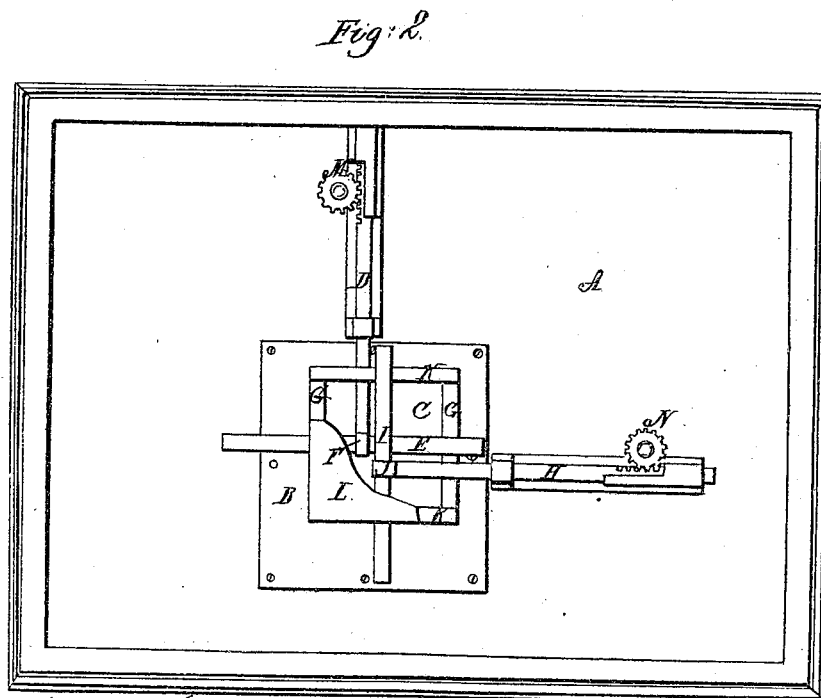
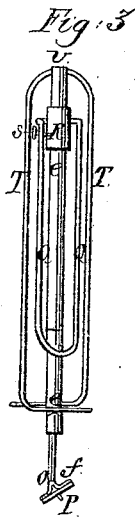
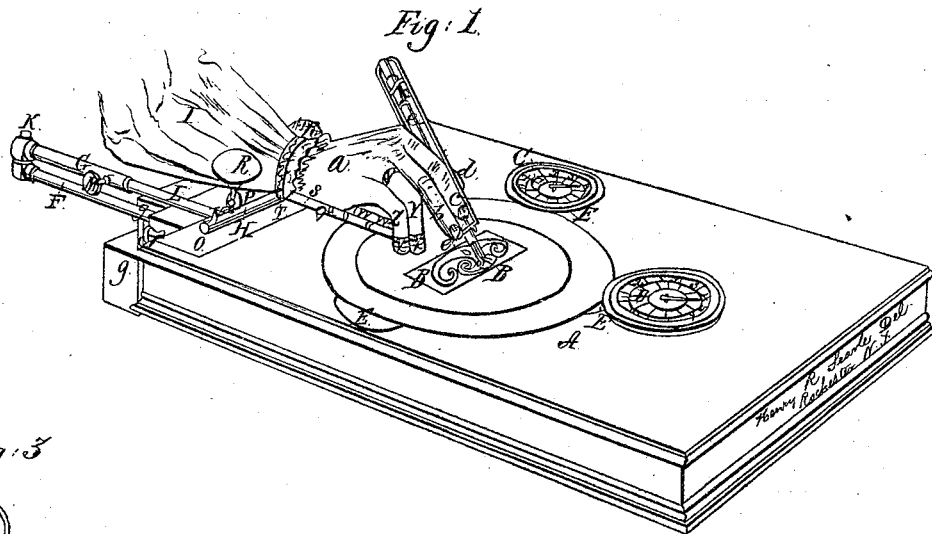


E. G. SQUIER.
 INSTRUMENT FOR TRAINING THE MUSCLES IN WRITING.
 No. 46,827. Patented Mar. 14, 1865.



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UNITED STATES PATENT OFFICE.

