, point the right foot in front, left hand forward. Same with opposite limbs.

ELEVENTH EXERCISE.

Feet in the first position, and hands to the shoulders. 1, right hand to side; 2, return. 3 and 4, left hand the same. 5, both hands extended; 6, to shoulders; 7, down to side; 8, to shoulders.

TWELFTH EXERCISE.

Feet in the first position (for this exercise the instrument must be fixed low down). 1, swing right arm to left side, allowing the band to pass over the head without touching; 2, back again; 3 and 4, the left arm the same.

THIRTEENTH EXERCISE.

Instrument fixed on a level with the shoulders. 1, raise the hands high over the head; 2, raise the right leg in front, keeping the knee straight and pointing the toes, then recover, bringing it to its original place; same with the left leg.

FOURTEENTH EXERCISE.

1 and 2, march twice in the manner described in the above exercise; 3 and 4, raise on the toes twice.

FIFTEENTH EXERCISE.

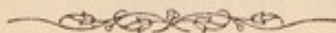
1, right arm and left foot forward; 2, right arm to shoulder; 3, extend it again; 4, pass it over to the left

side; 5, extend the instrument in that position; 6, back again; 7, 8, 9, 10, 11, 12, slowly raise the arm and return to the original position. Repeat with the opposite limbs.

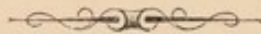
SIXTEENTH EXERCISE.

1, right arm forward and left foot; 2, sink on right knee; 3, bring the left arm forward and throw the right behind; 4 right arm forward, left behind; 5 and 6, raise from the knees to the original position. Repeat with opposite limbs.

Of course the pupil understands that the foregoing exercises are to be repeated more than once; about eight times will be found sufficient. In most cases it will be found beneficial to exercise the left limbs more than the right.



Exercises for the Patent Elastic Triangle.



FIRST EXERCISE.

Stand immediately under the Triangle, take the long pole as described by fig. 2, plate 6, lower it in front, raise it above the head, and lower it behind, then repass; this movement may be performed eight or sixteen times.

SECOND EXERCISE.

Take the same position as for the preceding exercise, with the hands to the chest, holding the pole, extend far above the head, at the same time rising on the toes, lower again and pass the pole to the shoulders behind, extend far above the head, and repeat the movement.

THIRD EXERCISE.

Lower the long pole of the Triangle to the waist, keeping the arms well extended behind, march forward with the

right foot and left arm, then with left foot and right arm, making four steps forward and four back, always with the opposite position.

FOURTH EXERCISE.

Repeat the last movement with the pole raised above the head.

FIFTH EXERCISE.

Detach the elastic part of the Triangle, and fix one end of each spring on hooks placed in the wall, about one foot from the floor and two feet apart; attach the handles to the other ends of the springs; take one in each hand and stand with back to the wall at a convenient distance; raise the hands above the head, and carry them back towards the hooks: this movement may be repeated eight or sixteen times.

SIXTH EXERCISE.

Stand in the same position as in the last exercise; thrust the right arm forward, and right foot back, to the full extent of the power of the performer; lower the arm to the side, and place the feet in the first position; repeat the same with the left side.

SEVENTH EXERCISE.

Repeat the last movement, thrusting both arms forward to each change of feet.

THE PATENT ELASTIC
CALISTHENIC CHEST EXPANDER

will be found very durable, as the spring is now fixed upon an entirely new and improved principle, which precludes the possibility of its breaking, unless used roughly and with unnecessary force.

The Patent Elastic Calisthenic Chest Expanders are divided into three strengths and sizes.

List of Reduced Prices.

	£	s.	d.
No. 1, Superior make and pattern, suitable for pupils under ten years of age	0	7	6
No. 2, for ladies, superior make	0	10	6
„ Ditto, plain make	0	7	9
No. 3, for gentlemen	0	9	0
The Patent Elastic Triangle, from 22. 2s. to	0	8	0
Spine Director, or Wall Triangle, from 12. 6s. to	1	2	0
“The Guide to the use of the Chest Expander and other Instruments”	0	2	6

“The Guide to the use of the Chest Expander and other Instruments,” to all purchasers of Instruments, ~~2s. 6d., separately, 4~~

When a number of books or instruments is taken, an allowance will be made.

