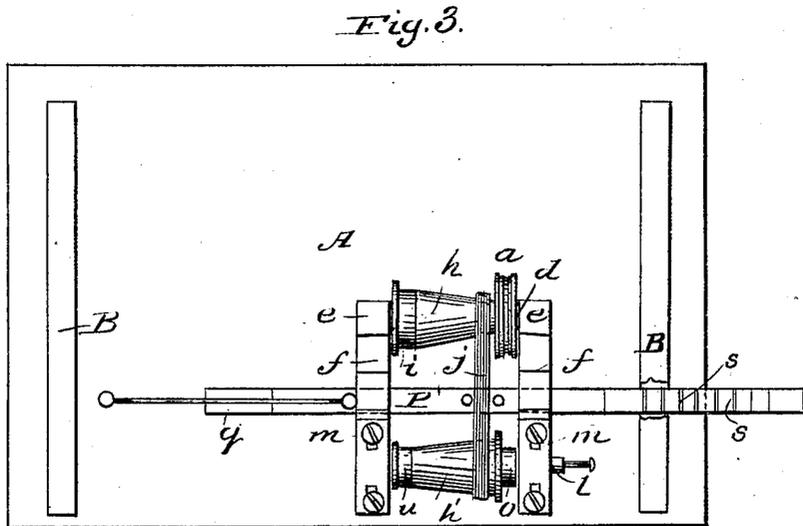
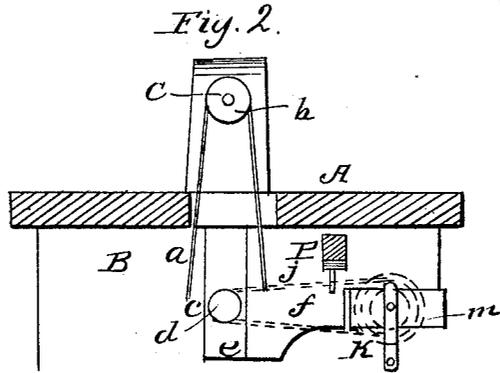
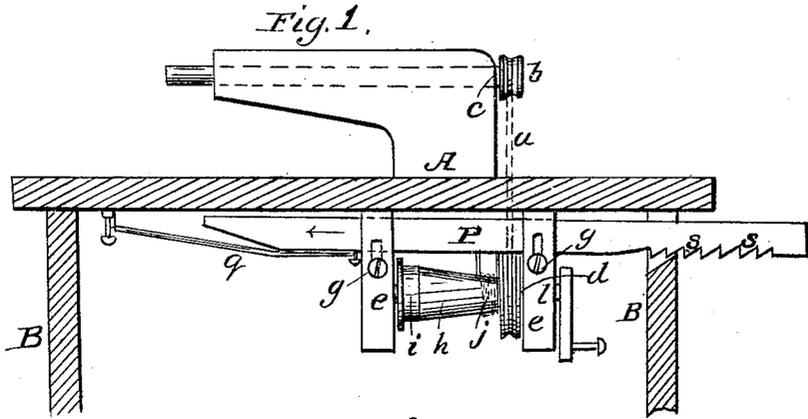


A. BUCHANAN.

Device for Controlling the Motion of Sewing Machines.

No. 51,012.

Patented Nov. 21, 1865.



Witnesses:

W. Brown
Geo. Tusch

Inventor:

A. Buchanan
By *[Signature]*
Atty

UNITED STATES PATENT OFFICE.

ANDREW BUCHANAN, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN DEVICES FOR CONTROLLING THE MOTION OF SEWING-MACHINES.

Specification forming part of Letters Patent No. 51,012, dated November 21, 1865.

To all whom it may concern:

Be it known that I, ANDREW BUCHANAN, of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Device for Controlling the Motion of Sewing-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a sectional side elevation of this invention; Fig. 2, a transverse vertical section of the same. Fig. 3 is an inverted plan of the same.

Similar letters of reference indicate like parts.

The object of this invention is to control by a simple and convenient device the speed of sewing-machines driven by power.

