

(No Model.)

G. M. RICHARDSON.

COMBINED HANGER AND DRIVING APPARATUS FOR OPERATING
SEWING MACHINES.

No. 305,109.

Patented Sept. 16, 1884.

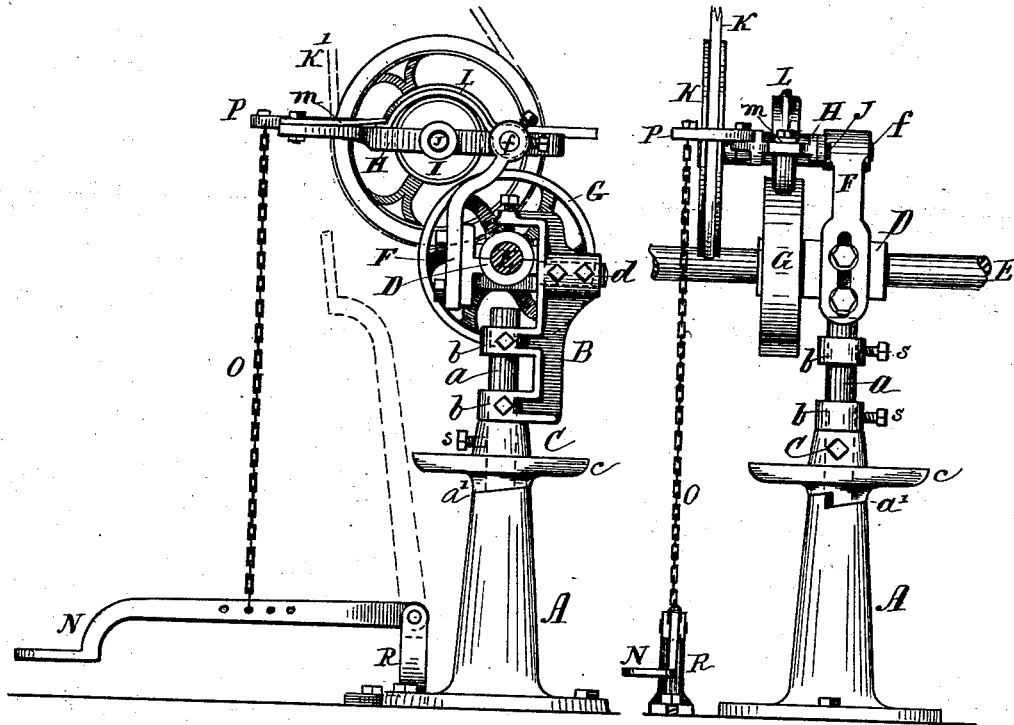


FIG. 1

FIG. 2

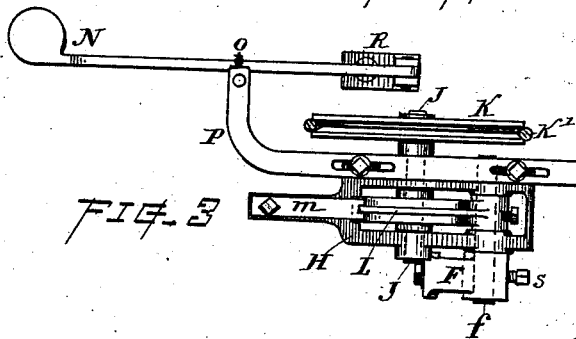


FIG. 3

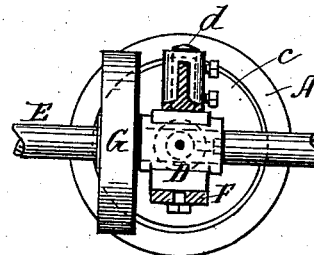


FIG. 4

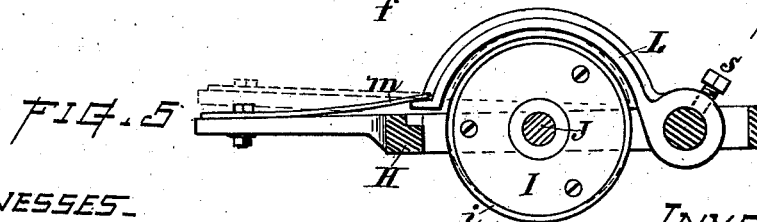


FIG. 5

WITNESSES.