EDWIN G. SQUIER, OF LIMA, NEW YORK.

INSTRUMENT FOR TRAINING THE MUSCLES IN WRITING.

Specification forming part of Letters Patent No. 46,827, dated March 14, 1865.

To all whom it may concern:

Be it known that I, EDWIN G. SQUIER, of Lima, in the county of Livingston and State of New York, have invented a new and useful Instrument for Training the Muscles to Write, and which I call a "Muscle-Guide;" and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same.

The nature of my invention consists in a box, on which is a brass plate, which is grooved in a proper shape, the brass plate being so arranged that it can be moved back and forward or sidewise by means of wheels, which also form dials, and by which dials the plate is located at any desired place accurately and by means of a form made to place the arm and fingers in (and which form can be set back or forward by means of a set-screw) and a "stile" which is held in the hand as a pen, (which stile is also arranged for the fingers,) the point of the stile being placed in the groove in brass plate, the necessary motions, desired in forming letters, are acquired.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation by referring to the annexed drawings and letters of reference marked thereon, in which—

Figure 1 is a perspective view of the muscle-guide complete, one-third full size. Fig. 2 is a plan, one-third full size, showing the arrangement by which the brass plate is moved. Fig. 3 shows the stile, one-half full size.

A, Fig. 1, shows the top of the box.

B, Fig. 1, shows the brass plate, which is grooved in any required shape.

C D, Fig. 1, show wheels which also form dials, and by means of which the plate B is moved sidewise or back and forward.

The parts marked E, Fig. 1, are brass friction-plates, which are fastened to the box A, Fig. 1, and on which the plate B slides.

F, G, and H, Fig. 1, show rods which are parts of the form in which the arm I, Fig. 1, is placed. The rod F, Fig. 1, may be moved back or forward, and is held in the required position by means of the set-screw J, Fig. 1. The rods F and G, Fig. 1, are fastened together at K, Fig. 1, with a movable joint. The rod L, Fig. 1, forming a part of the rod G, Fig. 1, can slide back into the rod or tube

G, Fig. 1, and is held in the required position by means of the set-screw M, Fig. 1. The rod H, Fig. 1, is firmly fastened to the rod L, Fig. 1.

N, Fig. 1, shows a friction-wheel in the rod H, Fig. 1. It might be mentioned that there is also another friction-wheel at the other end of the rod, but does not show in the perspective.

O, Fig. 1, shows a friction-plate on which the friction-wheel N, Fig. 1, works.

P, Fig. 1, shows a roller on which the arm I, Fig. 1, rests, and which works in the standard Q, Fig. 1. I would also state here that there is another standard at the opposite end of the roller but does not show in this view.

R R, Fig. 1, show two balls, which are so arranged as to turn on the standards, one of which is shown at Q, Fig. 1.

S, Fig. 1, shows a tube which is hinged to the rod H, Fig. 1, at T, Fig. 1.

U, Fig. 1, shows a rod which slides into the tube S, Fig. 1, and is held in the required position by means of the set-screw V, Fig. 1.

W W, Fig. 1, show pieces which are fastened to the top of the rod U, Fig. 1, to keep it from turning over.

X X, Fig. 1, show thimbles made of springs, in which the third and little fingers Y and Z, Fig. 1, are placed.

b and c, Fig. 1, show the first and second fingers of the hand a, Fig. 1.

d, Fig. 1, shows a part of the thumb.

e e, Fig. 1, show the stile as it is held in the hand.

f, Fig. 1, shows a plate which is hinged to the stile, and on the bottom of which is a point which is kept in the groove in the plate B, Fig. 1, as it is moved by the hand a, Fig. 1.

g g, Fig. 1, show leaves which form a rest for the arm when the instrument is placed on a desk, and which being hinged together, the leaves, which do not lie on the desk, drop below the top of the desk, and prevent the instrument from sliding forward.

A, Fig. 2, shows the inside bottom of the box, the top of which is shown at A, Fig. 1.

B, Fig. 2, shows a brass plate which is fastened to the bottom of the box.

