

*C. F. Taylor,*

*Treating Curved Spines.*

*N<sup>o</sup> 41,548.*

*Patented Feb. 9, 1884.*

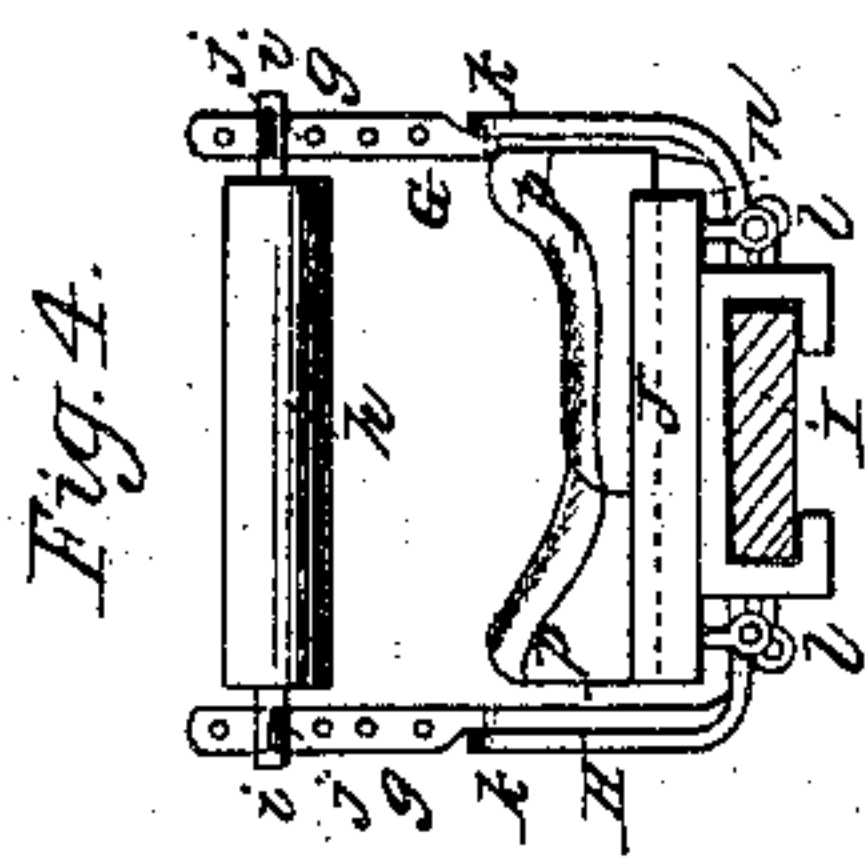


Fig. 3.

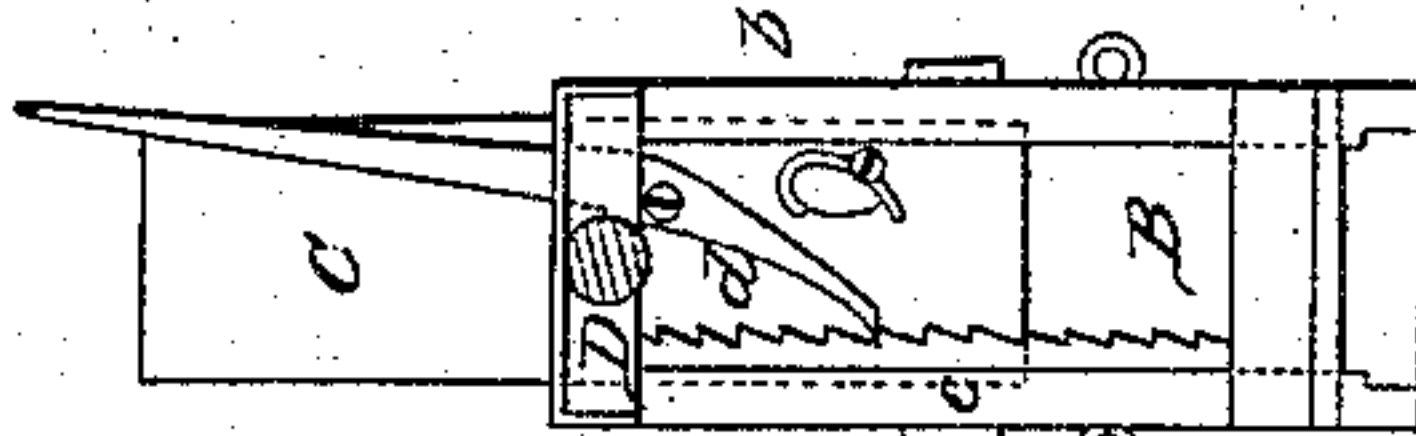


Fig. 2.

