

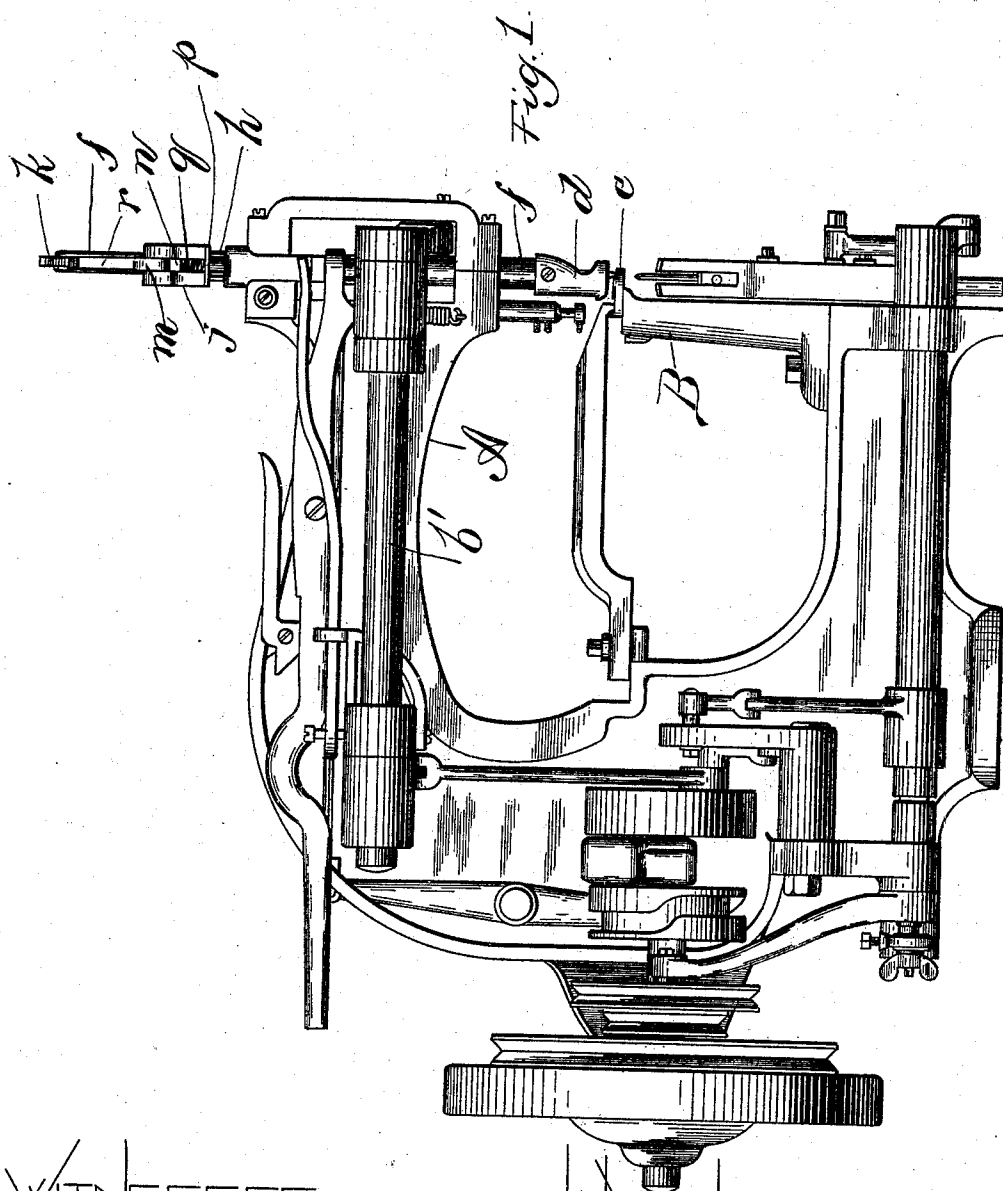
(No Model.)

P. L. COX.
SEWING MACHINE.

4 Sheets—Sheet 1.

No. 504,911.

