No. 708,816. Patented Sept. 9, 1902.

J. F. LAIRD.

AUTOMATIC ALARM.

(Application filed Mar. 13, 1901.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

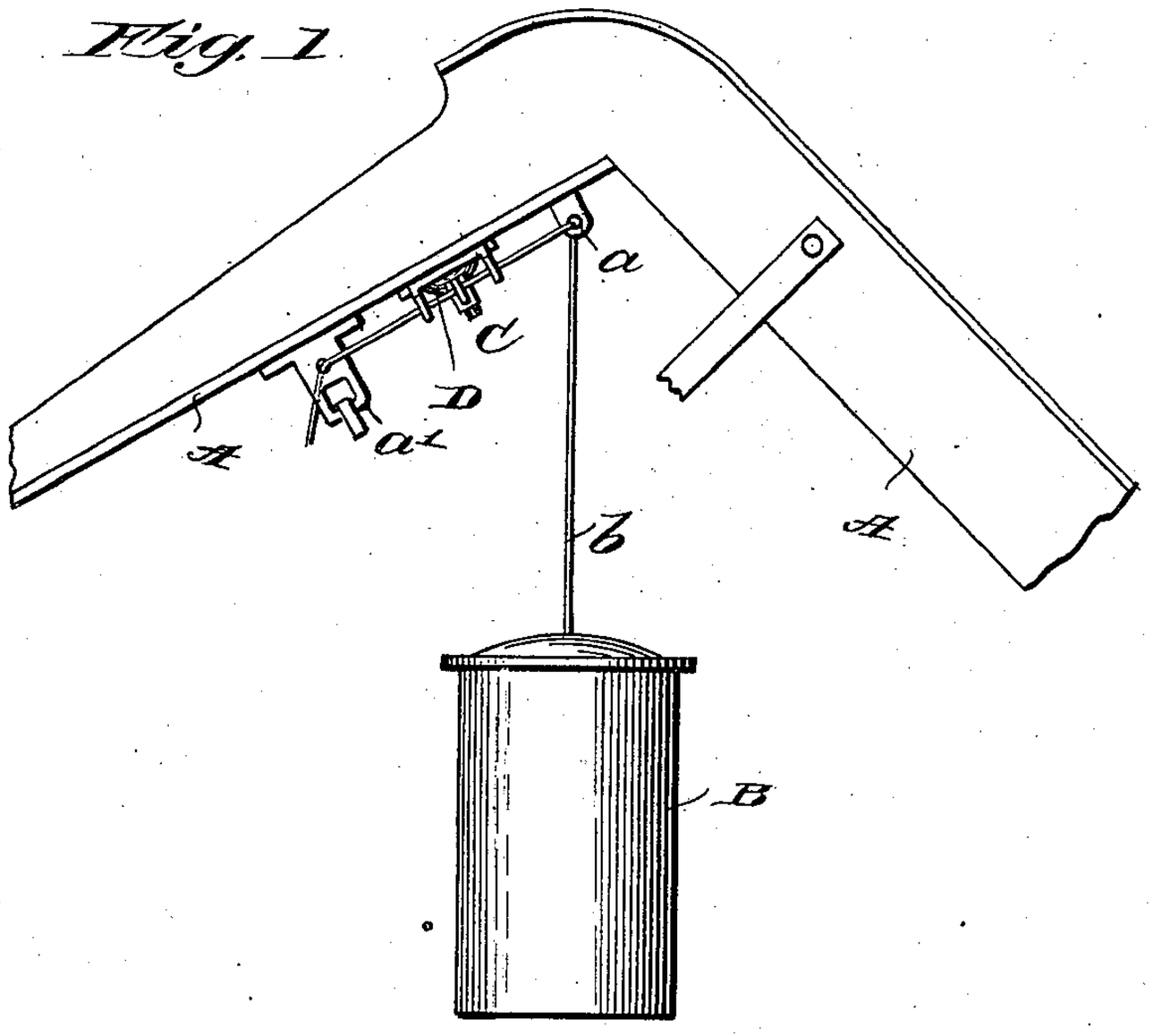
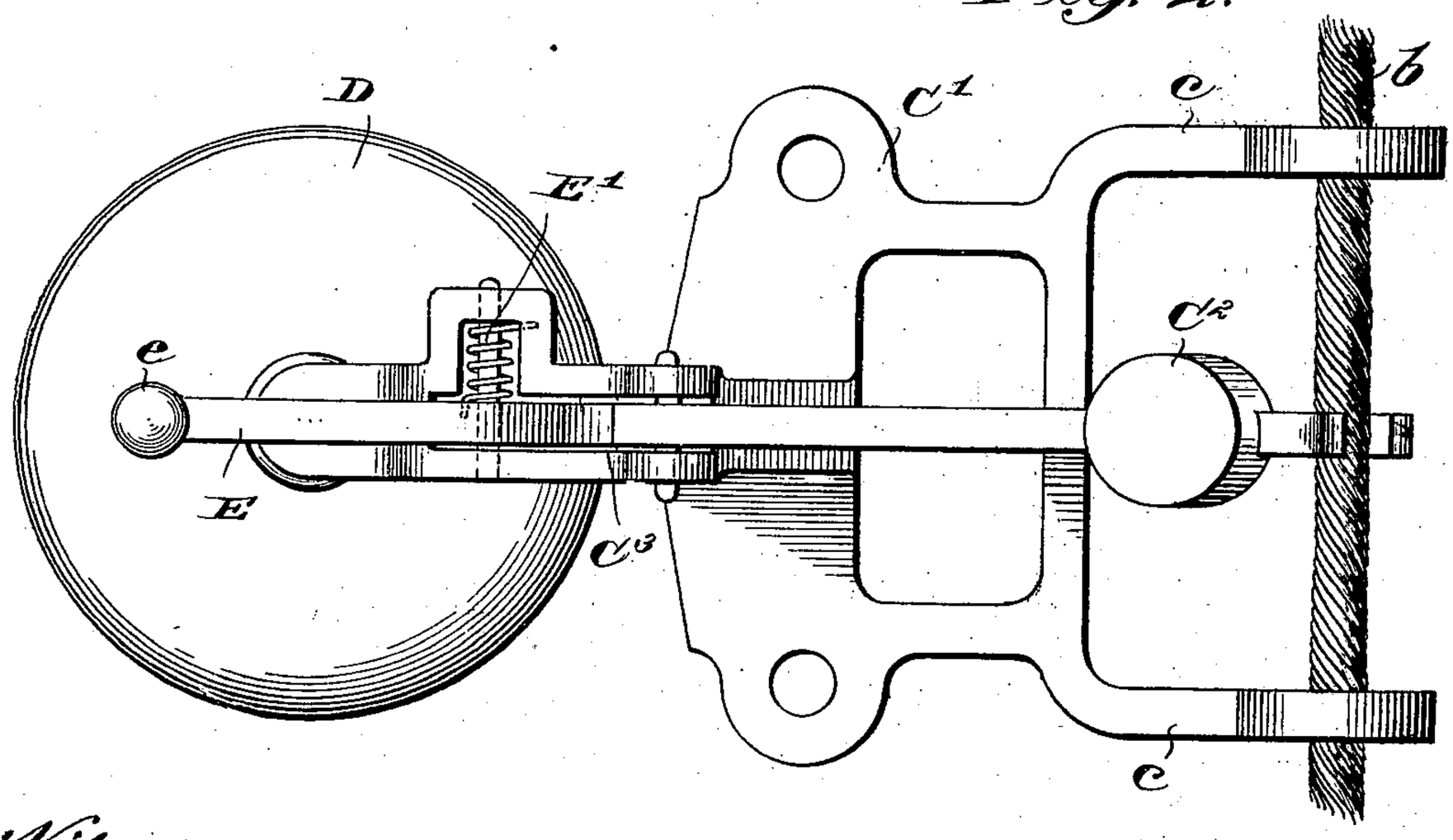