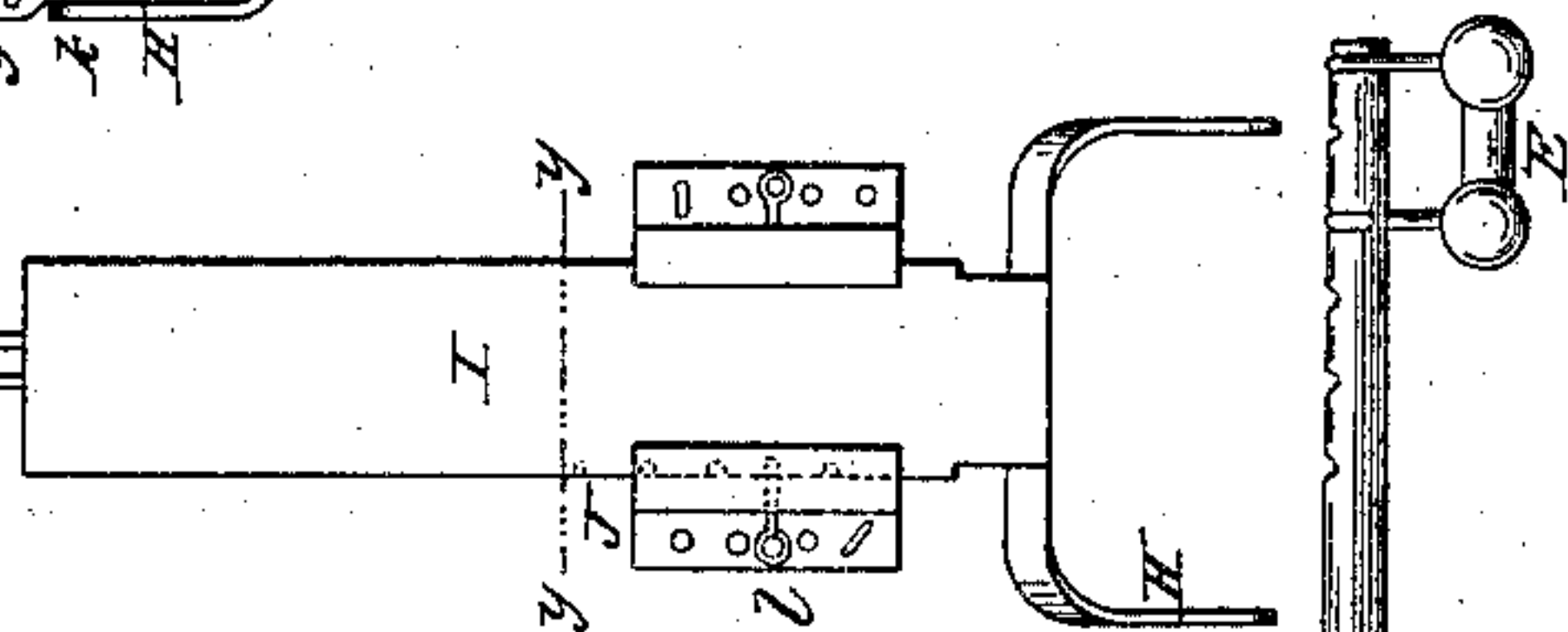
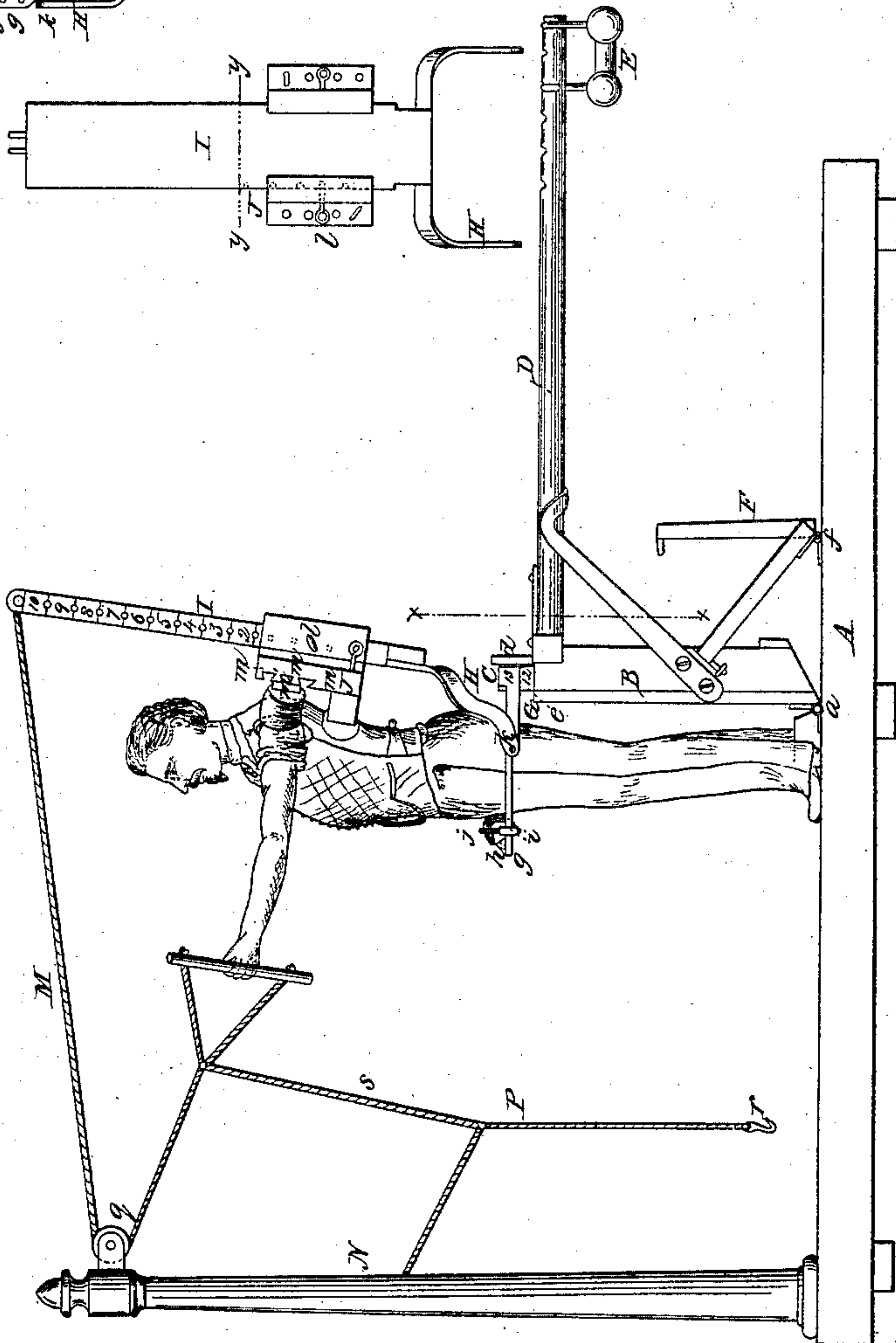