Patented Sept. 12, 1893.



WITNESSES.

Arthur F. Randall.
Robert Wallace.

INVENTOR

Peter L. Cox
By MacLeod, Calver & Randall
his Attorneys.

(No Model.)

4 Sheets—Sheet 2.

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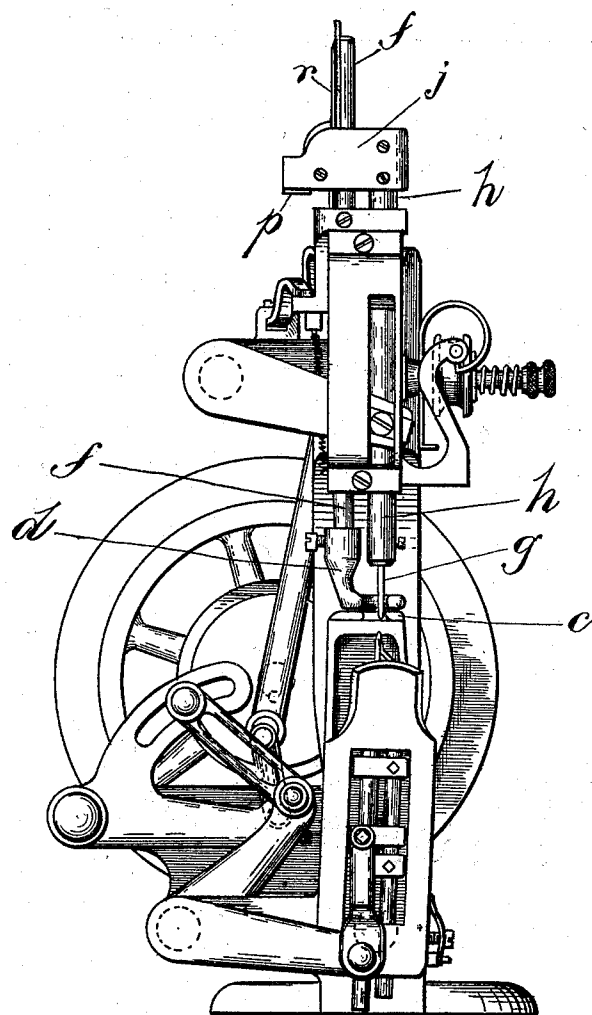


Fig. 2.

WITNESSES.

