2 Sheets—Sheet 1.

W. A. HATHAWAY.

ALARMS FOR CARDING-MACHINES.

No. 191,237. Patented May 29, 1877.

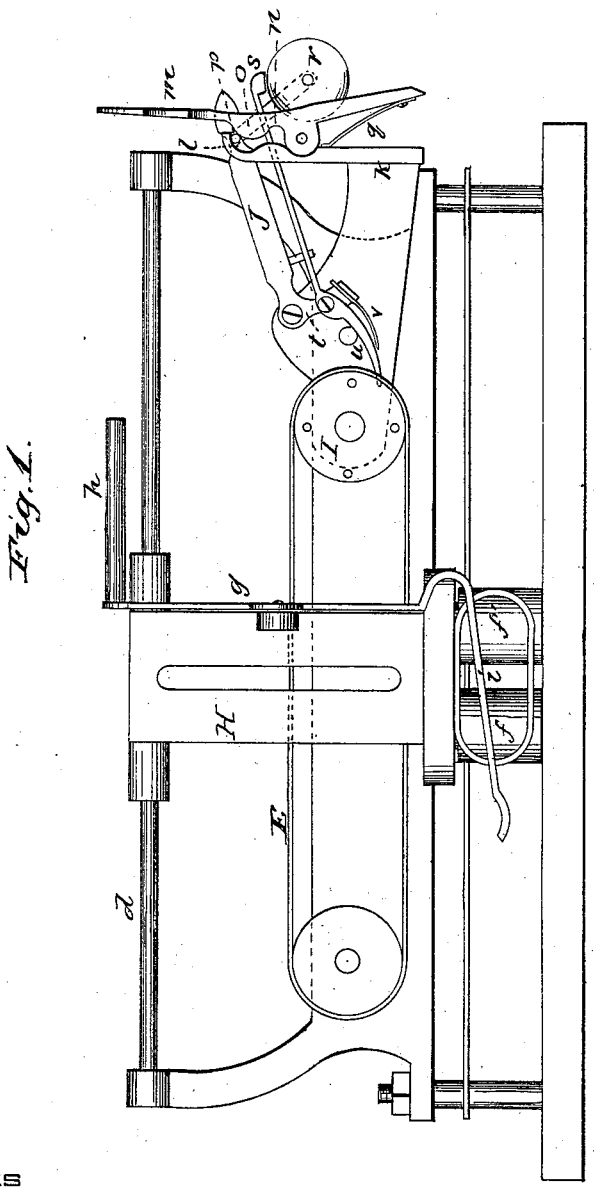

Fig. 1.

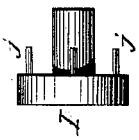

Fig. 2.

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Fig. 3.

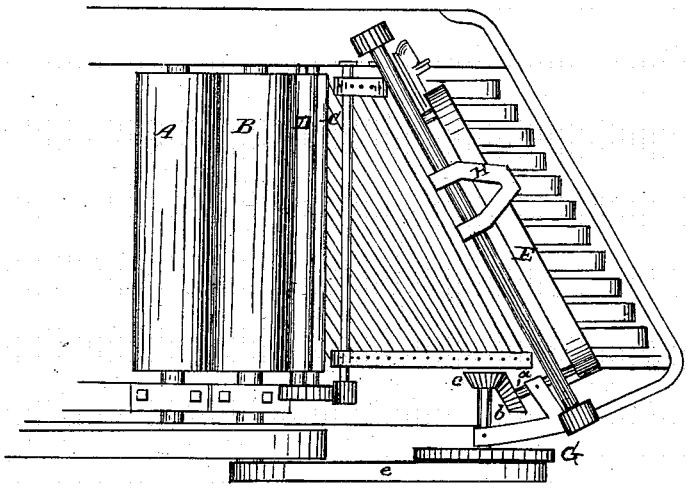
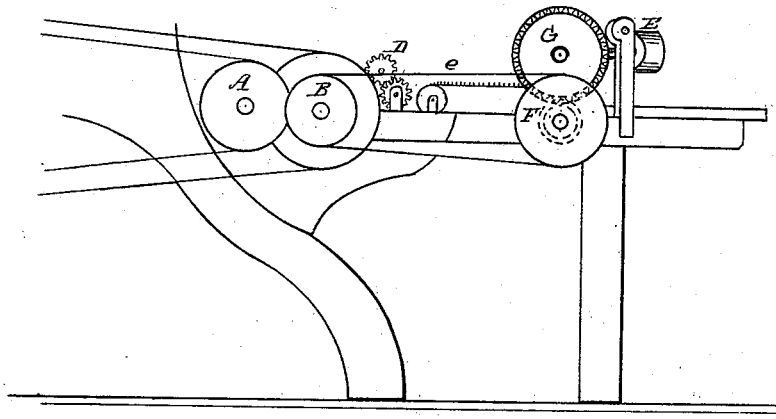


Fig. 4.



WITNESSES

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UNITED STATES PATENT OFFICE.