Fig. 1.



Witnesses.

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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN MACHINES FOR TREATING CURVED SPINES.

Specification forming part of Letters Patent No. **41,548**, dated February 9, 1864; antedated February 3, 1864.

*To all whom it may concern:*

Be it known that I, CHARLES F. TAYLOR, of the city, county, and State of New York, have invented a new and useful machine for exercising certain muscles of the back to correct lateral curvature of the spinal column; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a side view of my invention; Figs. 2 and 3, back views of parts pertaining to the same, one of the parts pertaining to Fig. 3 being in section, as indicated by the line *x x*, Fig. 1; Fig. 4, a horizontal section of Fig. 2, taken in the line *y y*.

Similar letters of reference indicate corresponding parts in the several figures.

The object of this invention is to obtain a machine of simple construction which will operate in the most efficient manner for exercising certain muscles of the back in order to correct lateral curvature of the spinal column. To this end the invention consists in the employment or use of two oscillating or vibrating bars—one of which is adjustable, and the other provided with an adjustable plate having adjustable pads attached to it—the two bars aforesaid being connected by a jointed frame, and the lower bar connected by a hinge or joint to the base of the machine, and provided with an arm and counterpoise, all being arranged in connection with a cord and pulley, to operate as hereinafter fully set forth.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents a base-plate, which supports the machine, and B is a plate, the lower end of which is connected by a joint or hinge, *a*, to the base-plate A.

