

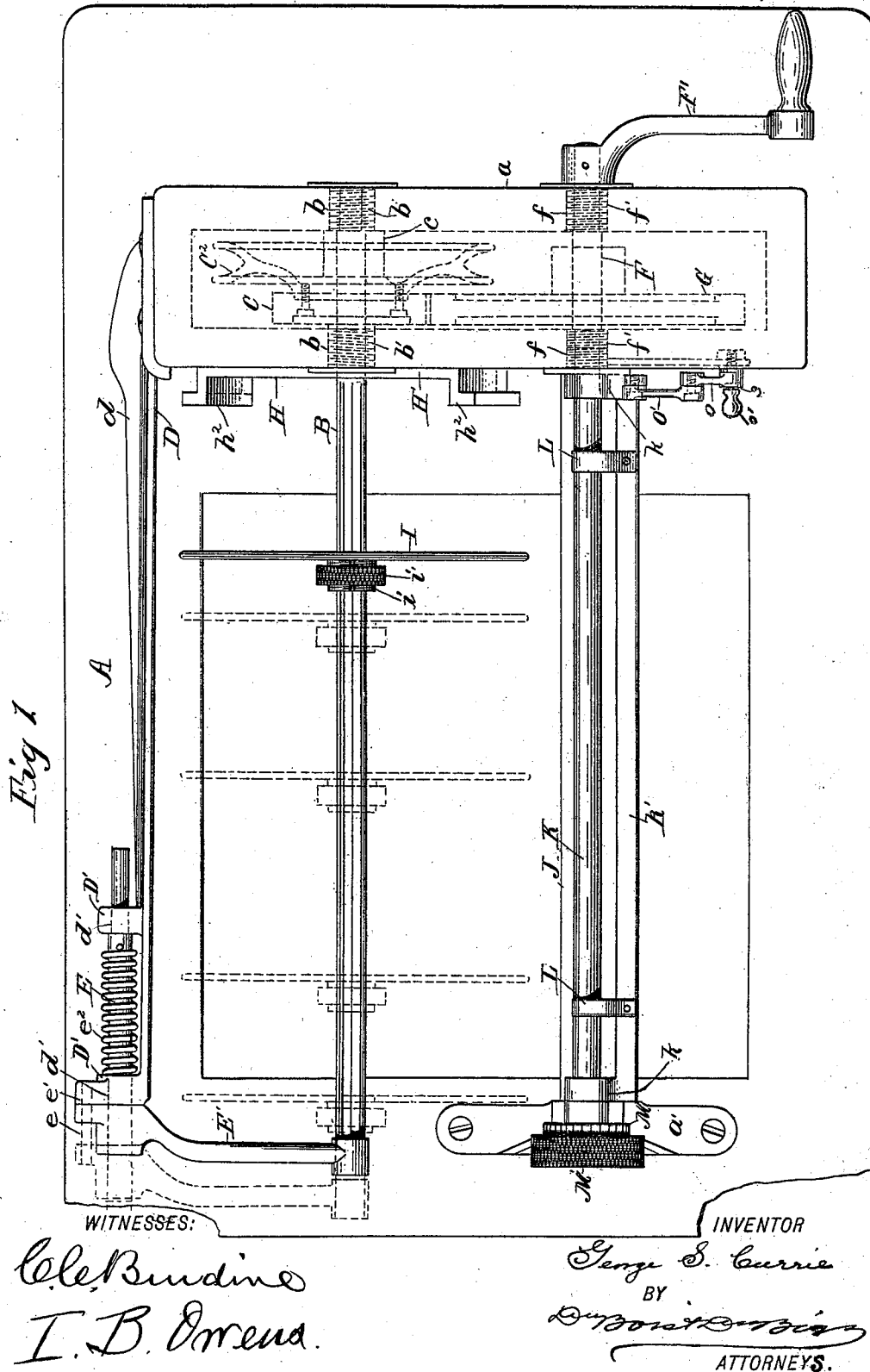
(No. Model.)

