

(No Model.)

R. ATHERTON.
RIBBON BLOCKING MACHINE.

No. 546,289.

Patented Sept. 17, 1895.

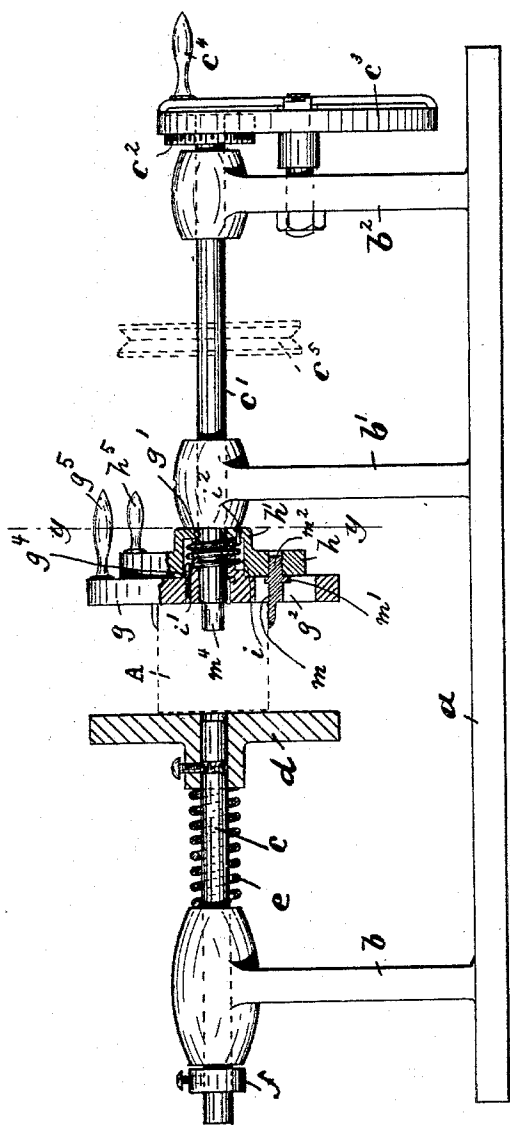


Fig. 1.

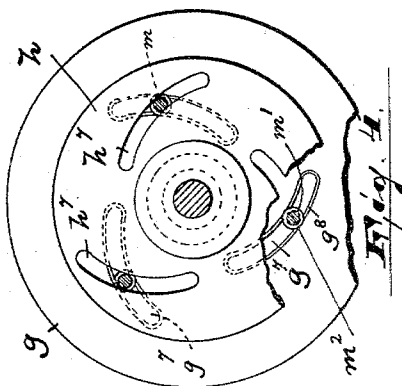


Fig. 4.

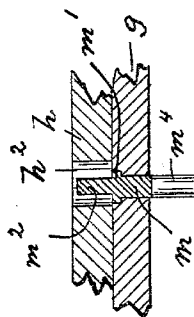


Fig. 3.

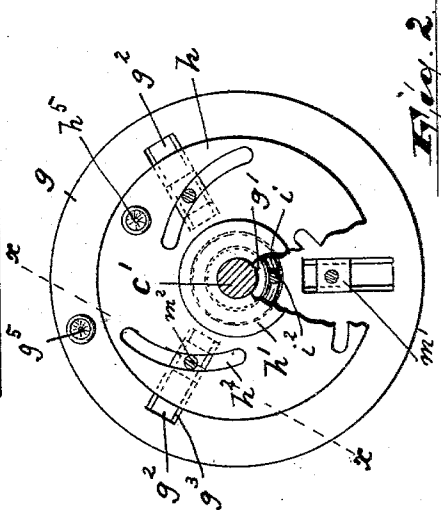


Fig. 2.

WITNESSES:

Arthur D. Johnson
Harry B. Griffith

INVENTOR:

ROBERT ATHERTON

BY

Gartner & Co

ATTORNEYS

UNITED STATES PATENT OFFICE.

ROBERT ATHERTON, OF PATERSON, NEW JERSEY.

RIBBON-BLOCKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 546,289, dated September 17, 1895.

Application filed June 20, 1895. Serial No. 553,413. (No model.)

To all whom it may concern:

Be it known that I, ROBERT ATHERTON, a citizen of the United States, residing in Paterson, county of Passaic, and State of New Jersey, have invented certain new and useful Improvements in Ribbon-Blocking Machines; and I do hereby 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 letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in ribbon-blocking machines; and it consists in the improved ribbon-block-clasping device, in the means for controlling the same, and in the combination and arrangements of the various parts, substantially as will be hereinafter more fully described and claimed.

Heretofore the clasping device was controlled by springs (spiral or band springs) acting directly upon the pins carrying the clasping-fingers, while in the present invention the clasping-fingers are controlled by the disks, and the latter by one spiral spring.

In the accompanying drawings, Figure 1 represents in side elevation my improved blocking-machine, with certain portions broken away and others shown in section to better illustrate the invention. Fig. 2 is an enlarged detail sectional view on line *yy* of Fig. 1; Fig. 3, an enlarged detail section on line *xx* of Fig. 2; and Fig. 4, a view similar to Fig. 2, illustrating a modified form thereof.

In said drawings the bed-plate *a* is provided with standards *b* *b'* and *b''*, adapted to form the bearings for the shafts *c* and *c'*, respectively.

To the inner end of the shaft *c* is secured in any desired manner the disk *d*, which is controlled by the spiral spring *e*, surrounding the said shaft. To the outer end of shaft *c* is adjustably secured a collar *f*, acting as a stop for said shaft while being moved inward and laterally by the action of the spiral spring.

