No. 649,366. Patented May 8, 1900.

J. W. SCOTT & S. A. LEACH.

ALARM ATTACHMENT FOR CARDING MACHINES.

(Application filed Dec. 8, 1899.)

(No Model.)

Fig. 1.

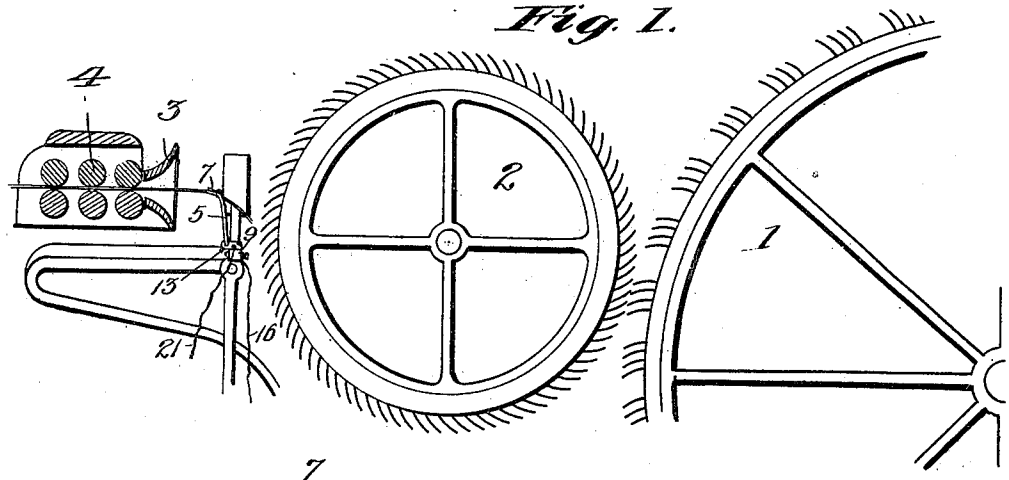


Fig. 2.

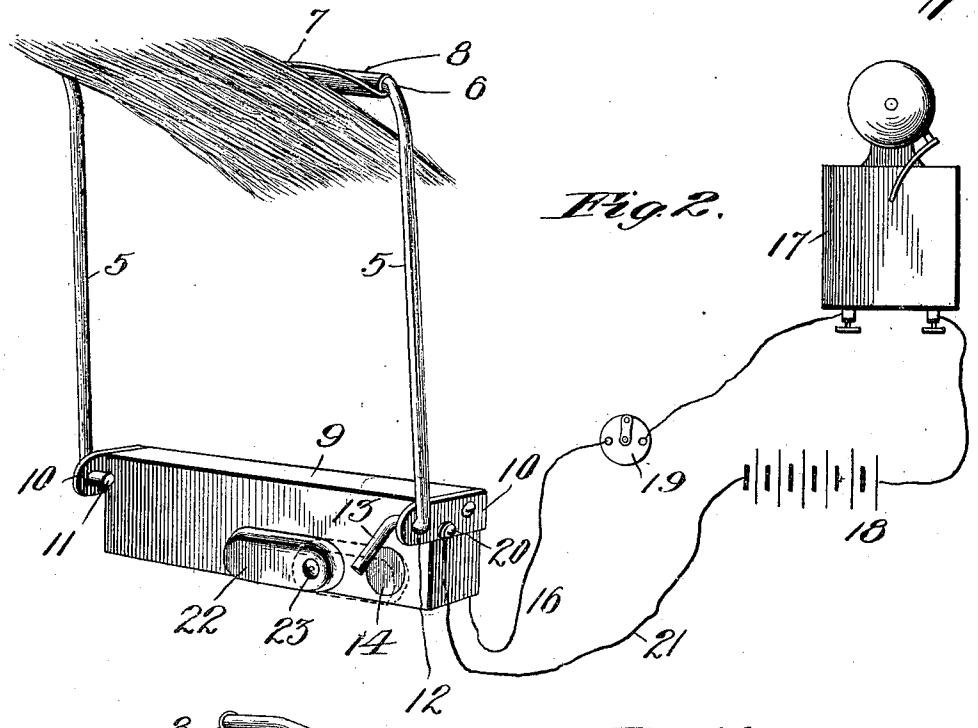
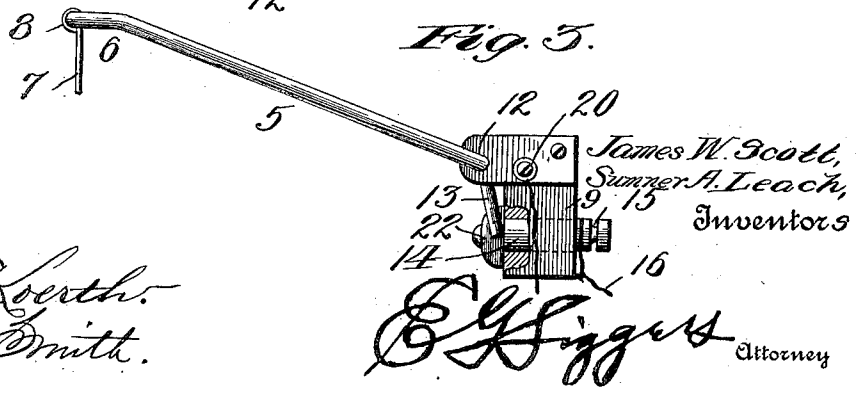