4 Sheets—Sheet 1.

G. S. CURRIE.
MACHINE FOR WINDING TEXTILES.

No. 507,528.

Patented Oct. 31, 1893.



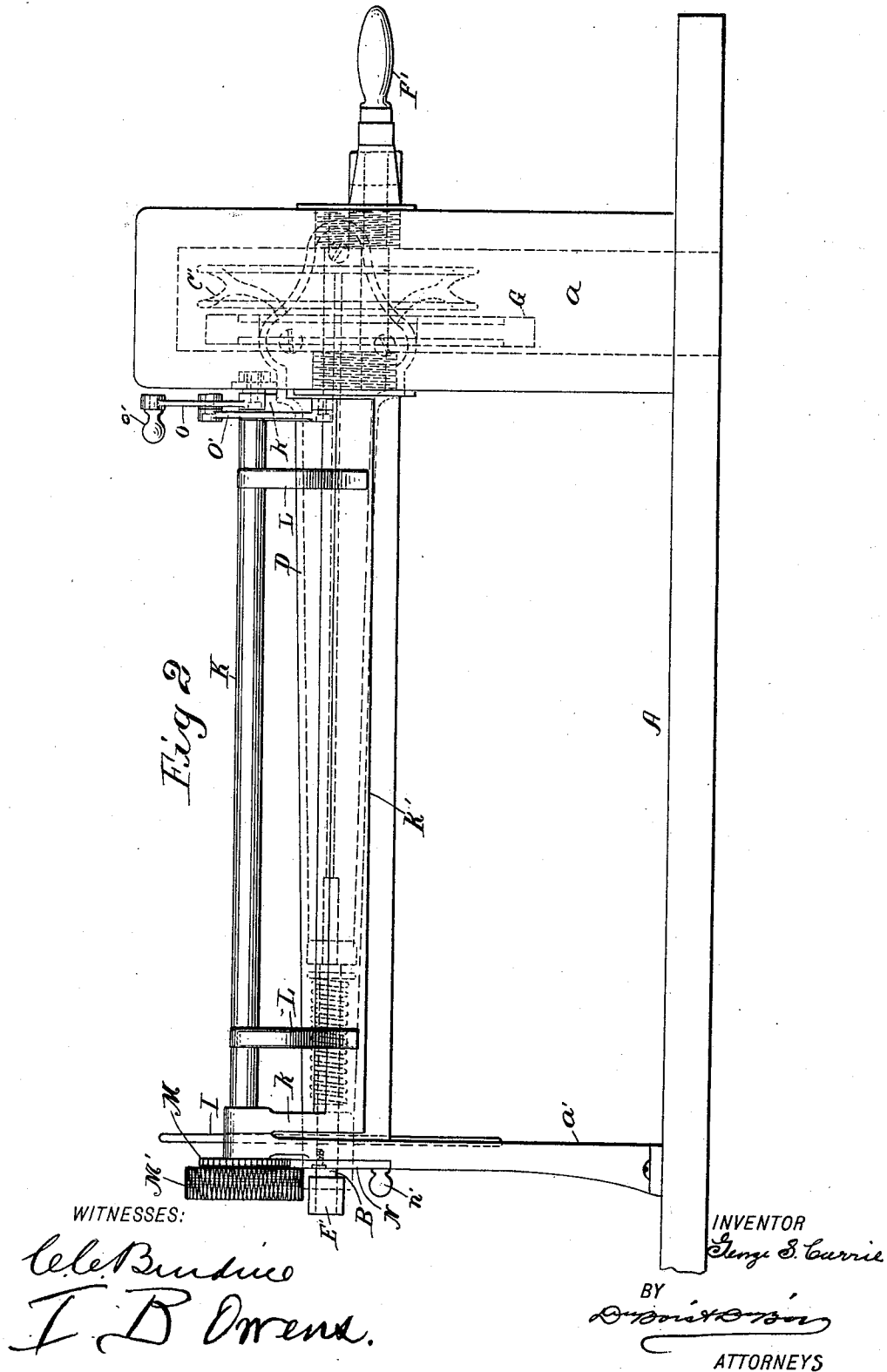
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