Fig. 2.



Witnesses:

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G. H. Glendenning.

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(No Model.) 2 Sheets—Sheet 2.

Fig. 3.

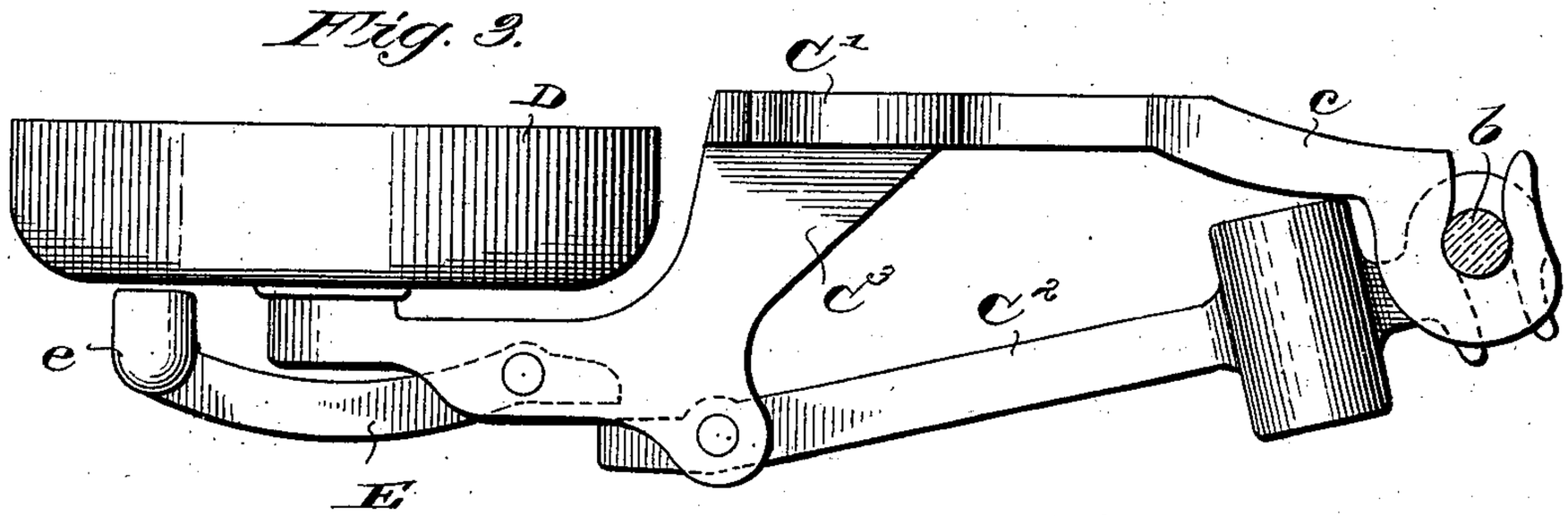


Fig. 4.

