No. 707,327. Patented Aug. 19, 1902.

J. HORMBY.

LOCKING DEVICE FOR WORK CARRIERS.

(Application filed Apr. 4, 1902.)

(No Model.) 2 Sheets—Sheet 1.

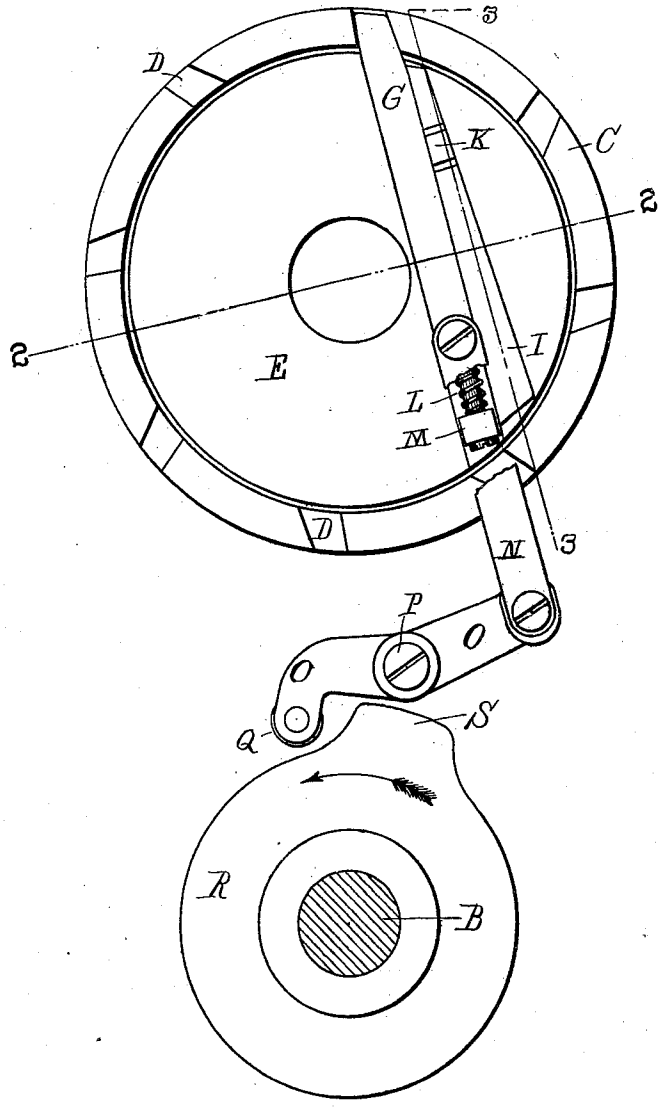


FIG. 1.

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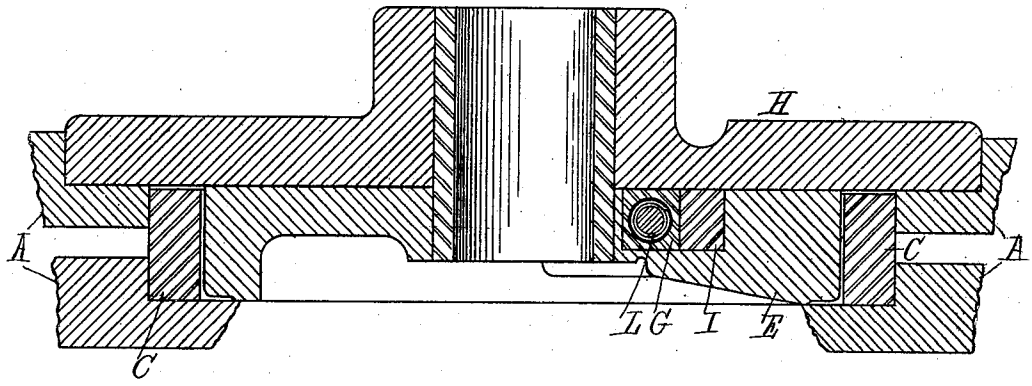


FIG. 2

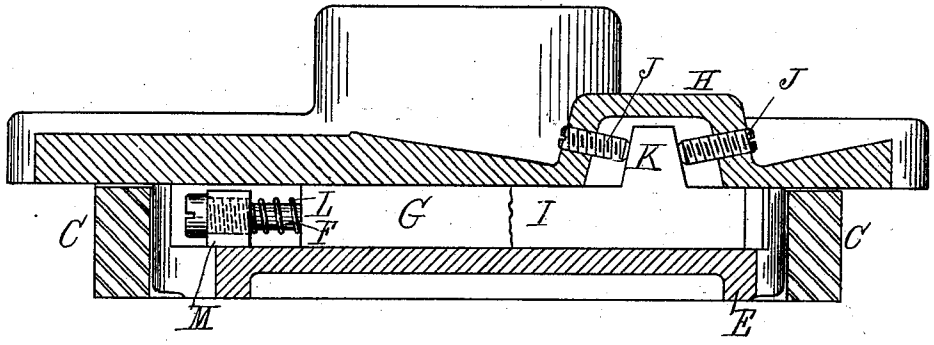


FIG. 3

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UNITED STATES PATENT OFFICE.

