

(No Model.)

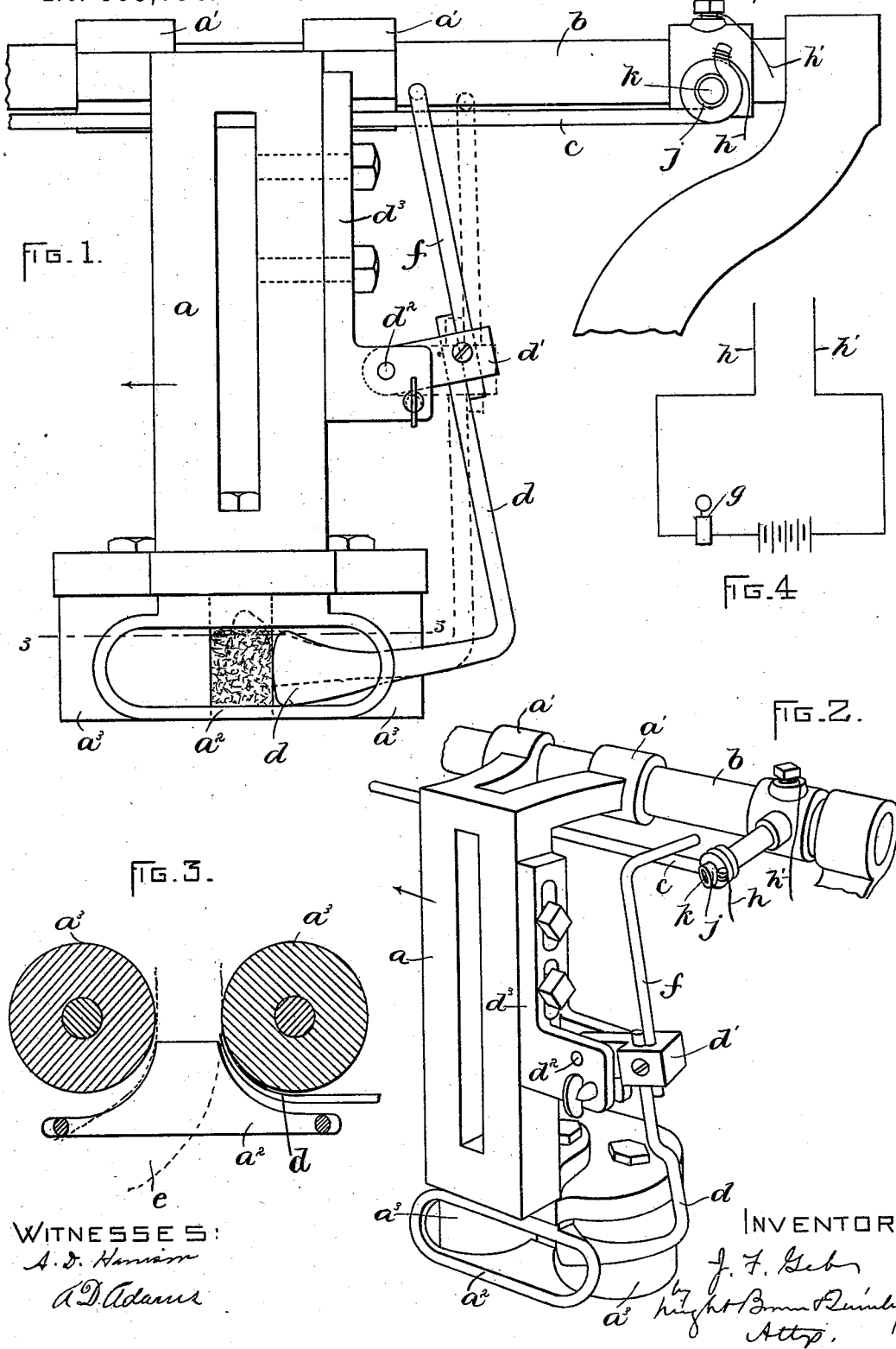
2 Sheets—Sheet 1.

