W. C. Waring,

Forming Bats.

No. 110,700. Patented. Jan. 3. 1871.

Fig. 1.

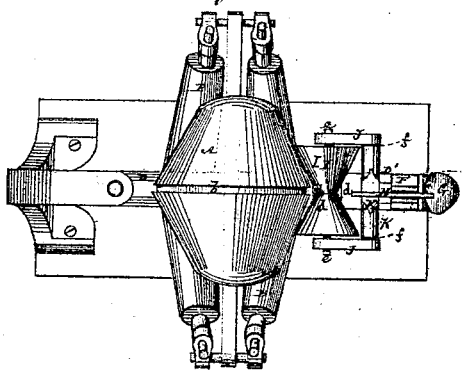
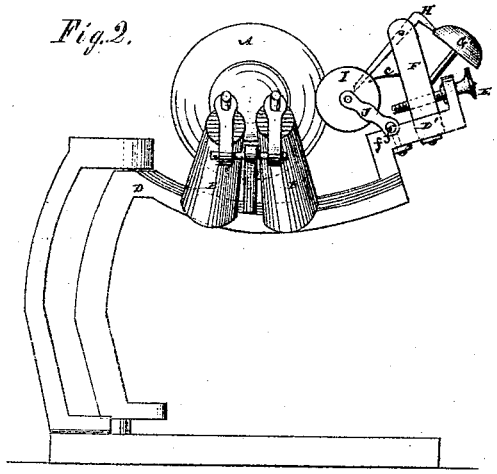


Fig. 2.



Witnesses:

Fred. Haynes

J. M. Coomby

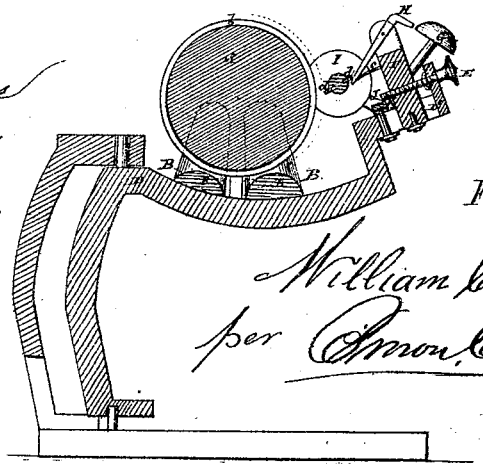


Fig. 3.

William C. Waring

per Amon Coombs Jr

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United States Patent Office.

WILLIAM C. WARING, OF YONKERS, NEW YORK.

Letters Patent No. 110,700, dated January 3, 1871.

IMPROVEMENT IN ALARM-ATTACHMENTS FOR MACHINES FOR FORMING HAT-BODIES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, WILLIAM C. WARING, of Yonkers, in the county of Westchester and State of New York, have invented a new and useful Improvement in Alarm-Attachments to Hat-Body Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing forming part of this specification, and in which—

Figure 1 represents a plan of my invention as applied to a hat-body machine employing a double conical former, or such portions of a machine of said description as is necessary to explain the operation of my improved attachment;

Figure 2 is a side elevation of the same; and

Figure 3, a vertical section, taken transversely through the center of the conical former.

Similar letters of reference indicate corresponding parts.

My invention relates to hat-body machines which employ a double or reverse conical "former," arranged to occupy a horizontal position on or over a lower series of simple conical rollers, between which and the former the bat passes as it is fed to and is laid on the former, the whole being carried by a swinging crane or frame, as usual in such machines, for the proper laying of the bat. In machines of this description, it has been usual heretofore to gauge the thickness or amount of lap of the bat on the former, necessary for any given thickness of hat-body, by the eye, or as practice otherwise enabled the operator by his judgment to determine. This requires skill, and is attendant with considerable uncertainty or want of accuracy; and

My invention consists in a certain automatic means or alarm-attachment to a hat-body machine for notifying the operator of the sufficient feed or supply of the bat to the former, to produce a hat-body of any required thickness, and whereby every provision is made for the adjustment of said attachment and for its automatic accommodation to any interruption of the operating surface by division of the bat on the cone, and a simple construction, generally, of such attachment obtained.

Referring to the accompanying drawing—

A represents the double or reverse conical former, with the usual center groove, *b*, in it, for division of the bat by means of a pair of scissors or other suitable cutter or cutters;

B B are the lower single conical rollers; and

D, the swinging frame of the machine.

This frame is formed with a slotted extension, D′, on the back or off side of the former, along which is adjustable, toward or from the former, by means of an adjusting-screw, E, a block or standard, F, that serves to carry both the bell G of the alarm-attachment and an operating-lever or hammer, H, together with its spring *c*, so that the whole are adjustable in common by the sliding of the standard F, which forms also the box for the regulating-screw E to work in.

The object of this adjustment is to provide for the sounding of the signal or alarm when the bat has been laid on the former A to any desired thickness, according to the thickness of hat-body required, the hammer H being operated, to strike the bell, by a freely-revolving roller, I, made to face both cones of the former, and which may be the converse of the latter, and is driven by the friction of the bat as it is fed from the carding-engine onto the former, said roller being provided with any number of teeth, *d*, for operating the hammer H, when the bat reaches the requisite thickness on the former.

To provide for the proper working of this roller I, and to insure for it a self-accommodating action to the bat, both generally and when the bat is divided at the groove *b*, and the one-half or portion of it forming one hat-body is removed in advance of the other, said roller is loosely hung, so as to be capable of a universal motion, as it were, the same being freely suspended, by its trunnions *e e*, in loose link-bars J J, which are freely and independently pivoted, as at *f f*, to a cross-bar, K, that is adjustable along the slotted extension D′ to "time" the action of the roller I on the hammer of the bell, and, in conjunction with the screw E, to effect a most perfect adjustment of the operating-roller and bell, not only relatively to each other, but also to the former.

This supple suspension of the roller I, that is operated by its weight resting on the revolving former or moving bat, is important as regards insuring the perfect action of the alarm or signaling-attachment.

What is here claimed, and desired to be secured by Letters Patent, is—

1. The combination, with the double or reverse conical former A, of the roller I, constructed to bear on the reverse cones of the former, and the bell or alarm-signal, operated by said roller, substantially as specified.

2. The combination of the bell G and hammer H with the sliding block or standard F, the adjusting-screw E, and the operating-roller I, essentially as and for the purpose herein set forth.

WM. C. WARING.

Witnesses:

ETHELBERT BELKNAP,

WILLIAM R. MOTT.