COST'S Patent Elastic Triangle is highly recommended by the faculty, for the prevention and cure of the deformities of the back and shoulders; as, when used, it brings into action the principal muscles of the back, and the effect is felt throughout the muscular system.

TERMS FOR INSTRUCTION

IN THE USE OF THE

Patent Elastic Calisthenic Chest Expander, or in Calisthenics.

	£	s.	d.
Private Lesson			
Ditto, abroad, to one or two pupils			
Professors, each, single lesson	1	1	0

Schools attended on the usual Terms.

N.B.—Mr. COST will be happy to give his opinion as to what exercises and instruments are best adapted to any contortions and malformations of the chest, spine, &c.

CAUTION.—Mr. COST is sorry to have occasion to guard the public against spurious and mischievous imitations, which are not only paltry and next to useless, but, at the same time, extremely injurious to all who use them. Mr. COST, therefore, takes this opportunity of stating that he is the *Sole Inventor and Patentee*, and no instrument is genuine unless bearing his name and address—thus: H. COST, [REDACTED]

N.B.—Instruments repaired on an improved principle.

65a. Batter St.
 Gorman Esq.

MEDICAL TESTIMONIALS, OPINIONS OF THE PRESS,
&c.

5, OLD BURLINGTON STREET, *Jan. 5th, 1850.*—

I HAVE recommended, and always with great benefit, the Patent Elastic Calisthenic Chest Expander, used for the exercises taught by Mr. and ~~MISS~~ COST.

JAMES COPLAND, M.D., F.R.S.

32, KING STREET, COVENT GARDEN.

MR. BEAMAN (Surgeon) presents his compliments to Mr. COST, and with great pleasure gives testimony in favour of the judicious and graceful exercises he so ably teaches. Their freedom from the violent muscular contortions occasionally recommended, Mr. BEAMAN considers among the important advantages; he also expresses his entire approbation of the instruments invented by Mr. COST, and will be most happy to answer personally any inquiry on the subject.

~~MISS COST~~ 31, UPPER CHARLOTTE STREET.

MY DEAR SIR,—I can have no hesitation in bearing testimony to the continued efforts of your exercises in producing a healthy muscular

development and elegant deportment of person; and I have great pleasure likewise in expressing my commendation of the uniform attention which I have on many occasions observed towards your pupils, and your undeviating command of temper.

With every wish for your success,

Yours faithfully,

JOHN GEORGE MICHELE, Surgeon.

A NEW SYSTEM OF CALISTHENIC EXERCISES. By Henry Cost.

London.

“MR. HENRY COST, who has for many years devoted his particular attention to the production of healthful exercises for the improvement of the human frame, has invented several Calisthenic instruments, the principal of which is his Patent Elastic Chest Expander. The system of exercises which he here lays down is designed as a guide to his pupils in the use of this instrument, and to show them how, without much fatigue or exertion, they may perform a number of graceful and agreeable movements. In favour of the judicious exercises that Mr. Cost so ably teaches, and their important advantages in producing a healthy muscular development and elegant deportment of person, we give the following testimony from the pen of Dr. DUESBURY:—

“Believing that public benefit is likely to arise from Mr. Cost’s newly invented Patent Chest Expander and Exercises being more generally appreciated and adopted in public establishments and private families, I feel no hesitation in adding my testimony to the many respectable ones he has already received. I consider these exercises,

when judiciously directed, as well calculated to obtain (among others) three most important objects, more particularly as respects young people.

“*Firstly*—By promoting the full and free development and action of the chest and lungs, and consequently the prevention of many serious diseases affecting those organs, such as consumption, distortions of the chest, spine, &c.

“*Secondly*—By a beneficial and invigorating effect upon the whole of the muscular as well as the circulating organs, and, therefore, upon the general health and powers of the individual.

“*Thirdly*—In producing an easy and graceful carriage of the body by means of an agreeable exercise.