J. F. GEB.

AUTOMATIC ALARM FOR CARD FEEDING MACHINES.

No. 555,692.

Patented Mar. 3, 1896.



(No Model.)

2 Sheets—Sheet 2

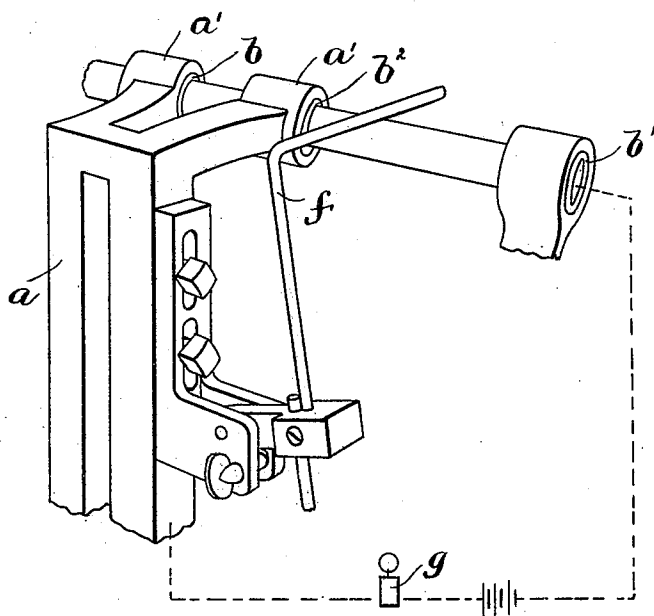
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FIG. 5.



WITNESSES:

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JACOB F. GEB, OF FRANKLIN, MASSACHUSETTS, ASSIGNOR OF ONE-THIRD
TO F. P. CHAPMAN, OF SAME PLACE.

AUTOMATIC ALARM FOR CARD-FEEDING MACHINES.

SPECIFICATION forming part of Letters Patent No. 555,692, dated March 3, 1896.

Application filed November 25, 1895. Serial No. 569,971. (No model.)

To all whom it may concern:

Be it known that I, JACOB F. GEB, of Franklin, in the county of Norfolk and State of Massachusetts, have invented certain new and useful Improvements in Automatic Alarms for Carding-Machines, of which the following is a specification.

This invention relates to card-feeding mechanism of the type known as the "Apperly" feeder for carding-machines. The Apperly feeder comprises a traveler which reciprocates in a fixed path upon suitable guides, and is provided with sliver-guides which deliver the sliver in parallel courses along a feed-table.

My invention has for its object to provide improved means for giving an alarm in case of the breakage of the sliver; and it consists in the improvements which I will now proceed to describe and claim.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents a front elevation of the traveler of an Apperly feeder, together with a portion of one of the traveler-guides and the alarm devices comprising my improvement. Fig. 2 represents a perspective view of the construction shown in Fig. 1. Fig. 3 represents a section on line 3 3 of Fig. 1. Fig. 4 represents, in connection with Fig. 1, a diagram of the electrical connections. Fig. 5 represents a perspective view of a modification.

The same letters of reference indicate the same parts in all the figures.

In the drawings, *a* represents the traveler of an Apperly feeder, the same being of the ordinary construction, which includes sockets *a'* *a'* movable upon a fixed guide-rod *b*, a trumpet-shaped sliver-guide *a²*, and rolls *a³* *a³* arranged to move upon another guide. (Not shown.)