JOHN HORMBY, OF WOONSOCKET, RHODE ISLAND.

LOCKING DEVICE FOR WORK-CARRIERS.

SPECIFICATION forming part of Letters Patent No. 707,327, dated August 19, 1902.

Application filed April 4, 1902. Serial No. 101,437. (No model.)

To all whom it may concern:

Be it known that I, JOHN HORMBY, a citizen of the United States, residing at Woonsocket, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Locking Devices for Work-Carriers for Button-Making Machines, of which the following is a specification.

This invention relates to locking devices for button-making machines, and more especially for the machine for making buttons from vegetable ivory, described and shown in my Patent No. 611,811, dated October 4, 1898, in which is employed a turret or multiple grip-carrier, mechanism for rotating it intermittently, and a locking-pin for positively holding it in its positions of rest while the tools are operating upon the slab of which the button is made.

The object of the present invention is to improve the operation of this locking mechanism; and with this object in view the invention consists in the improved construction, arrangement, and combination of parts of such a locking mechanism, as will be hereinafter fully described and afterward specifically claimed.

In the accompanying drawings, which illustrate an embodiment of my invention, Figure 1 is a view in elevation of the locking mechanism, the turret and cover being omitted. Fig. 2 is a sectional view on the plane of the line 2 2 of Fig. 1, the turret and cover being included. Fig. 3 is a sectional view on the plane of line 3 3 of Fig. 1, the turret being omitted and the locking-bolt and gib or key shown in elevation with part of the latter broken away.

Like letters of reference mark the same parts in all of the figures.

Referring to the drawings by letters, A A indicate parts of the revolving turret or multiple grip-carrier, which in the machine before mentioned is intermittently rotated to bring radially-placed grips thereon into line with the tools by means of gearing from a shaft B, means being also provided for positively holding the turret at rest while the tools are operating. The gearing is such that the shaft B must make a full revolution to cause the turret to move one step, and means are provided to cause a pin to enter a transverse opening in the turret at each period of rest. In that arrangement difficulties were encountered. The pin from being insufficiently supported was liable to spring and was otherwise unsatisfactory. In the present invention these difficulties are overcome.

C indicates a ring secured to the turret and rotating therewith, notches D being provided in one edge of said ring at intervals corresponding with the positions of the several grips on the turret. Within the ring C is a circular plate E, secured to the stationary frame of the machine and provided with a groove F, tangential to the central opening of said plate and turret and adapted to register *seriatim* with the notches D during the resting periods of the turret.

G indicates the locking-bolt, fitted to slide in the groove F, and in order to take up wear a taper gib I is placed in the groove beside the lock-bolt, this gib being adjustable by means of screws J, threaded through a cover H and bearing upon opposite sides of a lug K on the gib.

The bolt G is provided with a spring L, bearing against a lug M on the plate E with a normal tendency to throw it into the notches D and with a pitman N connecting it with one side of a lever O, pivoted to a stationary part of the machine at P and provided with a roller Q at its opposite end.

R indicates a disk on the shaft B, provided with a cam projection S, adapted to come into contact with the roller Q and operate the lever O to withdraw the bolt G from its engaging notch, so as to permit the turret and ring to again rotate a step and bring the next notch into position to receive the bolt, the cam projection being constructed to pass off the roller at the proper time therefor.

In the construction described the bolt is supported in its groove for its full length, and there is no appreciable space between the plate E and the ring C, so that the turret is free to rotate step by step, but is rigidly locked during each resting period, there being no possibility of any movement or trembling of the turret when locked, thus avoiding all liability of the tools being sprung, bent, or broken or of the material being damaged.

The described embodiment of my invention fulfils all requirements for accurate opera-

tion; but it will be obvious to those skilled in the art that changes or variations might be made in the construction and arrangement of the various parts without departing from the spirit and scope of the invention.

Having thus described my invention, what I claim as new is—

1. In a button-making machine, the combination with the intermittently-rotating turret and a notched ring carried thereby, of a stationary disk in the notched ring provided with a transverse groove which registers *seriatim* with the notches, a locking-bolt supported throughout its length in said groove, and means for causing the bolt to automatically engage in the notches of the ring.

2. In a button-making machine, the combination with the intermittently-rotating turret, and a notched ring carried thereby, of a stationary disk in the notched ring provided with a transverse groove which registers *seriatim* with the notches, a locking-bolt supported throughout its length in said groove, means for causing the bolt to automatically engage the notches when they register with the groove, and means for withholding the bolt from the notches while the turret is in motion.

3. In a button-making machine, the combination with the intermittently-rotated turret, and a notched ring carried thereby, of a stationary plate within said ring and transversely grooved, a locking-bolt in said groove normally spring-pressed into said notches *seriatim*, a cam-shaft parallel to the axis of rotation of the turret, a cam-disk on said shaft, and connections between the cam-disk and bolt whereby the latter is withdrawn from the notches after each period of rest of the turret.

Witness my hand this 21st day of March, 1902, in the presence of two subscribing witnesses.

JOHN HORMBY.

Witnesses:
EDWIN J. PERIN, Jr.,
RALPH F. BUNKER.