“Believing also that Mr. Cost has evinced considerable ingenuity and correct observation in these matters, has had much experience, and is in all respects well qualified to instruct others, I trust he may meet with all the encouragement and success he so well deserves.”—*Weekly Times, May 19th, 1850.*

“WE are glad to notice the invention of an Elastic Chest Expander, by Mr. H. Cost, of Clapham Road Place, Kennington, which is rapidly finding its way into educational establishments. It surpasses anything of the kind we have hitherto seen, and is peculiarly adapted for ladies. The instrument comprises an elastic band, to the extremities of which neat handles are affixed; and the exercise consists in assuming various postures, and stretching the band to an extent adapted to the strength of the performer. Passing over the head and exercising across the

back, it expands the chest, accelerating free inspirations of air, and calling into action the muscles of the shoulders and trunk. Its elasticity renders it pleasing to the touch, as it offers a kind of life-like resistance to every effort for its expansion. In this way it is far superior to "dumb-bells," which are a cumbrous dead-weight, and the oscillations of which often carry the muscles and joints beyond the proper sphere of action, and weaken the very parts they are designed to strengthen."—*The People's Journal, Feb. 15th, 1848.*

"A NEW SYSTEM OF CALISTHENIC EXERCISES. By HENRY COST.—London. In this little work Mr. COST introduces his new system of Calisthenics to the public. To enable those to know the proper postures who cannot be superintended by some one competent to the task in the performance of the Exercises, the book is illustrated with a number of explanatory plates by Brandard. We recommend the Exercises, not only to children, for whom they will be found especially useful, but also to adults. They are healthful in the extreme, and will invigorate and develop the muscular system. They are designed by Mr. COST as a guide to his pupils in the use of his excellent invention—the Patent Elastic Chest Expander."—*London Journal, June 15th, 1850.*

"PATENT ELASTIC CALISTHENIC CHEST EXPANDER. Mr. HENRY COST has sent forth to the public an ingenious invention with the above title. It is an elastic band with handles, which may be used ~~as a back-board,~~ or in any direction : and Mr. COST has published directions for a set of exercises, illustrated by engravings, which we think cannot fail

to be useful, especially to females, whose mode of life too frequently admits of little muscular exercise. The implement is handsome, and so light that a mere infant can use it ; and it is free from an objection which attaches to dumb-bells and some other appliances, inasmuch as it can never exert an undue strain upon the muscles. The extent to which the Expander may be stretched forms a very good index of actual muscular power.

“Mr. COST’s book of Calisthenic Exercises contains commendatory letters by Dr. Duesbury, Mr. Beaman, and other medical practitioners, and also testimonials in favour of the Expander from the proprietors of many Schools where it is used. We consider the invention meritorious, and deserving to be employed by young persons.”—*Lancet*, Nov. 17th, 1849.

PATENT OFFICE.

SIR,—I embrace this opportunity of recording my testimony in favour of your truly valuable and scientific invention. This I can now do with the utmost confidence, for not only have I examined the principles upon which the instrument is based, but I have myself used it; which leads me to remark, that not only may this invention be considered a great boon to the youth of Great Britain, but that it is also an apparatus which no library table should be without.

I am, Sir,

Yours obediently and faithfully,

F. N. CAMPIN.

CLEVELAND HOUSE, BRIXTON HILL.

I CONSIDER the Patent Calisthenic Chest Expander (invented by Mr. COST) admirably calculated to improve the person ; it aids the muscular action effectively, and, being elegant in form, may lie on the drawing-room table, always ready for use.

E. H. DAY.

Testimonial from the Rev. W. Hodgson.

STREATHAM COMMON, *Nov. 10th, 1857.*

MY DEAR SIR,—I have much pleasure in giving my testimony in favour of your excellent, graceful, and judicious Exercises. Every parent, and those who have the care of youths, must feel deeply indebted to you for your invention of the Calisthenic instruments, so effective in developing the muscular powers. All others heretofore in use have been liable to great objections; but you, by your ingenious invention, have supplied a desideratum the want of which has been long felt. With the sincere hope that your talents and industry may meet with the encouragement and success which they so justly deserve,

Believe me, my dear Sir,

Yours very faithfully,

W. HODGSON.

UPPER CLAPTON, *May, 1847.*

MY DEAR SIR,—I have for some time wished to express to yourself and daughter the satisfaction which your unremitting attention to my

pupils has afforded me. Your mode of Calisthenic training has been attended with great success in our circle, and must, if properly pursued, ensure a healthy development of figure, with a graceful and elegant deportment; and, at the same time, your kindness of manner is well calculated to win the respect and attention of the young ladies under your instruction.