My invention has nothing to do with the mechanical construction of the traveler, as such, and relates entirely to the alarm mechanism hereinafter described.

c represents a fixed electrical conductor, which is supported by the frame of the machine and is here shown as elongated to extend the whole length of the path of the traveler *a* in a position parallel with the said path, so that it is adapted to co-operate with the circuit-closer, hereinafter described, carried

by the traveler, at any point in the movement of the traveler.

d represents an arm, which is biased so that it normally moves to a given position when free and is pivotally connected to the traveler, said arm being arranged so that one of its ends bears upon the sliver *e* passing through the guide *a²*, the arm being held out of its normal position by the sliver. When the sliver breaks and fails to support the arm *d*, the latter moves automatically to its normal position, its lower end projecting into the path of the sliver. The arm *d* may be connected with the traveler by any suitable means, such as a block *d'*, to which the upper end of the arm is affixed, said block being connected by a pivot-pin *d²* to ears on a bracket *d³* affixed to the traveler.

f represents a circuit-closer, which as here shown is a bent arm of conducting metal supported by the weighted arm *d* or by the block *d'*, the circuit-closer being here shown as affixed to said block. The circuit-closer *f* is so arranged that when the arm *d* is held out of its normal position by the sliver there will be no contact between the circuit-closer and the conductor *c*; but when the arm *d* assumes its normal position in consequence of the breakage of the sliver the circuit-closer *f* makes contact with said conductor. The conductor *c* and circuit-closer *f* are included in an electric circuit, which includes a suitable alarm or electric gong *g*, a battery or other source of electricity, and circuit-wires *h* *h'*. In the arrangement here shown the wire *h* is connected to the conductor *c*, while the wire *h'* is electrically connected with the guide-rod *b*, the conductor *c* being insulated by means of collars or sleeves *j* of insulating material mounted on fixed studs *k*, which support the conductor *c*, each end of the conductor being supported and insulated in the same manner. When the circuit-closer *f* makes contact with the conductor *c*, the circuit is completed from the battery through the wire *h*, conductor *c*, circuit-closer *f*, the metallic body of the traveler, the guide *b*, and the wire *h'*, the gong *g* being immediately caused to operate and continue in operation so long as the circuit remains closed. It will be seen that this result will take place at any point where the traveler may happen to be in the path of its move-

ment, so that the breakage of the sliver will cause an instantaneous alarm, which will be continued until the sliver is again in place in the guide of the traveler.

5 It is obvious that the electrical connections may be variously modified, my invention not being confined to the particular connections here shown. For example, the conductor *c* may be omitted and the circuit-closer ar-
10 ranged to make contact with the guide-rod *b*, the latter being insulated from the frame of the machine by bearings *b'* of insulating material, and also insulated from the traveler *a* by insulating-bushings *b² b²* inserted in the
15 sockets *a' a'*, as shown in Fig. 5. In this case one of the circuit-wires will be in electrical connection with the guide-rod *b* and the other with the circuit-closer through the metallic body of the traveler, and suitable parts of the
20 frame in electrical contact therewith, the guide-rod *b* thus insulated being an equivalent of the conductor *c*.

I claim—

1. The combination of a reciprocating traveler having a sliver-guide, a weighted or
25 biased arm pivotally connected with the traveler and arranged to be held out of its normal position by the sliver passing through the traveler, an electric circuit including a con-
30 ductor contiguous to the path of the traveler, and a circuit-closer affixed to the biased arm, said circuit-closer being held out of its operative position and prevented from making contact with said conductor by the sliver pass-

ing through the traveler, the circuit-closer 35 being arranged to make contact with the conductor when the arm assumes its normal position in consequence of the breakage of the sliver, and an alarm device included in the circuit.

2. The combination of a reciprocating traveler having a sliver-guide, a fixed elongated electrical conductor extending parallel with the path of the traveler and throughout the length of said path, a weighted arm pivotally 45 connected with the traveler and arranged to be held out of its normal position by the sliver passing through the traveler, a circuit-closer supported by said arm and held thereby out of contact with the fixed conductor when the arm 50 is held by the sliver, said circuit-closer being arranged to make contact with the conductor in consequence of the breakage of the sliver, an alarm device, and an electric circuit includ- 55 ing said alarm, the fixed conductor, and the circuit-closer, whereby upon the breakage of the sliver at any point in the path of movement of the traveler, an alarm will be given, as set forth. 60

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 19th day of November, A. D. 1895.

JACOB F. GEB.

Witnesses:

FRED A. DARLING,
F. P. CHAPMAN.