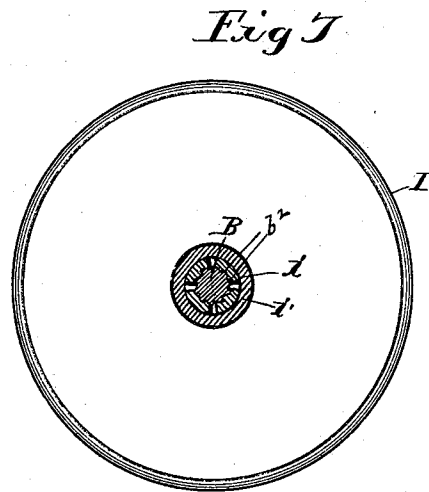
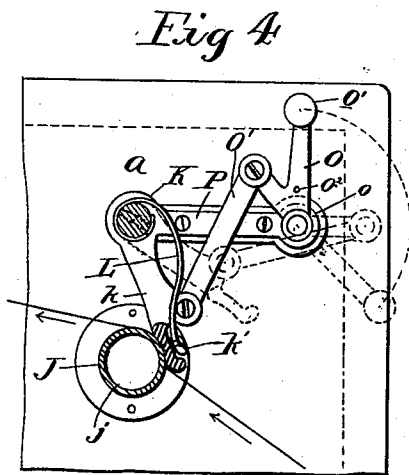
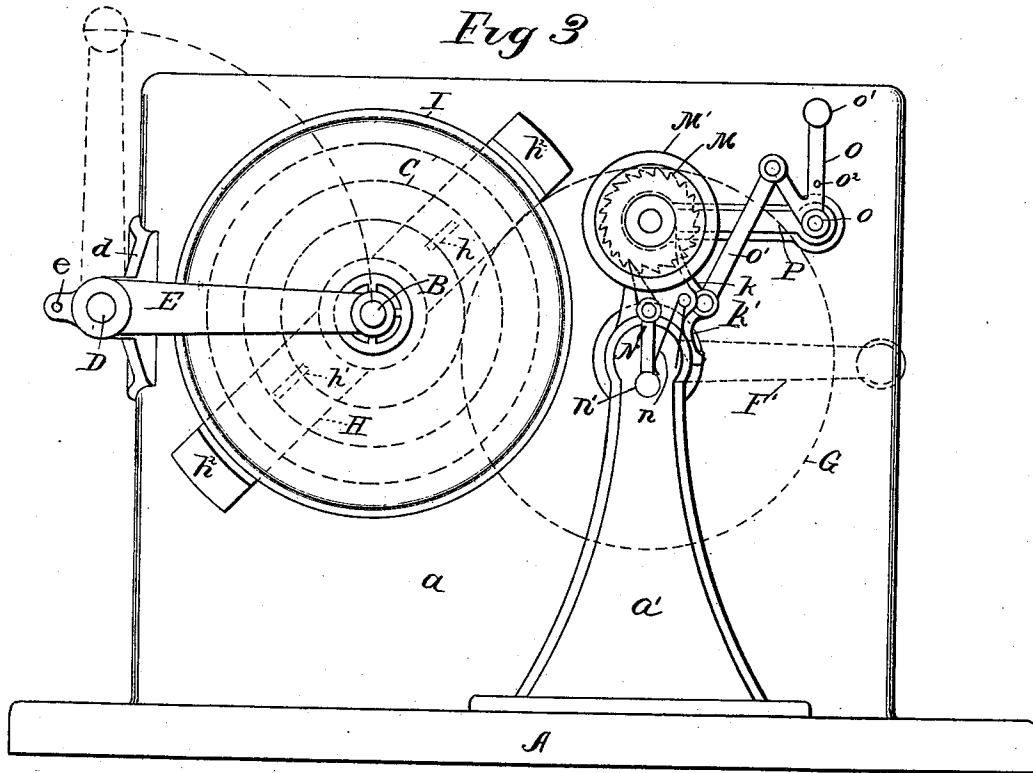
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(No Model.)