Fig. 3.



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UNITED STATES PATENT OFFICE.

JAMES W. SCOTT AND SUMNER A. LEACH, OF WARREN, MAINE.

ALARM ATTACHMENT FOR CARDING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 649,366, dated May 8, 1900.

Application filed December 8, 1899. Serial No. 739,697. (No model.)

To all whom it may concern:

Be it known that we, JAMES W. SCOTT and SUMNER A. LEACH, citizens of the United States, residing at Warren, in the county of Knox and State of Maine, have invented a new and useful Alarm Attachment for Carding-Machines, of which the following is a specification.

This invention relates to alarm attachments for carding-machines; and the object in view is to provide a simple, reliable, and efficient device which is normally held out of operation by the sliver or filaments in their passage from the doffer to the drawing-rollers of the machine, the device being interposed between the doffer and drawing-rollers for the reason that the sliver or filaments are more liable to break at that point than any other. When a break occurs, the device sounds an alarm and enables an attendant to discover and mend the break before the broken end reaches and disarranges the feeding mechanism of the succeeding machine. The parts of the attachment are so arranged and electrically connected that the bail is normally upheld by the sliver or filaments, and when the sliver breaks the bail falls and completes an electrical circuit, in which is placed an audible alarm, which is thereby sounded and the attention of the attendant called to the fact that there has been a break in the sliver.

The detailed objects and advantages of the invention will appear in the course of the ensuing description.

The invention consists in certain novel features and details of construction and arrangement of parts, as hereinafter fully described, illustrated in the drawings, and incorporated in the claims.

In the accompanying drawings, Figure 1 is a vertical sectional view of a portion of a carding-machine, showing the alarm attachment applied thereto. Fig. 2 is an enlarged detail perspective view of the attachment, showing the manner of electrically connecting the same with a bell and also showing the relation between the sliver or drawing and the filament-guard. Fig. 3 is a side elevation of the same, partly in section, showing the stop-bail thrown downward to complete the electrical circuit.

Similar numerals of reference designate corresponding parts in all the figures of the drawings.

In Fig. 1 we have illustrated a sufficient portion of a carding-machine to show the application of the alarm attachment thereto, and in said figure 1 designates the main or large cylinder; 2, the doffer; 3, the funnel, and 4 the drawing-rollers, which form the filaments or sliver into a ribbon.