WILLIAM A. HATHAWAY, OF WICKFORD, ASSIGNOR OF ONE-HALF HIS RIGHT TO JOHN MAGLONE, OF BELLEVILLE, RHODE ISLAND.

IMPROVEMENT IN ALARMS FOR CARDING-MACHINES.

Specification forming part of Letters Patent No. **191,237**, dated May 29, 1877; application filed December 20, 1876.

To all whom it may concern:

Be it known that I, WILLIAM A. HATHAWAY, of Wickford, in the county of Washington and State of Rhode Island, have invented a new and valuable Improvement in Alarms for Carding-Machines; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of my invention, showing it as applied to a portion of the frame of a carding-machine. Fig. 2 is a detached view of one of the belt pulleys or rollers. Fig. 3 is a top plan view of a portion of a finisher, and Fig. 4 is a side elevation of the same.

The object and purpose of the present invention are to provide an attachment to the breaker and finisher of a carding-machine, whereby the attendant may know at the moment and time of the breaking of the roving by the sounding of an alarm.

The invention, therefore, consists in the arrangement and combination of the several parts by which the alarm is made to sound automatically, as will be hereinafter described, and subsequently pointed out in the claims.

In the accompanying drawings, Figs. 3 and 4 are intended merely to show the application of my alarm and its operation, and, therefore, an extended description of the general construction is not deemed necessary.

Referring to said figures, A represents the doubler, and B the licker-in, both of which are journaled to the frame of the machine, and C D are two feed-rollers. An endless traveling-belt, E, passes over suitable rollers, one of which has a short shaft, *a*, carrying a bevel-gear wheel, *b*, meshing in the teeth of a bevel-gear wheel, *c*, the latter operated by suitable teeth upon a roller, F, meshing with teeth upon a gear-wheel, G, the licker-in B and roller F being connected by an endless belt, *e*. Upon a horizontal guide-rod, *d*, works the carriage H, carrying the usual rollers *f f'*, between which the material passes and is formed into roving. This carriage, which is made to reciprocate upon the horizontal rod *d*, has pivoted to it a rod, *g*, carrying upon its upper end a pin, *h*. The lower end of the rod *g* is curved to form a guide, *i*, over which the roving passes from the rollers *f f'*. Upon the roller I are pins *j*, the purpose of which will be hereinafter described.

The alarm-bell, with its several levers and striking mechanism, may be connected to the frame of the machine by first securing it to a base-plate, which will admit of its ready removal by having the base-plate secured to the frame by suitable bolts and nuts, or in any other manner found most convenient.

The alarm mechanism consists of an upright bar, *k*, having a curved recess, *l*, at its upper end, and having pivoted to it a finger, *m*, which also has, above the pivotal point, a recess, *n*, and shoulder *o*. The finger is held in position to retain the pin *p*, which projects from a lever, J, by a spring, *q*, the free end thereof bearing against the face of the upright bar *k*. The lever J is pivoted to a base-plate or to the frame of the machine, and carries the bell *r* and hammer *s*, the latter being pivoted to a short arm, *t*, of the lever, and has a curved end, *u*, against which the pins *j* strike during the rotation of the roller I, the curved end *u* being first brought into position, to be acted upon by the pins, through the agency of the rod *h*, which strikes the finger *m*, as will be hereinafter more fully described.

A spring, V, secured to the short arm *t* of the lever J, bears against the under side of the curved end *u* of the hammer *s*, to insure the perfect operation of said hammer upon the bell *r*.

It will be readily seen that when the roving is unbroken the slight pressure upon the guide *i* of the roving will bring the rod *g* to nearly a vertical position, which brings the pin *h* thereof out of line with the finger *m;* but, should the roving break from any cause, all pressure will be removed from the guide *i*, and as the upper end of the rod *g* is curved and weighted with the pin *h* it falls outside of the pivotal line and causes the rod *g* to fall in a direction toward the frame, bringing the pin thereon in a line to strike the finger *m*, forcing the upper end of the same outward and

from under the pin *p*, which will cause the lever J to fall, carrying the pin *p* with it to the recess *n*. The hammer *s* is brought in contact with the bell *r*, and the curved end *u* in line of contact with the pins *j*, upon the roller I, and by the rotation of the latter a continuous alarm will be sounded until the operator or attendant is at hand to remove the difficulty, after which the alarm is again set by raising the lever J, until the pin thereon rests within the recess *l* and upon the shoulder *o*, when the machine is again ready for operation.

Having now fully described the construction and operation of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The carriage H, carrying the pivoted rod *g*, said rod having curved guide *i* and pin *h*, in combination with lever J, finger *m*, hammer *s*, and bell *r*, substantially as and for the purpose set forth.

2. The combination, with the carriage H, carrying pivoted rod *g*, having guide *i* and pin *h*, of the lever J, hammer *s*, upright bar *k*, finger *m*, bell *r*, and roller I, with pins *j*, substantially as and for the purpose specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

WILLIAM A. HATHAWAY.

Witnesses:
THOS. J. PEIRCE,
JOHN B. PEIRCE.