

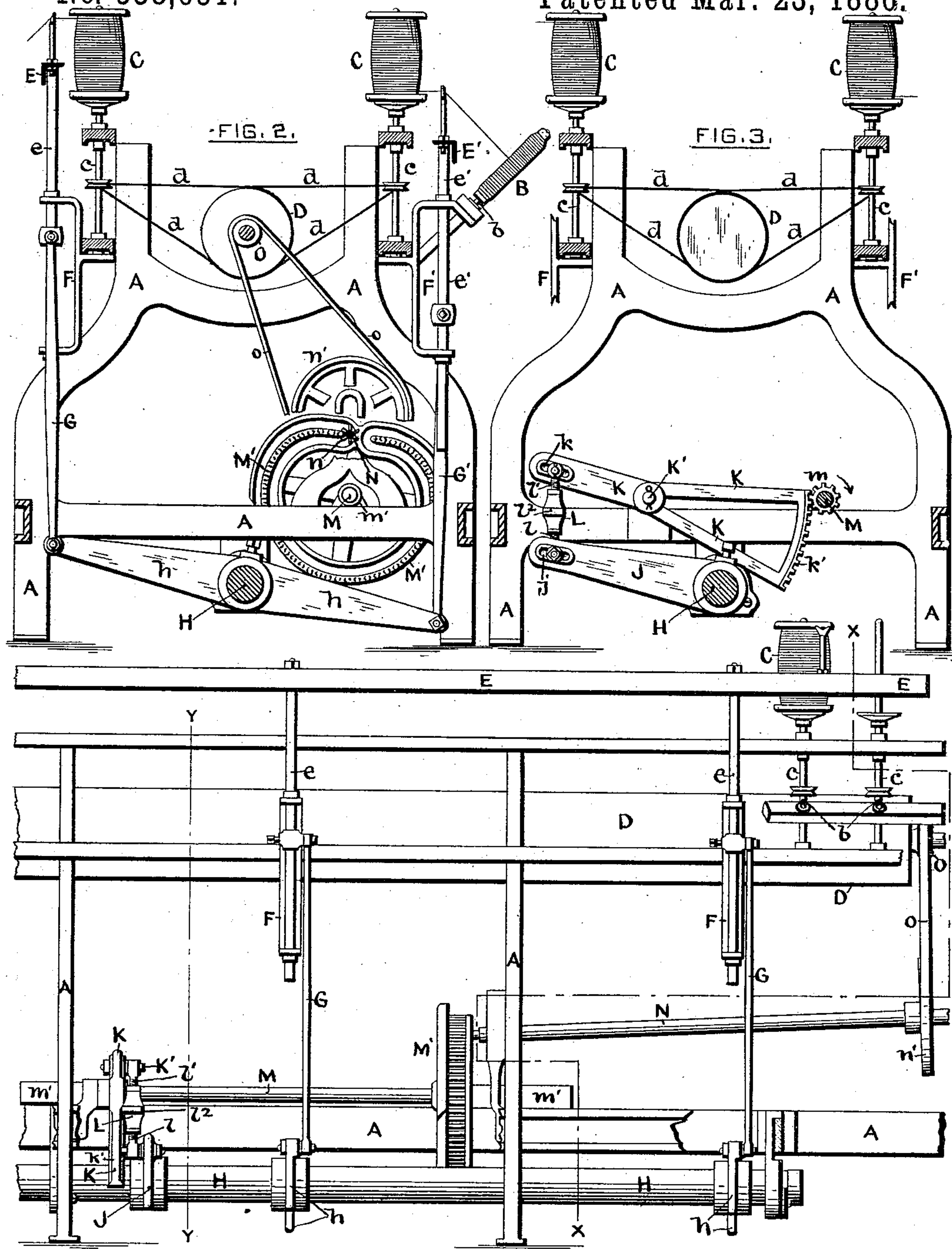
(No Model.)

G. W. BURNHAM.

MACHINE FOR WINDING YARN ON BOBBINS.

No. 338,631.

Patented Mar. 23, 1886.



WITNESSES.

Henry J. Stapleton.  
George M. Cady.

FIG. 1.

INVENTOR.

George W. Burnham  
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# UNITED STATES PATENT OFFICE.

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## MACHINE FOR WINDING YARN ON BOBBINS.

SPECIFICATION forming part of Letters Patent No. 338,631, dated March 23, 1886.

Application filed October 2, 1885. Serial No. 178,810. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE W. BURNHAM, of Lincoln, in the county of Providence and State of Rhode Island, have invented a new and useful Improvement in Machines for Winding Yarns on Bobbins; and I hereby declare the following specification, taken in connection with the accompanying drawings, forming a part of the same, to be a description thereof.

The invention relates to machines for winding yarns on spools, bobbins, &c.; and it consists in the means, hereinafter described and claimed, for giving motion to the traverse-rails of the machine and adjusting or altering the movement of said rails, whereby such adjustment or alteration can be effected at a single place, instead of at from twelve to twenty places, (according to the size of the machine,) as heretofore practiced.