The alarm attachment is interposed between the doffer and the rollers, as shown in Fig. 1, and consists, essentially, of a stop-bail comprising substantially-parallel side arms 5, connected at their free ends by a cross-bar 6, which passes over or across and above the sliver. Journaled or pivotally mounted upon the cross-bar 6 is what we term a "filament-guard" 7, consisting of a flat plate having one edge rolled to form a sleeve 8, which surrounds and incloses the cross-bar 6, serving to maintain the filament-guard in place on the cross-bar and at the same time allow the guard to swing freely and bear flatwise against the upper side of the sliver. The object of the guard is to prevent the filaments from becoming wound upon or entangled with the cross-bar of the stop-bail.

In connection with the stop-bail we employ a supporting-block 9, which is mounted on any convenient part of the machine and provided at its opposite ends with metal brackets 10, one of which forms part of an electrical circuit. One of the side arms 5 of the stop-bail has its extremity bent inward to form a pintle 11. The corresponding end of the other side arm 5 is also bent inward to form a journal 12, and the parts 11 and 12 are pivotally received in openings in the projecting portions of the metal brackets 10. One of the side arms 5 is extended to form a cranked contact-arm 13, which is disposed obliquely with relation to its bar 5 and adapted, when the bail swings downward, to rest against a contact-button 14, inserted in a socket in the supporting-block 9, and having connected therewith a binding-post 15, which receives one of the wires 16 of an electrical circuit, in which is arranged an alarm-bell 17, a battery 18, and a switch 19. The bracket 10, which receives the journal 12, is also provided with a binding-post 20, which receives the return-wire 21, completing the circuit.

From the above it will be seen that in the event of the sliver breaking between the doffer and the drawing-rollers the stop-bail will fall, and in so doing the contact-arm 13 will rest against the contact-button 14 and complete the circuit through the bell, which will accordingly be sounded. This gives notice to an attendant that a break has occurred, so that said attendant may stop the machine before the broken end of the sliver reaches the succeeding machine and disarranges the feeding mechanism thereof. In order to stop the bell from ringing, a cut-off 22 is provided, which is pivotally mounted on the supporting-block at a point 23 adjacent to the contact-button 14. The button 22, which is composed of non-conducting material, is swung to a position between the contact-arm 13 and button 14, thus cutting off the alarm while the sliver is being mended. The cut-off button also assists in upholding the stop-bail in order to assist the attendant in maintaining the sliver.

The alarm attachment may of course be applied to the machine at any desired point; but ordinarily it will be placed at the point described, as the sliver is more liable to break at that point than any other.

From the foregoing it is thought that the construction, operation, and many advantages of the herein-described invention will be apparent to those skilled in the art without further description, and it will be understood that various changes in the size, shape, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. In an alarm attachment for carding-machines, a supporting-block, a swinging bail mounted thereon, a contact-arm connected with said bail, a contact-button, the arm and button forming parts of an electrical circuit, and a cut-off button adapted to be interposed between the contact-arm and contact-button, substantially as specified.

2. In an alarm attachment for carding-machines, a pivoted stop-bail comprising side bars pivotally mounted and connected at their opposite ends by a cross-bar, a filament-guard carried by the cross-bar and adapted to rest on and be upheld by the sliver, a contact-arm connected with one of the side bars, and a contact-button arranged in the path of said arm as the bail swings downward, substantially as specified.

3. In an alarm attachment for carding-machines, a pivoted stop-bail comprising side bars pivotally mounted at one end and connected at their opposite ends by a cross-bar, a filament-guard pivotally mounted on the cross-bar and adapted to rest on and be upheld by the sliver, a contact-arm connected with one of the side bars, and a contact-button arranged in the path of said arm as the bail swings downward, substantially as specified.

4. In an alarm for carding-engines, the combination with an electrical circuit including an alarm mechanism and a shaft-bearing as one of its terminals, of a sliver-sustained member pivotally supported below the sliver's path in said shaft-bearing and provided with a contact-making arm, another terminal contact disposed in the path of said contact-making arm, and a circuit-breaker mounted for interposition between the terminal contact and the contact-making arm and adapted to temporarily maintain the sliver-sustained member in an abnormal position, substantially as described.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

JAMES W. SCOTT.
SUMNER A. LEACH.

Witnesses:
F. A. PACKARD,
N. D. GOULD.