J. H. Ross,

Spring,

No. 4,166. Patented Aug. 26, 1845.

Fig. 2.

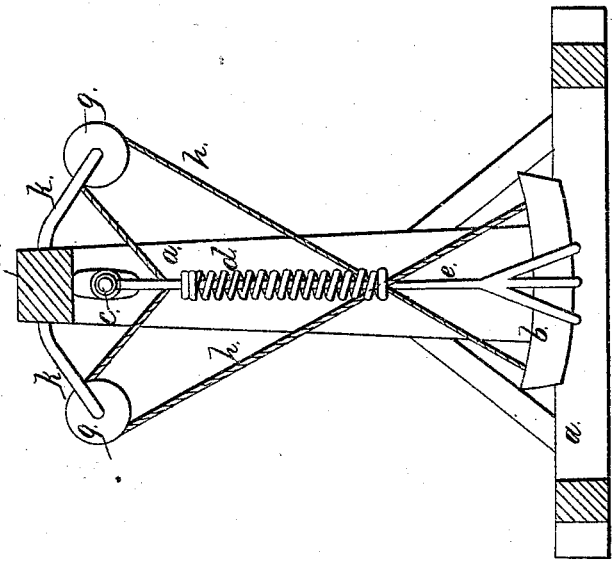
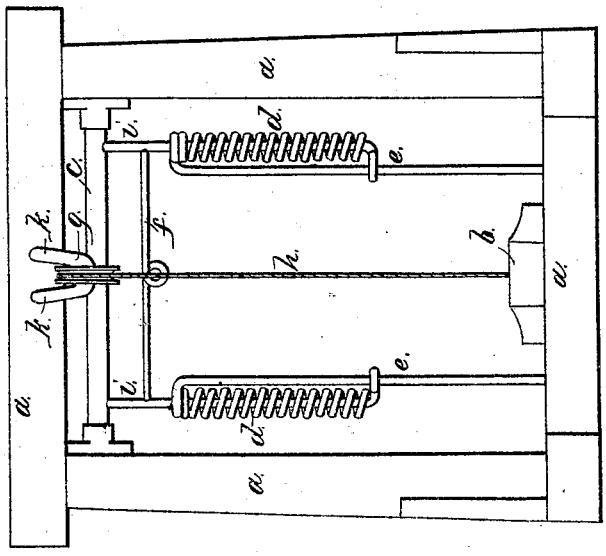


Fig. 1.



UNITED STATES PATENT OFFICE.

JOEL H. ROSS, OF NEW YORK, N. Y.

SWING FOR EXERCISING.

Specification of Letters Patent No. 4,166, dated August 26, 1845.

To all whom it may concern:

Be it known that I, JOEL H. ROSS, of the city, county, and State of New York, have invented a new and useful Swing, which I denominate and call the "Exercising-Swing," and that the following is a full and accurate description thereof.

My said exercising swing may be hung to a frame, so as to be portable, or to the beams of a building, or to any other firm and suitable support. I shall describe it in connection with the drawings hereto annexed.

Figure 1 of said drawings, exhibits a side or front elevation of said swing, hung in a frame erected for such purpose, and Fig. 2 of said drawings exhibits an end elevation of said swing, with one post of the said frame omitted in the drawings so as to show more distinctly the different parts of the mechanism.

b is a car or box, of any convenient form and material, for the person or persons to stand or sit in, who are to swing.

e, *e*, are metallic rods, having prongs at the lower ends; the corresponding prongs of these rods are connected by small cross bars, equal in number to the number of prongs on each rod; said car is firmly fixed upon these cross bars, by which it is sustained; at the upper ends of each of the rods *e*, *e*, is a lip, or projection, with a hole through it to receive the rods, *i*, *i*, so that said lips or projections, together with the rods *e*, *e*, to which they are attached, will slide easily up and down upon the rods —*i*, *i*,—; these lips or projections may be formed by bending the upper ends of the rods *e*, *e*, in the proper form to make such projections with a hole or eye through them or by attaching to each of said rods a small metallic plate, with the hole or eye through it.

i, *i*, are other metallic rods, firmly attached at the upper end to the shaft, *c*, and extending downward and passing through said lips or projections of the rods *e*, *e*. On the lower ends of the rods *i*, *i*, are lips or projections formed similarly to those at the upper ends of the rods *e*, *e*, and through which the rods *e*, *e*, slide easily up and down. Between these lips or projections of said rods, are helical or spiral springs *d*, *d*, wound loosely around the rods, *i*, *i*, so that when the rods *e*, *e*, slide downward, the springs are contracted or compressed between said lips or projections. The size, and flexibility of these springs should be regulated according to the size of the swing, and the number of persons which it is intended to carry.

The shaft, *c*, should be hung so as to turn, in metallic bearings, fixed to, or in the posts of the frame, if a frame be used, or to whatever other support the swing may be hung to, so that the shaft will turn easily backward and forward, as the said car, and rods attached thereto, vibrate, or swing.

f is a cross bar or brace, connecting the rods *i*, *i*; this brace should be placed a little below the shaft say one sixth part of the distance between the shaft and the car; the precise distance not being material. *g*, *g*, as shown by the drawings, are pulleys hung to the braces or arms *k*, *k*, which arms are attached to and extend out from the top beam of the frame on either side of the same. These pulleys should extend sufficiently far from the frame to be out of the way of the bar *f*, as the swing vibrates, and should also be a little higher than said bar. To the center of the cross bar *f*, are attached the cords, which, passing around the said pulleys, extend downward to the car *b*, so that the person or persons in the car, may, by pulling upon said cords, put and keep the swing in motion. I have thus far described the said swing, as geared with two cords and pulleys; but I do not intend to be understood as confining myself to any particular number of cords and pulleys; there may be one or more, as shall be preferred. If the swing be made to carry more than one person, then it would be well to have more than one cord and pulley, as shown in the drawings, so that some might pull one way, and some the other; but if the swing be made to carry but one person, one cord and pulley will be sufficient.

The advantage of the use of the mechanism as above described is that by the use of the springs, an additional motion is secured, which gives greater and more pleasant exercise, and also tends to keep up the swinging motion, and by the use of a cord and pulley, or of cords and pulley, as described, the person or persons swinging, can put and keep themselves in motion, and as each cord is connected with the swing at two points, viz: with the cross bar *f*, and with the hand of the person pulling upon the same, any force so applied to the cord by the hand, is increased in its action upon the swing; so that a very small force, so applied by the hand to the cord, will put and keep

the swing in motion. Persons exercising on said swing, receive the exercise of the ordinary motion of a swing combined with that caused by the contraction and expansion of said springs, together with the healthful exercise to the chest of pulling upon the rope, to put and keep the swing in motion.

My said exercising swing may be made larger so as to carry a large number of persons and be placed in gymnasiums, or public parks, or other suitable places, in the open air, or it may be made of a size suitable to be placed in a dwelling house, and be used as a healthful exercise for children. It may be hung to a frame, as represented, in the drawings annexed by the letters *a*, *a*, *a*, *a*, or it may be hung to any other suitable support.

What I claim as my invention, and not before known, in the above described swing, and desire to secure by Letters Patent, is—

The application and use of springs in combination with the connecting rods *e*, *e*, and *i*, *i*, in the construction of a swing, so that persons exercising thereon, may receive the motion of the spring, in combination with the ordinary swing motion; and the manner of giving motion to the swing by means of the cord and pulley, or cords and pulleys, in combination with the swinging and stationary frames as herein described.

JOEL H. ROSS.

Witnesses:
GEORGE GIFFORD,
MILES B. ANDRUS.