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GEORGE M. RICHARDSON, OF MILFORD, MASSACHUSETTS.

COMBINED HANGER AND DRIVING APPARATUS FOR OPERATING SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 305,109, dated September 16, 1884.

Application filed August 7, 1884. (No model.)

To all whom it may concern:

Be it known that I, GEORGE M. RICHARDSON, a citizen of the United States, residing at Milford, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in a Combined Hanger and Driving Apparatus for Operating Sewing and other Machines by Power; and I declare the following to be a description of my said invention, sufficiently full, clear, and exact to enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

The object of my present invention is to provide an apparatus of improved construction for facilitating the driving, stopping, and starting of sewing-machines and other light machinery, when operated in connection with a power-shaft located beneath the bench or table upon which said machines are supported; also, to render said apparatus simple, convenient, and efficient in its make, maintenance, and operation, and readily adjustable to bring all the parts into proper working relation with each other. These objects I attain by the mechanism shown, and hereinafter described, the particular subject-matter claimed being hereinafter specified.

In the drawings, Figure 1 is a side view of my improved mechanism as applied to use. Fig. 2 is a front view of the same. Fig. 3 is a top plan view. Fig. 4 is a plan or section showing the lower part of the supporter; and Fig. 5 is a sectional view showing the depressing-frame, friction-wheel brake, and spring on a somewhat larger scale.

In referring to parts, A indicates the base and column of the standard or hanger, formed with a vertical spindle, *a*, rigidly fixed in its upper end.

B indicates a vertically-adjustable frame or bracket having ears *b*, that slide over the spindle *a*, and are held thereto by set-screws, as indicated.

C indicates a collar fitted on the spindle *a* below the frame B, and giving positive support therefor. Its lower end is fitted with a spiral bearing, *a'*, on the end of the column A. It also is provided with a broad upwardly-turned flange, *c*, that serves as a drip-cup for the shaft-bearings.

D denotes the journal-box for supporting the power-shaft E. Said box is supported on the frame or bracket B by means of a horizontally-arranged stud, *d*, which passes through a suitable bearing in said frame, and is secured by set-screws, as indicated. The stud *d* permits the box to conform to the lineament of the shaft E.

F denotes an arm or upper bracket adjustably attached to the side of the main journal-box D, and carrying at its head a horizontally-arranged stud, *f*, that is fixed stationary in the head, and which extends over the driving-wheel G parallel with the shaft E. As indicated, stud *f* may be extended both right and left, if desired, for a double driving mechanism.

H indicates a vertically-swinging open-centered frame fulcrumed or hinged loosely upon the stud *f*, so that its forward end can move up and down.

I denotes the friction-wheel fixed on a short shaft J, that is journaled on the frame H, parallel with the stud *f* and shaft E, and having connected to its outer end the pulley or wheel K, upon which runs the band K', that operates the sewing-machine or other operated machine, which is not herein shown. The wheel I is made with a facing, *i*, of leather or other suitable material, for giving sufficient friction upon the face of the wheel G for driving the sewing-machine or operated mechanism.

L denotes a semicircle of metal arranged above the wheel I, which serves as a brake for stopping the shaft J and devices operated thereby. The brake-piece is supported rigidly in connection with the stud *f*, so as to stand stationary at a definite position in relation to the wheel G, so that when the wheel I is brought into contact with the wheel G it will be cleared from the brake, but when raised from the wheel G will be brought into contact with the under surface of the brake, which surface is made on a curve of slightly greater radius than the periphery of the friction-wheel. A spring, *m*, is secured to the forward end of the frame H, as indicated. The end of said spring, resting upon the forward part of the brake-piece L, serves to keep the frame H elevated, so that the wheel I is clear of the driving-wheel G and in con-

tact with the brake, except when the force of said spring *m* is overcome by the operator when depressing the treadle *N* or otherwise forcing down the frame *H*. The end of the spring *m* may be fitted to the part *L* with a notch or lug, so as to confine the parts from working out of place laterally. The treadle *N* is connected to the frame *H* by a chain, *O*, in the present instance attached to the end of an adjustable bar, *P*, that is secured to the frame *H*, and which permits variation of the leverage. If preferred, however, the chain could be connected direct to the forward end of frame *H*. The treadle *N* is pivoted to a stand or ear, *R*, bolted to the floor, and is hung in a manner to be turned up out of the way to facilitate sweeping beneath the tables, as indicated by dotted lines in Fig. 1.

s s denote set-screws for retaining the parts at positions of adjustment.