I am, my dear Sir, yours truly,

A. HOOD.

13, PARK TERRACE, HIGHBURY, *June 5th*, 1847.

MRS. and MISSES M'LAREN have much pleasure in stating that Mr. COST has taught Dancing and Calisthenic Exercises in their establishment from the time of its commencement. From his long experience in teaching, the great attention he has paid to the Calisthenic Exercises, and his uniformly kind and gentlemanly manner, he has secured their entire approbation, and has greatly promoted the improvement of the young ladies under his tuition.

18, SOUTHAMPTON STREET, FITZROY SQUARE.

It is with the greatest pleasure that I bear testimony to the professional abilities and indefatigable zeal of Mr. COST. I look upon his method as infinitely superior to that of most of the members of his pro-

fession, because it is based on strictly scientific principles, and an intimate knowledge of the anatomy of the human frame. But it is in his beautiful and effective system of Calisthenic Exercises that Mr. Cost chiefly excels; a system calculated, by gentle and graceful means, to promote the development, and consequently the vigour, of every muscle in the body; and the main feature in which is, its being equally remote from the violent and frequently dangerous exertions of the gymnasium, and from the stiff and inappropriate training of the drill. The elegant and efficient instruments recently invented by Mr. Cost should be daily exercised by every young person.

G. H. HOLIDAY.

10, SOUTH PARADE, BROMPTON, *Nov. 6th*, 1847.

MY DEAR SIR,—From my knowledge of your admirable contrivances for the expansion of the chest, &c., I consider it should be made known, in justice to yourself, that your Chest Expander, and your other ingenious arrangements, are in perfect agreement with the laws of muscular action. Your mechanical contrivances being especially adapted for exercising the muscles, will, whenever we use them, make us more healthy, strong, and active in body and mind.

I am, my dear Sir,

Ever faithfully yours,

GEORGE R. LEWIS.

*From the "Dublin Quarterly Journal of Medical Science,"
February, 1857.*

It is now admitted, by all who have paid any attention to the subject, that the physical and social, as well as the mental and moral, condition of the community, requires to be carefully maintained. The *mens sana*, unless *in corpore sano*, is found to lack that firm guidance and support essential for its proper exercise. The material and immaterial constitutions, in their mutual sympathies and innumerable reactions, must be equally considered. If one be neglected, that harmony essential for healthy action being wanting, the complex machine goes faultily on. Much practical good is daily resulting from the recognition of this reciprocal influence of mind and body, visible equally in the improved homestead and healthy appearance, as in the intelligence of the growing masses, attendant on our Public Schools.

. The question of physical education is one which has heretofore not received that attention commensurate with its importance. Our public institutions and large seminaries are, in admitting its necessity, we trust, preparing the way for some competent author to fully treat so interesting a subject. Mr. COST's name is familiarly known as the inventor and patentee of an instrument that has found its way into many studies, and which has long since received the approbation of the profession. We allude to THE PATENT ELASTIC CALISTHENIC CHEST EXPANDER—a long name for a simple and very useful apparatus. We would gladly see this instrument generally adopted, more especially among females, for whom it is admirably suited. Mr. COST's work on the subject purposes to be a series of instructions for exercises calculated to develop, without fatiguing, the

muscles. The principles advocated by him are those which a natural judgment, guided by sound views of vital action and muscular movement, have dictated.

Mr. Cost has great pleasure in stating that these instruments are patronized by Her Majesty the Queen and the Royal Family, the Nobility, and the most eminent members of the profession. They are also highly approved of by the following gentlemen:—Sir Aston Key, Doctors Golding Bird, Duesbury, Guy, Copeland, Rugg, Barry, Beaman, Williams, and Cutler.