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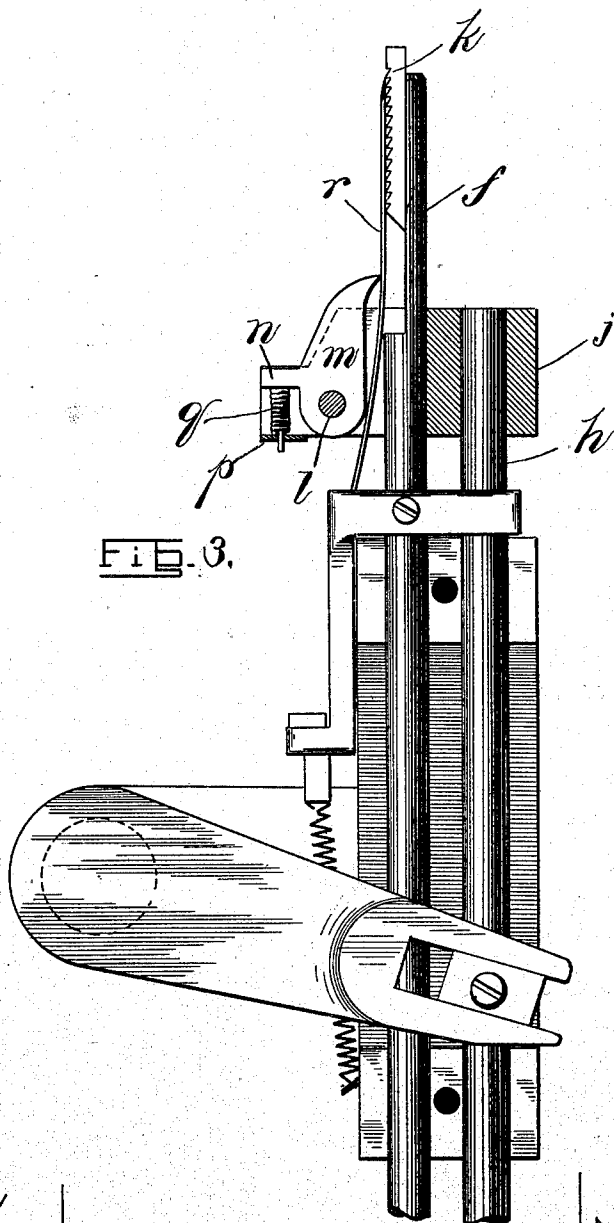
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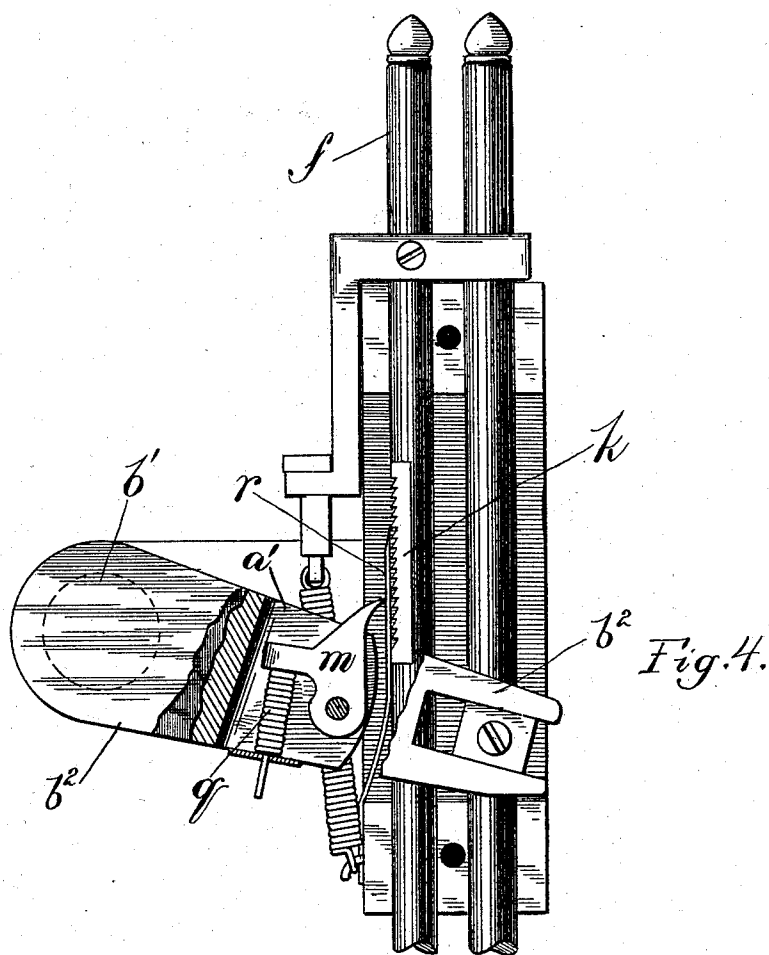
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UNITED STATES PATENT OFFICE.

PETER L. COX, OF BOSTON, MASSACHUSETTS.

SEWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 504,911, dated September 12, 1893.

Application filed December 3, 1892. Serial No. 453,950. (No model.)

To all whom it may concern:

Be it known that I, PETER L. COX, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Sewing-Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention has for its object an improvement in sewing machines and relates to mechanism by means of which the presser-foot of the machine may be lifted a given distance from the work, whether the work be thick or thin.

I have shown my device in the best form now known to me in the accompanying drawings which show my invention as applied to a wax-thread sewing machine of a well-known type.

In the drawings, Figure 1 is a side elevation of a machine with my device applied thereto. Fig. 2 is an end elevation of the same. Fig. 3 is a detail enlarged. Fig. 4 is a similar detail showing a modification.