For use with double tables having two rows of machines, to which the operators sit facing each other, the apparatus can be made with two driving-wheels, *G*, and operating mechanisms, one at the right and one at left of the standard *A*, the stud *f* being made of sufficient length and projected at the opposite side of the arm *F*, so as to support a frame, *H*, brake *L*, and friction-wheel devices similar to those shown, but facing in the opposite direction, thus affording two similar operating devices on a single standard, *A*.

The operator for starting the machine depresses the treadle *N* and frame *H*, bringing the friction-wheel *I* into contact with the drive-wheel, which gives motion thereto and operates the shaft *J* and band-wheel *K*. Then when the operator releases the treadle the spring *m* causes the elevation of the frame *H* and brings the wheel *I* against the brake-piece *L*, and thus instantly stops the machine.

The frame *H* may be depressed by hand or by other means than the treadle *N*, if in any case desirable or more convenient. Vertical and laterally-rotative adjustment can be effected by raising the bracket *B* on the spindle *a*. By raising the arm *F* at its attachment to the box *D* the frame *H*, which carries the friction-wheel *I*, can be set nearer to or farther from the wheel *G*. The brake *L* can be adjusted to or from the wheel *I* by loosening its set-screws *s* and slightly turning the piece on the stud *f*. The leverage can be varied by shifting the position of bar *P* on the frame *H*, and other desirable adjustments for adapting the apparatus for use in different situations can be conveniently effected by means shown.

The frame *H*, with its pivot-stud *f*, friction and band wheels *I* and *K*, and brake device, may in some cases be employed in connection with hangers or journal-boxes of other construction than the adjustable form herein

shown, and I desire to include such use as within the scope of my invention.

What I claim as of my invention, and desire to secure by Letters Patent, is—

1. The standard composed of the column *A* and spindle *a*, in combination with the adjustable bracket *B*, with ears *b*, and the journal-box *D*, supported thereon by the stud *d*, as shown and described.

2. The column *A*, having the spiral top end and central spindle, *a*, in combination with the adjustable brackets *B*, with ears *b*, embracing said spindle, the journal-box *D*, with stud *d*, supported in said bracket, and the flanged collar *C*, surrounding the spindle *a*, and having a spiral end resting upon the spiral top of said column, as and for the purpose set forth.

3. The combination, with the standard and journal-box which supports the main shaft *E*, of the adjustable arm *F*, carrying the pivot-stud *f*, the friction-wheel *I*, the swinging frame *H*, the band-wheel *K*, and brake devices, substantially as and for the purposes set forth.

4. The combination of the adjustable hanger or standard, the power-shaft *E*, with its driving-wheel *G*, the swinging frame *H*, supported by arm *F* and stud *f*, the shaft *J*, with friction-wheel *I*, and band-wheel *K*, mounted on said frame, the brake-piece *L*, and the spring *m*, substantially as and for the purposes set forth.

5. The combination of the shaft *E*, the drive-wheel *G*, the swing-frame *H*, the friction-wheel *I*, the brake *L*, the spring *m*, the treadle *N*, and connection *O*, substantially as and for the purpose set forth.

6. The combination, with the swinging frame carrying the shaft *J*, friction-wheel *I*, and band-wheel *K*, of the adjustable bar *P*, with the treadle-connection, as and for the purpose set forth.

7. The combination of the stationary supporting-stud *f*, the movable frame *H*, loosely pivoted thereon, the wheel *I*, mounted in said frame, the stationary brake *L*, rigidly attached to said stud, and the spring *m*, attached to said frame and arranged to press against said brake-piece, substantially as set forth.

8. The combination of the column *A* with spindle *a*, the bracket-frame *B*, journal-bearing *D*, arm *F*, stud *f*, swing-frame *H*, brake *L*, spring *m*, shafts *E* and *J*, wheels *G*, *I*, and *K*, treadle *P*, and chain *O*, substantially as and for the purpose set forth.

Witness my hand this 30th day of July A. D. 1884.

GEORGE M. RICHARDSON.

Witnesses:

CHAS. H. BURLEIGH,
S. R. BARTON.