In the accompanying drawings the invention is illustrated as applied to what is known as an "upright bobbin-spooler."

Figure 1 represents a side view of a portion of such a machine embodying the improvement. Fig. 2 shows a transverse section of the same on line *xx* of Fig. 1. Fig. 3 represents a transverse section of the same on line *yy* of Fig. 1.

A is the frame of the machine.

*b* are the studs or supports upon which the delivery-spools B are mounted to turn, one of said spools being shown in Fig. 2.

*c* are the spindles which carry the receiving-bobbins C, the said spindles being driven by bands *d* from the drum D, in a well-known manner.

E E', Figs. 1 and 2, are the traverse-rails, which are respectively mounted on rods *e e'*, sliding vertically in brackets F F', secured to the frame of the machine. Links G G' are connected at their upper ends to the rods *e e'*, respectively, and at their lower ends to the opposite ends of rocker-arms *h*, which are secured to a rock-shaft, H, extending longitudinally of the machine.

To the rock-shaft H an arm, J, Figs. 1 and 3, is secured, which is connected to an arm, K, by means of a link, L, the said arms being provided, respectively, with slots *j k*, so that the ends of the link can be adjusted on said

arms to and from the shaft H. The arm K is mounted to rock upon a stud, K', projecting from the frame of the machine, and one end of said arm is furnished with a segmental gear, *k'*, which meshes with a pinion, *m*, Fig. 3, upon one end of a shaft, M, Figs. 1 and 3, mounted to turn in bearings *m'*. Fig. 1, on the frame of the machine. The opposite end of the shaft M carries a "mangle" or irregularly-shaped gear, M', Figs. 1 and 2, well known in the art, which is engaged by a pinion, *n*, Fig. 2, on one end of a shaft, N, Figs. 1 and 2. The shaft N bears a pulley, *n'*, which, by means of a belt, *o*, is driven from a pulley, O, on the drum D. As will be readily understood, the revolving drum D produces a movement of the traverse-rails E E' by transmitting motion through the belt *o*, shaft N, pinion *n*, mangle M', shaft M, pinion *m*, arm K, link L, arm J, rock-shaft H, rocker-arms *h*, links G G', and rods *e e'*, the change in the direction of movement of the rails being produced by the mangle M', in a manner well known to builders and users of such machinery.

In many spoolers heretofore constructed the shaft N, with its pinion *n*, and the shaft M, with its mangle M' and pinion *m*, have been employed, the pinion *m* meshing with a segmental gear secured directly to the rock-shaft H, and the links G G' have been connected to the rods *e e'* and the rocker-arms *h*, the connections with the arms *h* being by means of bolts passing through slots near the opposite ends of the arms, so that the lower ends of the links could be adjusted on the arms to and from the shaft H, and the throw of the arms *h*, and consequently the movement of the traverse-rails, be thereby varied. In machines thus arranged, when the traverse of the rails E E' is to be adjusted or altered, such adjustment or alteration has been effected by moving the lower ends of the links G G' toward or from the shaft H and re-securing the links to the arms *h* in the altered position, so as to increase or decrease the throw of the arms *h*. By this means of adjustment all the links G G' (from twelve to twenty in number) have to be separately adjusted, which requires considerable time and much skill to set them all alike.

By employing the pivoted arm K, having



the segmental gear  $k'$ , meshing with the pinion  $m$ , the adjustable link  $L$ , and arm  $J$ , secured to the shaft  $H$ , I am enabled to adjust or alter the movement of the traverse-rails simply by adjusting the link  $L$  on the arms  $J K$  toward and from the shaft  $H$ , as will be readily understood, thereby greatly simplifying the operation of adjustment or alteration and saving much time.

10 The link  $L$  may be a rod adapted to be connected to the arms  $J K$  by bolts passing through the slots  $j k$ ; but it is preferably composed of right and left hand screw-rods  $l l'$ , as shown in Figs. 1 and 3, and a nut,  $l''$ , connecting said screw-rods, in order that the proper length of the link for attaining the best results of adjustment or alteration of the traverse of the rails may be readily secured.

20 What I claim, and desire to secure by Letters Patent, is—

1. The combination, with the traverse-rails  $E E'$ , rods  $e e'$ , rocker-arms  $h$ , links  $G G'$ , connected to said rods and arms, and the rock-shaft  $H$ , of the arm  $J$ , secured to the shaft  $H$ , the pivoted arm  $K$ , means for operating the arm  $K$ , and a link adjustably connected to the arms  $J K$ , substantially as set forth.

2. The combination, with the traverse-rails  $E E'$ , rods  $e e'$ , rocker-arms  $h$ , links  $G G'$ , connected to said rods and arms, and the rock-shaft  $H$ , of the arm  $J$ , secured to the shaft  $H$ , the pivoted arm  $K$ , means for operating the arm  $K$ , and the link  $L$ , adjustably secured to the arms  $J K$ , and composed of the screw-rods  $l l'$  and nut  $l''$ , substantially as set forth.

GEO. W. BURNHAM.

Witnesses:

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