4 Sheets—Sheet 4.

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Fig 6

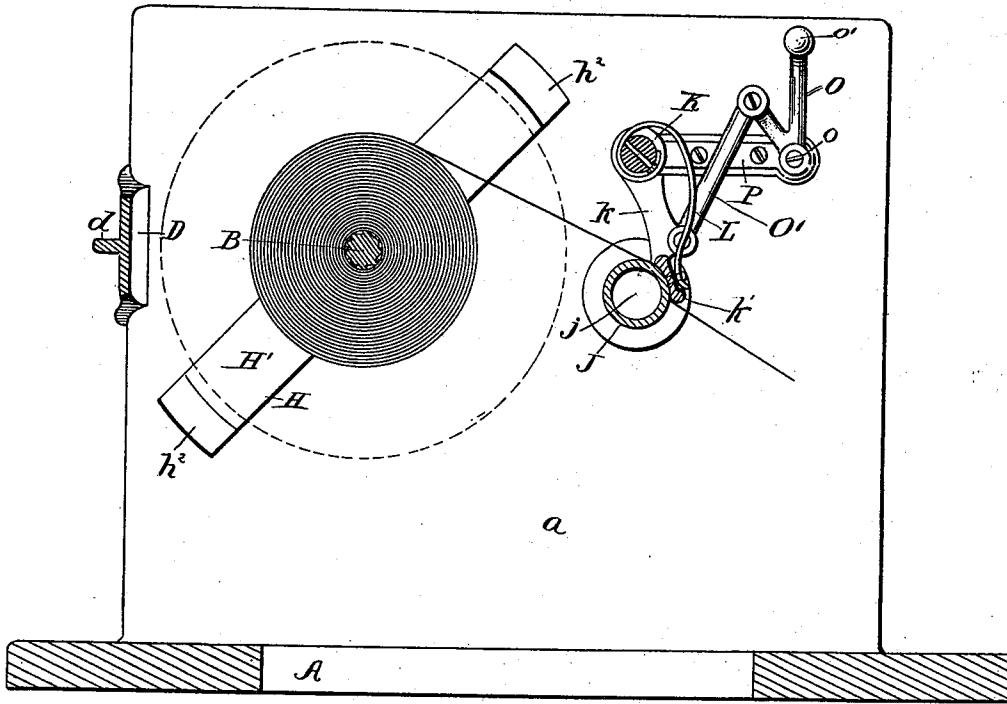
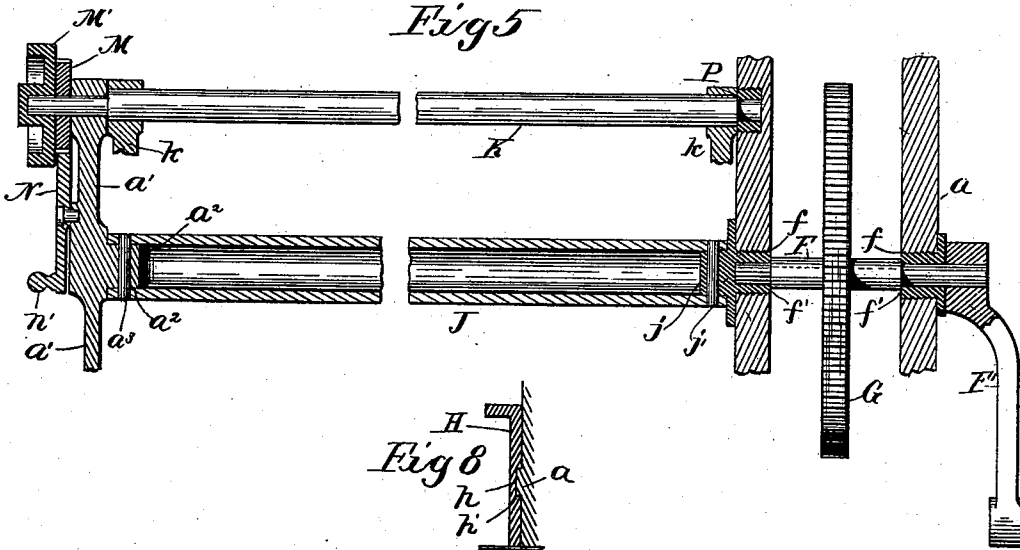