C, Fig. 2, shows another brass plate, which slides on the plate B.

D, Fig. 2, shows a ratchet-bar which is

looped over the bar E, Fig. 2, at F, Fig. 2. The bar E, Fig. 2, is grooved into the bars G G, Fig. 2.

H, Fig. 2, shows a ratchet-bar which is looped over the bar I, Fig. 2, at J, Fig. 2. The bar I, Fig. 2, is grooved into the bars K K, Fig. 2. The bars G G, Fig. 2, are fastened to the plate C, Fig. 2, and the bars K K, Fig. 2, are fastened to the bars G G.

L, Fig. 2, shows a part of a cover which is put over these bars and fastened to them, and to this cover is fastened the plate B, Fig. 1.

M, Fig. 2, shows a cog-wheel to which the dial C, Fig. 1, is attached, and by which the ratchet-bar D, Fig. 2, is worked.

N, Fig. 2, shows a cog-wheel to which the dial D, Fig. 1, is attached, and which moves the ratchet-bar H, Fig. 2.

e e, Fig. 3, show the holder of the stile shown at *e e*, Fig. 1.

f, Fig. 3, shows the plate shown at *f*, Fig. 1, and which is hinged to the stile at O, at Fig. 3.

P, Fig. 3, shows the pin which works in the grooved plate B, Fig. 1. The wires Q Q, Fig. 3, are bent in the shape of a "form" in which to place the thumb, and are fastened to the tube R, Fig. 3, which can be moved up or down on the stile, and which is held in the required position by means of the set-screw S, Fig. 3.

T T, Fig. 3, show wires which are attached to the top of the stile at U, Fig. 3, and which are a guide for the first and second fingers, as shown at *b* and *c*, Fig. 1.

Now, it will be seen that by taking the stile *e e*, Fig. 1, in the hand and placing the arm in form composed of the rods F, G, and H, Fig. 1, and placing the third and little fingers in the spring-thimbles X X, Fig. 1, and placing the point of the stile in the grooves in the plate B, and tracing these grooves, while the movable joint at K, Fig. 1, and the friction-wheel N, Fig. 1, allows the form to be moved sidewise, and the hinge at T, Fig. 1, allows a side movement to the hand, the desired movements in writing are acquired, while the fingers, hand, and arm are kept in their proper position.

It will also be seen, first, that by means of the roller P, Fig. 1, and the balls R R, Fig. 1, the back and forward motion of the arm is

made without friction, and the thimbles X X, Fig. 1, being made of springs which allow the third and little fingers to move, the muscles are not strained or cramped; second, that the form may be made to accommodate any length of arm by means of the set-screws J, M, and V, Fig. 1; third, that by means of the dials C and D, Fig. 1, operating the cog-wheels M and N, Fig. 2, and they in turn operating the ratchet-bars D and H, Fig. 2, by means of which the plate L is moved, and the plate B, Fig. 1, being fastened to the plate L, Fig. 2, is moved back, forward, or sidewise at pleasure, and by means of the dials C and D, Fig. 1, the plate B, Fig. 1, may be set in different positions accurately, so that the muscles are trained to take a correct position in holding the pen, and at the same time all the different motions desired in writing are acquired more correctly and in a much shorter time than when taught in the ordinary way.

This instrument not only trains the muscles of those who have never used a pen, but will also in a very short time improve those who have already learned to write.

Having thus described the construction and operation of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of the form, consisting of the rods F, G, H, and S, the spring-thimbles X X, the roller P, and the balls R R, Fig. 1, with the grooved plate B, Fig. 1, and stile *e e*, Fig. 1, all operating in the manner and for the purpose substantially as herein described and represented.

2. The combination of bars D H and G G and K K, Fig. 2, with the plates L and C, Fig. 2, the cog-wheels M and N, Fig. 2, and the dials C and D, Fig. 1, all operating in the manner and for the purpose substantially as herein described and represented.

3. The hinged plate *f* and point P, Fig. 3, in combination with the wires Q Q and T T, Fig. 3, to form a stile, substantially as herein described and represented.

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Witnesses:

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