I will confine the following description to my present invention and will refer only to such of the adjacent parts of the machine as may be necessary to a clear understanding of the operation of the device.

A represents the main frame of the machine which is of the ordinary goose-neck construction.

B is the work-post and c is the work-plate. The presser-foot is shown at d, and the presser-foot bar f.

The awl is shown at g, and the awl-bar at h.

The presser-foot bar and the awl-bar are arranged to slide vertically in the front upper part of the frame in the usual manner.

On top of the awl-bar I secure by screws or otherwise a block j which extends laterally as shown in Fig. 2 and through which the upper part of the presser-foot bar f passes, the block j being slotted as shown in Fig. 3 to permit of the passage therethrough of the upper end of said presser-foot bar f. On the upper end of the said bar f is secured in any suitable manner a rack k and in the slot or opening in the block j is pivoted at l a pawl m.

The pawl m is provided with a tail-piece or projection n and between this projection and a cross-piece p which is secured to the block

there is placed a spiral spring q. The spring q tends to throw the point of the pawl forward into engagement with the teeth of the rack k. A strip of metal r is secured at its lower end to the frame of the machine and projects upwardly along the upper part of the presser-foot bar f and against the teeth on the lower part of the rack k, the strip r is preferably a thin piece of spring-metal as steel and is thinned down to an edge at its upper end as shown in Fig. 3 so that the pawl will not snap into engagement with the rack but will come smoothly into contact therewith. The point or beak of the pawl m presses against the strip r as the pawl moves upwardly and is prevented from engaging the teeth of the rack k until after the pawl has passed the upper end of the strip r. As soon as the pawl has passed the upper end of the strip r it comes in contact with a tooth of the rack k and the further upward movement of the pawl operates to raise the presser-foot bar and presser foot. As the pawl m is moved upwardly a given distance at each upward movement and as the strip r is fixed it will be clear that the presser-foot bar and presser-foot will be raised upwardly a given distance from the work without regard to the thickness thereof. If thick work be placed under the presser-foot, the presser-foot will be raised somewhat so that it will stand higher and a larger portion of the rack k will project above the upper end of the strip r but whether a larger or a smaller portion of the rack k is above the end of the strip r, the pawl m will engage it and will raise the presser-foot and presser-foot bar a given distance. It will be obvious that the pawl m and the rack k and strip r may be varied in position so long as the pawl m is mounted adjacent to the presser-foot bar upon a moving part which has sufficient length of movement to raise and lower the pawl m a proper distance to accomplish the desired result.

In Fig. 4 I have shown the pawl m located in an arm a' which is fast on the rock-shaft b'. The rock-shaft b' operates the awl-bar as will be clear from Fig. 1. The pawl m when located as shown in Fig. 4 will be mounted on a separate arm on said rock-shaft b' located close to and behind the arm b² which operates the awl bar. The pawl m is mount-

ed in a slot in said arm as shown Fig. 4 and is pressed forward by a spring in the same manner as when mounted in a block at the upper end of the presser foot bar as shown in Fig. 3 and as heretofore described. When the pawl *m* is mounted in the arm *a'* as shown in Fig. 4 the rack *k* is secured adjacent thereto on the presser-foot bar *f*, and the strip *r* is located between the pawl and the lower portion of the rack *k* and is secured at its lower end to the frame or to a fixed portion of the machine in substantially the same way as it is secured when located as shown in Fig. 3 adjacent to the upper end of the presser-foot bar.

What I claim is—

In a sewing machine, the combination with a presser foot and its bar, the latter of which

is provided with a rack *k*, of a spring-actuated pawl *m*, a vertically reciprocating part of the machine by which the said pawl is carried adjacent to said rack, and the metallic plate or strip *r* interposed between the point of said pawl and the said rack, the said plate or strip being secured to a stationary part of the machine and having its upper end thinned down to an edge, so that the pawl will not snap into engagement with the rack but will come smoothly into contact therewith, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

PETER L. COX.

Witnesses:

WM. A. MACLEOD,
ROBERT WALLACE.