The shaft *c'*, which is in alignment with the shaft *c*, is provided at its outer end with a pinion *c''*, meshing with the internally-arranged teeth of the hand-wheel *c'''*, (with handle *c''''*)

through which wheel rotary motion is imparted to the said shaft *c'*. Power may also be transmitted to said shaft through the driving-pulley *c''''*. (Shown in dotted lines in Fig. 1 of the drawings.)

To the inner end of the shaft *c'* is firmly secured a disk *g*, provided with a collar *g''*, terminating in a sleeve *g'* of reduced diameter. Said disk is provided with a series of radially-arranged slots *g''* and inwardly-arranged grooves or recesses *g'''*, adapted to guide the blocks *m* and their shoulders *m'*, respectively. On the inner face of each of said blocks is arranged a flange or projection *m''*, while its outer face is provided with a pin *m'''*, resting in the concentrically-arranged curved slots *h''* of the disk *h*. The latter is provided with a sleeve *h'* of an inner diameter about equal to the diameter of the collar *g''* of the disk *g*, on which latter said sleeve rests, and thus forms, in connection with the said sleeve *g'*, an annular chamber, in which is arranged (and coiled around said sleeve *g'*) the spiral spring *i*, secured with one end *i'* to the disk *g* and with its other end *i''* to the sleeve of disk *h*. The disk *g* is also provided at or near its outer periphery with a pin or handle *g''''*, and the disk *h* with a pin or handle *h''''*, arranged at one side of the radial line of handle *g''''*.

In the modified form illustrated in Fig. 4 of the drawings the disk *g* is provided with a series of concentrically-arranged curved slots *g''* and inwardly-arranged grooves or recesses *g'''*, adapted to guide the block *m* and its shoulder *m'*, respectively. The pin *m'''* of each of said blocks rests in a concentrically-arranged slot *h''* of disk *h*. Said slots are curved in opposite direction to the slots *g''* of disk *g*.

In operation, when the handles *g''''* and *h''''* of the disks *g* and *h* are drawn together the finger-carrying blocks are moved outward and the ribbon-block A is inserted. During this outward movement of said blocks the spiral spring *i* is partly uncoiled, and as soon as the handles *g''''* and *h''''* are released by the recoiling action of said spiral spring *i* the disks are returned, thus moving the blocks inward until they have engaged the ribbon-block A. By the action of the spiral spring *e* the disk *d* is brought to bear against said

ribbon-block and the machine is ready for operation.

From the foregoing it can be seen that the disks *g* and *h* are controlled directly in their return motion by the action of the spiral spring and that the blocks *m* are guided by the disks and not acted upon directly by springs, as in British Patent No. 16,958, of 1887, or in United States Patent No. 540,649.

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

1. In a ribbon blocking machine, the combination with the shaft, of an outer disk secured to said shaft and provided with a series of slots, a sleeve having an annular shoulder surrounding the shaft and integral with the disk, a finger carrying block in each of said slots, an inner disk loosely mounted on said shaft and adapted to control the sliding movement of said finger carrying blocks, said inner disk being provided with a sleeve of an inner diameter about equal to the diameter of the annular shoulder of the sleeve of the outer disk and forming in connection with said sleeve of the outer disk an annular chamber, and a spiral spring surrounding said shaft and arranged in said annular chamber and secured to the inner and outer disk respectively, all said parts, substantially as and for the purposes described.

2. In a ribbon blocking machine, the combination with the shaft, of an outer disk secured to said shaft and provided with a series of slots, a sleeve having an annular shoulder surrounding the shaft and projecting from the disk, a finger carrying block in each of said slots and having a projecting pin, an inner disk loosely mounted on said shaft and provided with a series of curved slots and adapted to engage the pins of said blocks, said disk being provided with a sleeve bearing on the annular shoulder of the sleeve of the outer disk and forming therewith an annular chamber, and a spiral spring surrounding the shaft and arranged in said annular chamber and secured with one end to the outer disk and with its other end to the inner

disk, all said parts, substantially as and for the purposes described.

3. In a ribbon blocking machine, the combination with the shaft, of an outer disk secured to said shaft and provided with a series of slots and inwardly arranged grooves or recesses, a sleeve having an annular shoulder surrounding the shaft and projecting from the disk, a finger carrying block provided with a shoulder arranged in each of said slots and their respective recesses, a pin projecting from each of said blocks, an inner disk loosely mounted on said shaft and having a series of curved slots engaging said projecting pins, said disk being provided with a sleeve bearing on the annular shoulder of the sleeve of the outer disk, and forming therewith an annular chamber, and a spiral spring arranged in said annular chamber, surrounding the shaft and secured to the inner and outer disk respectively, all said parts, substantially as and for the purposes described.

4. In a ribbon blocking machine, the combination with the shaft, of an outer disk provided with a series of curved slots, a sleeve having an annular shoulder integral with said disk and secured to the shaft, an inner disk loosely mounted on said shaft and having a series of slots curved in an opposite direction to the slots of the outer disk, said inner disk being provided with the sleeve bearing on the annular shoulder of the sleeve of the outer disk and forming therewith an annular chamber, a series of finger carrying blocks arranged in the slots of the outer and inner disks and controlled thereby, and a spiral spring arranged in the annular chamber surrounding the shaft and secured to the inner and outer disk respectively, all said parts, substantially as and for the purposes described.

In testimony that I claim the foregoing I have hereunto set my hand this 19th day of June, 1895.

ROBERT ATHERTON.

Witnesses:

FREDERICK L. ATHERTON,
FRANK ATHERTON.