Fig.5



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UNITED STATES PATENT OFFICE.

GEORGE SHAW. CURRIE, OF ELGIN, ILLINOIS.

MACHINE FOR WINDING TEXTILES.

SPECIFICATION forming part of Letters Patent No. 507,528, dated October 31, 1893.

Application filed April 3, 1893. Serial No. 468,868. (No model.)

To all whom it may concern:

Be it known that I, GEORGE SHAW. CURRIE, a citizen of the United States, residing at Elgin, in the county of Kane and State of Illinois, have invented certain new and useful Improvements in Machines for Winding Textiles; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to a machine for winding textiles into rolls, &c., and it has particular reference to an improvement in bandage winding or wrapping machines; and it has for its object to produce a machine capable of winding bandages of any width, and one that will be more simple and effective in operation.

To this end my invention consists of certain novel features of construction and combinations and arrangement of parts more fully described hereinafter and finally embodied in the claims.

Referring to the accompanying drawings:—Figure 1 represents a plan view of my invention, with certain parts shown in dotted lines; Fig. 2 a side elevation; Fig. 3 an end elevation; Fig. 4 a detail view of the presser-bar raising mechanism; Fig. 5 a similar view of the bearings for the shaft; Fig. 6 a cross-section of the machine showing the operation thereof; Fig. 7 a cross-section of the main shaft showing the method of securing the gage disk thereon, and Fig. 8 a detail view of the guard disk.

The reference letter A indicates the base of my machine, to which is rigidly secured the rectangular metallic or wooden box *a* open at the bottom, and pedestal *a'*. In and to these the operative parts of my invention are secured. Formed in the box *a* opposite each other and on each side are openings *b*, *b* threaded internally and having the bearing boxes *b'*, *b'* screwed therein. In these boxes the main shaft B is journaled. Fixed to that part of the shaft B that occurs within the box *a*, is a pinion-gear C and grooved drive-pulley C', the latter having an extended hub or flange *c* which projects outwardly to such a distance that its edges will engage the inner

side of the box. By this means the shaft is arranged to revolve in its bearings, and be immovable longitudinally owing to the pinion C and flange *c* binding against each of its sides.

Securely fastened to one edge of the box *a* is a laterally extending arm D, provided with a longitudinal strengthening rib *d* and the lugs or projections D', the former extending throughout its length, while the lugs are located at its outer end. In these lugs are formed openings *d'* having the spindle E journaled therein. Keyed to the outer end of this spindle is the arm E' provided at its base portion with a stud *e* designed to enter an opening *e'* in the lug D' nearest the end of arm D, by which means arm E' is rigidly held horizontal; a coil spring *e²* being provided and located on the spindle E between the lugs D', by which the arm E' is held in engagement with the lug and the stud *e* made to lock in the opening *e'*. In the outer end of the arm E' the free end of the revoluble shaft B is mounted. This forms the bearing for such outer end of shaft B.

The box *a* has formed in its sides a second set of openings *f*, *f* similar to the openings *b*, *b*, in which are screwed, as before, the bearing boxes *f'*, *f'*. Journaled in these boxes is a short revolving shaft F extending across the box and projecting out to the right a distance sufficient to allow the hand-crank F' to be fixed thereto. Fixed to this shaft on the interior of the box, is a spur-gear G which meshes with the pinion C. Through the medium of these two gears G and C, power is transmitted from the shaft F to the shaft B, and the machine operated.