The device consists in a belt-shipper which is subjected to the action of a spring and provided with a series of ratchet-teeth arranged so as to catch over the V-shaped edge of a slot in the frame, in combination with a belt running over two cones pointing in opposite directions, in such a manner that by adjusting said belt-shipper in different notches the speed of the sewing-machine can be increased or decreased at pleasure. The cones are secured to two different shafts, which are parallel to each other and have their bearings in suitable boxes under the table. On the shafts of one of the cones is placed the driving-pulley, and on the shaft of the other cone is mounted a grooved pulley from which motion is transmitted to the sewing mechanism, and the driving-cone joins at its small end a flat portion which corresponds in position to a loose pulley at the large end of the driven cone, so that by shifting the belt to these pulleys the motion of the machine can be stopped at any moment. The journal-boxes of the driving-cone are adjustable in a horizontal direction, and those of the driven pulley in a vertical direction. By the former motion the position of the cones in relation to each other and to the tension of the belt can be adjusted, and by the latter motion the tension of the belt which serves to transmit motion to the sewing mechanism is regulated.

A represents the table or platform of a sew-

ing-machine, which rests upon suitable legs, B and which supports the sewing mechanism, to which motion is imparted by a shaft, C, by means of a belt, *a*, which runs over pulleys *b* *c*. The pulley *b* is mounted on the end of the shaft C, and the pulley *c* on a shaft, *d*, which has its bearings in suitable boxes *e*. These boxes are secured to pendants *f*, cast or otherwise attached to the under surface of the table A, and the screws *g*, which fasten the same to the pendants, pass through slots, so that said boxes can be adjusted up or down and the tension of the belt *a* can be regulated at pleasure.

On the shaft *d* is mounted a conical drum *h*, the small end of which joins the pulley *c*, whereas its large end is equal in diameter to a loose pulley, *i*, which is situated in close proximity to it, as shown in Figs. 1 and 3.

From the cone *h* extends a belt, *j*, to a cone, *k*, which is equal in length and in diameter to the cone *h*, but mounted in a reverse position on a shaft, *l*. This shaft has its bearings in boxes *m*, which are secured to the pendants *f* by means of screws passing through slots, so that the distance between the cones can be varied to give the proper tension to the belt *j*. The small end of the cone *k* joins a cylindrical pulley, *n*, which is firmly secured to the shaft and rotates with the cone. This pulley corresponds in position to the loose pulley *i* on the shaft *d*, and if the belt *j* is shifted to these pulleys, the shaft *l* can be rotated without imparting motion to the shaft *d*. A small pulley, *o*, on the shaft *l* is intended to receive a belt by means of which motion is imparted to said shaft and to the whole mechanism from a steam-engine, or any other suitable source of power.

The position of the belt *j* on the cones *h* and *k* is governed by a belt-shipper, *p*, which is subjected to the action of a spring, *q*, that has a tendency to draw the same back in the direction of the arrow marked on it in Fig. 1, and to shift the belt *j* to the pulleys *n* *i*. The loose end of said belt-shipper is guided in a mortise, *r*, in one of the legs of the table A, and it is provided with a series of ratchet-teeth, *s*, which catch over the V-shaped edge of the mortise *q*. By means of these ratchet-teeth the belt-shipper can be adjusted, and the speed of the sewing mechanism can be governed to

any desired extent. When the belt runs on the large part of the driving-cone *k*, and consequently on the small part of the driven cone *h*, the motion of the sewing mechanism is fastest; but when the belt is moved toward the small part of the driving and consequently towards the large part of the driven cone the motion of the sewing mechanism becomes slower and slower, until, finally, by shifting the belt on the cylindrical pulleys *n i*, the motion of the sewing mechanism stops entirely.

I do not claim as my invention the use of two cones pointing in opposite directions, for the purpose of controlling the motion of machinery in general; but

I claim as new and desire to secure by Letters Patent—

The adjustable notched spring-bar *p*, in combination with the table of a sewing-machine, and with a belt running over two cones secured to adjustable axles, and provided with cylindrical parts *n i*, substantially as and for the purposes set forth.

ANDREW BUCHANAN.

Witnesses:

M. M. LIVINGSTON,

C. L. TOPLIFF.