The back edge of the plate B has a guide, *b*, attached to each side of it, and between these guides *b b* a bar, C, is fitted and allowed to slide freely up and down. One of the guides *b* is provided with a rack, *c*, into which a pawl, *d*, attached to the back of the bar C catches, and holds said bar C at any desired height. This will be fully understood by referring to Fig. 3.

One side of the bar C may be graduated, as shown at *e* in Fig. 1, to facilitate the accurate adjustment of said bar. To the upper ends of the guides *b b* an arm, D, is attached at right angles, said arm being provided with a weight, E, to act as a counterpoise.

F is a frame attached to the base-plate A, to hold the plate B and bar C in an upright position when the machine is not in use. This frame F is connected at its lower end to the base-plate A by hinges or joints *f*, so that when the machine is to be used the frame F may be moved back and out of the way of the plate B.

To the upper end of the bar C a curved or bent metal bar, G, is attached, having two parallel side arms, *g g*, between the front parts of which a padded bar, *h*, is fitted, said bar having an eye, *i*, at each end, which slide on the arms *g g*, and are secured at any desired point by pins *j*, which pass through the eyes and through any of a series of holes in said arms. To this bar G the ends of a curved bar, H, are attached by pivots *k*, forming joints, and to the bar H a bar, I, similar to the bar C, is permanently secured. On this bar I an adjustable plate, J, is fitted and allowed to slide freely, and is secured at any point by pins *l*. The front or face side of this plate J has a series of parallel horizontal grooves, *m*, made in it, in any of which a dovetail flange, *m'*, on a padded slide, K, is fitted. This slide may be secured at any desired point by a pin, *n*, passing through the back of the plate J into the slide, as shown in Fig. 2.

L is a padded projection, which may be permanently attached to the front side of the plate J, or arranged so as to be adjustable. The padded slide and padded projection have their outer parts projecting forward, as shown at *p* in Fig. 4. One or both sides of the bar I may be graduated, in order to admit of the accurate adjustment of the plate J thereon.

M is a cord, one end of which is attached to the upper end of the bar I. This cord passes around a pulley, *q*, at the upper end of a standard, N, on the base-plate, and, extending down, has a bar, O, secured to it. P is a cord, one end of which is attached to the standard N, the opposite end being provided



with a hook, *r*. The cord *M* is connected to the cord *P* by a cord, *s*.

The operation is as follows: The patient to be operated upon stands with his back to the bar *I* and within the bent bar *G*, the bar *C* being so adjusted that the bar *G* will be just below the hips of the patient. (See Fig. 1, in which the patient is shown in red.) The padded slide *K* is then adjusted in the plate *J* so as to bear against the curved lateral prominence of the back, the padded projection *L* being at the opposite side of the patient. The plate *J* is adjusted on the bar *I* to suit the height of the patient and enable the padded slide *K* and padded projection *L* to be properly adjusted to the patient, and the padded slide *K* is rendered capable of being adjusted higher or lower, independently of the adjustment of the plate *J*, as the former may have its flange *m'* fitted in any of the grooves *m* in the plate *J*.

The patient grasps with the hand of his weak side—that is to say, the hand of the arm at the hollow side of the body—and alternately pulls the same and allows it to recede, thereby giving an oscillating or vibrating motion to the bars *C I*. This movement of the weak side of the body, in connection with the oscillating movement of the bars *C I*, causes the padded slide *K* to act against the curved lateral prominence of the back, and the muscles of the back in the vicinity of the distortion are consequently exercised and strength-

ened, so as to eventually restore the patient to a natural erect position.

The weight or counterpoise *E* serves to render the operation of the bars *C I* perfect and uniform. The front part of the thighs of the patient bear against the padded bar *h* when the patient inclines forward. The cord *P* is designed to be connected to one of the arms *g* of the bar *G* when the patient requires rest, said cord holding the bars *C I* in an upright position.

This device is now in practical operation, and has been found to answer an admirable purpose.

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

The two bars *C I*, connected together by the bars *G H* so as to form a joint, the bar *C* being fitted in a plate, *B*, or arranged in any other suitable manner so as to be adjustable, and the bar *I*, provided with an adjustable plate, *J*, having the padded projection *L* and the adjustable padded slide *K* fitted to it, the above parts being used in connection with the cord *M* and the arm *D* and counterpoise *E*, all arranged substantially as and for the purpose set forth.

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Witnesses:

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