Located upon the shaft B is the bandage guard H. This consists of a metallic strip H' mounted loosely on the shaft B, so that it can revolve and slide longitudinally thereon. The guard H is normally located on the shaft B adjacent to the box *a*, and is provided with the recesses *h* arranged to receive the studs *h'* on the box, whereby the guard is prevented from turning with or on its shaft. The studs *h'* on the box *a* are arranged in a diagonal line. This of course, is followed by a diagonal disposition of the guard H as shown in Fig. 3, while its ends are provided with the outwardly extending lugs *h²* by which the size

of the bandage roll is regulated, and also to provide a convenient means to withdraw the same as will appear fully hereinafter. In addition to the guard H, a gage disk I is provided, which is movable longitudinally on the shaft B, and provided with the threaded tapering spring-fingers *i* and binding ring *i'*, by which it may be, when desired, rigidly secured to the shaft.

The tension regulating mechanism will now be described.

Secured to the box *a* directly over the inner end of the shaft F by means of the stud *j*, forming an extension of the left-hand bearing *f'* and pin *j'*, is a tubular shaft or rod J, the remaining end of which embraces a stud *a*² on the pedestal *a'*, and is held immovably therein by means of a pin *a*³. Just above this rod and in the highest point of the pedestal *a'* is revolubly mounted a second rod K, its remaining end being journaled in the bearing P of box *a* above the point where the rod J is secured. Revolubly secured to the rod K are two swinging arms *k* having secured to their lower ends the presser-bar *k'* curved to conform to the shape of the rod J which it is adapted to engage continually. This is effected by means of the coil springs L which are preferably two in number and secured at their inner ends to the rod K, and at their free or outer ends to the presser-bar *k'*. The tension of these springs may be regulated and the rod K held in a fixed position by means of the pawl and ratchet mechanism shown in Fig. 3. This consists of a ratchet M fixed to the outer end of the rod K and secured by means of screws or rivets to the milled thumb-wheel M'. The ratchet M is engaged by a pawl N pivotally secured to the pedestal and provided with a spring *n* by which the pawl is held in engagement with the ratchet, a button or knob *n'* being formed on the lower end of the pawl through the medium of which it may be disengaged from the ratchet against the tension of the spring *n*. By this means the rod K may be revolved to increase the tension of the springs L, or allowed to revolve in the opposite direction so as to decrease its tension, the pawl N always keeping it in the desired position. Means are also provided for raising and lowering the presser-bar *k'*. These consist of the bell-crank lever O fulcrumed to the stud *o* of the bearing bar or plate P. The longer arm of this lever is provided with an operating knob *o'*, while the short arm is pivotally connected to the connecting link O', which is in turn pivoted to one of the arms *k*. The normal position of the lever O is shown in Fig. 4; with its long arm extending vertically, and when in this position the bar *k'* is in engagement with the rod J. By swinging the long arm, as shown by dotted lines in Fig. 4, to the right, the link O' will move longitudinally, bringing with it the arm *k* and bar *k'*. When the long arm of the lever has swung sufficiently to elevate the presser-bar *k'*, the

link O' will have crossed below the stud *o* and there bind against the lug *o*³ on the long arm of the lever O, thus arresting all further movement. The bar is made to re-engage the rod J by swinging the long arm of lever O back to its normal position.

The preferred construction of my invention having now been set forth, I will proceed to describe its use and operation.

When it is desired to wind a roll of bandaging, one end of the ribbon is passed between the rod J and bar *k'*, the bar having been previously raised, and secured by rolling to the shaft B. The shaft B is provided with sharply defined longitudinal serrations or corrugations *b*² to facilitate this operation. The gage disk I is then moved along the shaft B so that it will touch one edge of the ribbon, the guard H being in engagement with the other edge, and the two forming substantially a spool or reel for the reception of the bandage roll. It must be kept in mind, however, that only the gage disk I revolves with the shaft B, and that the guard H is stationary. By this arrangement it will be seen that the roll of bandaging will form on the shaft B with one of its sides flush with the guard H, and that as it grows or increases in size, its periphery will engage the lateral projections *h*². When this has occurred the roll is finished, and to remove it, it will only be necessary to draw the arm E' and spindle E against the tendency of the spring *e*², thereby disengaging the pin or stud *e* and moving the bearing box in the outer end of the arm so that it will swing from a horizontal to a vertical position, where it remains by reason of the inward pressure of spring *e*². The binding ring *i'* of the disk I, is then released, and the disk dismounted from the shaft B, to allow the roll of bandage to be removed, which is accomplished by sliding the guard H on the shaft B, thereby pushing the roll off also. The disk and guard are then replaced, the arm E' lowered to its normal position and the machine is then ready for a second roll.

The revolution of the shaft B is effected by means of the crank F', which through the medium of gears G and C, transmits rotary motion to the main shaft. If it is deemed advantageous or preferred, the machine may be driven by a power-belt (not shown), working with the pulley C' and entering the box *a* by way of the opening in its bottom. When this is the case, the crank F' and gears are of course dispensed with. It will be apparent that by means of the tension mechanism the roll will be formed very hard and compact, and that the extent of this may be regulated by the pawl and ratchet mechanism previously described.

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

1. In a bandage rolling machine, the combination of a revoluble shaft and a stationary guard adjacent thereto provided with a lug

extending parallel with the shaft, whereby the size of the roll is regulated.

2. In a bandage rolling machine, the combination of a revoluble shaft having a removable bearing at one end, a stationary guard movable on the shaft and having a lug or lugs extending longitudinally with the shaft, and an adjustable gage disk on the shaft operating with the guard, all substantially as described.

3. In a bandage rolling machine, the combination of a hollow box, a revoluble shaft having one end journaled therein, and upon which shaft the bandage is wound, a laterally extending projection rigidly secured to the box and extending parallel with the shaft, a swinging arm secured to the end of the projection and in which the free end of the shaft is removably journaled, substantially as and for the purpose set forth.

4. In a bandage rolling machine, a revoluble shaft having one of its ends journaled in an immovable bearing and upon which shaft the bandage is wound, a spindle, bearings in which the spindle is mounted, said bearings being capable of allowing the spindle a limited movement longitudinally and laterally, an arm fixed to one end of the spindle outside the bearings, a spring for holding the spindle and arm in place, a bearing box on the outer end of the arm in which the free end of the shaft is removably journaled, and a pin and recess on the arm and spindle-bearing respectively for holding the arm horizontal, all substantially as specified.

5. In a bandage rolling machine, the combination of a revoluble shaft upon which the bandage is wound, an immovable guard adjacent thereto and having a lug or lugs extend-

ing longitudinally with the shaft, a gage disk movable on the shaft and provided with tapering spring fingers embracing the same, and a screw binding ring working on the fingers by which the disk is adjusted to any position on the shaft, substantially as described.

6. In a bandage rolling machine, the combination with the winding mechanism, of a stationary bar, a presser-bar in engagement therewith for maintaining tension, a revoluble shaft journaled adjacent thereto, springs fixed to the shaft and presser-bar, a ratchet on the shaft, and a pawl engaging the same, whereby the tension of the springs and hence that of the presser-bar, can be regulated.

7. In a bandage rolling machine, the combination with the winding mechanism, of a stationary bar, a spring actuated presser-bar in engagement therewith, a link connected to the same, and a bell-crank lever having one of its arms pivoted to the link, and a pin fixed to the lever below the end of the arm to which the link is pivoted, whereby the downward movement of the link is limited, substantially as described.

8. In a bandage rolling machine, the combination of a hollow box, a revoluble shaft having one of its ends journaled in the box, and upon which shaft the bandage is wound, a movable bearing for the remaining end, and a spring actuated presser-bar operating with the shaft, substantially as described.

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

GEORGE SHAW. CURRIE.

Witnesses:

C. H. STOWE,
IDA DODGE.