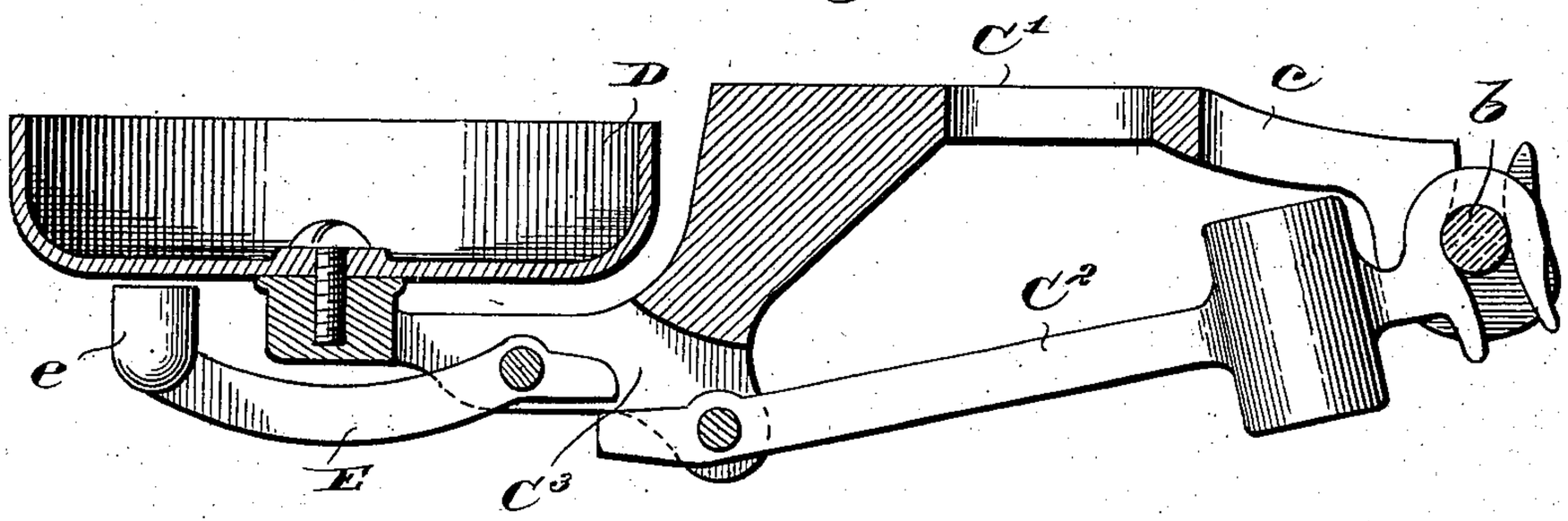
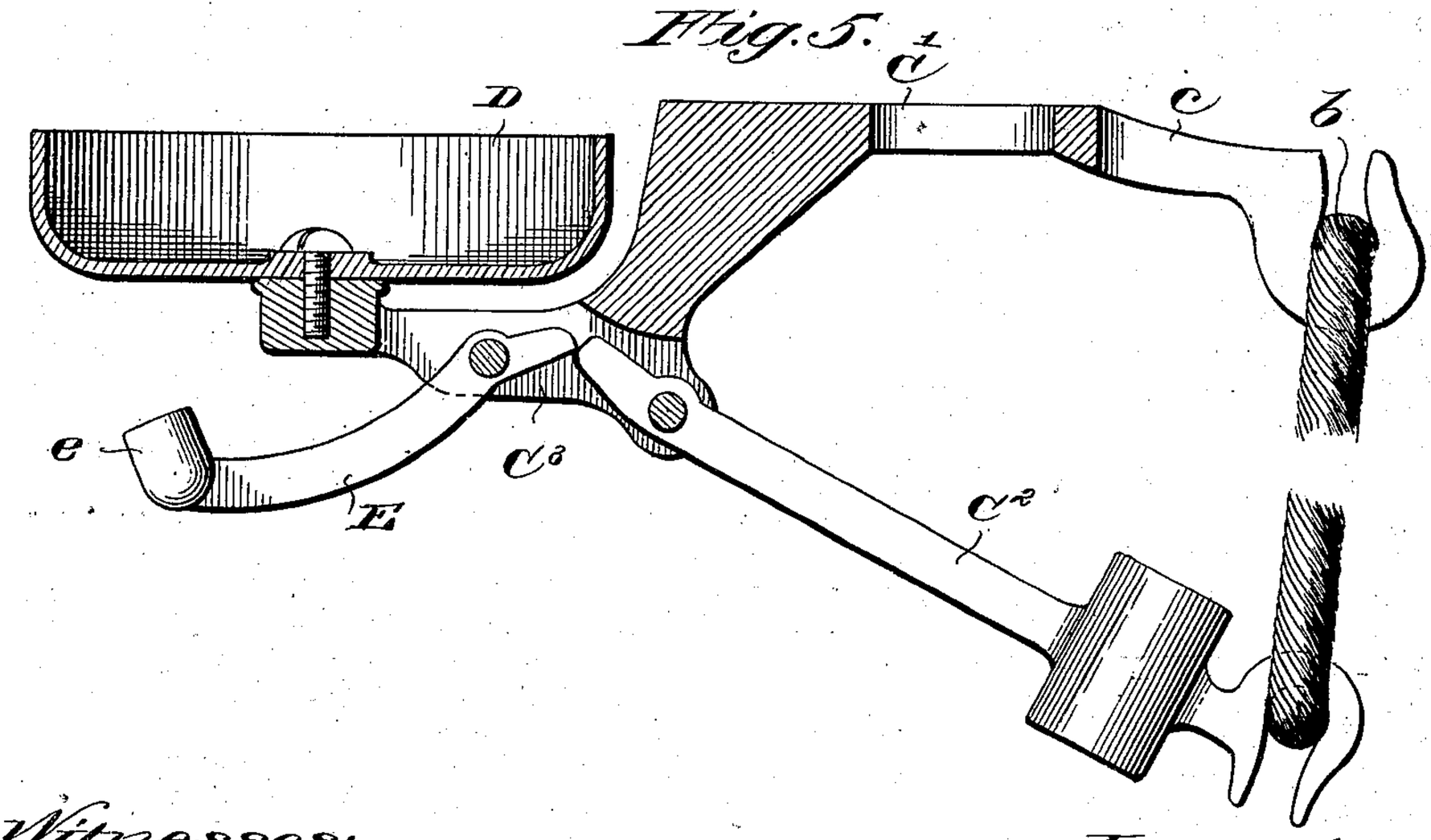


Fig. 5.



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UNITED STATES PATENT OFFICE.

JOHN FRED LAIRD, OF FALLRIVER, WISCONSIN.

AUTOMATIC ALARM.

SPECIFICATION forming part of Letters Patent No. 708,816, dated September 9, 1902.

Application filed March 13, 1901. Serial No. 50,930. (No model.)

To all whom it may concern:

Be it known that I, JOHN FRED LAIRD, a citizen of the United States, and a resident of Fallriver, in the county of Columbia and State of Wisconsin, have invented certain new and useful Improvements in Automatic Alarms; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in automatic alarms, and more particularly an alarm designed to indicate when a cord or line used for binding purposes or the like is broken or the tension thereof greatly relaxed, as is frequently the case in self-binding harvesters and other agricultural implements.

Heretofore in self-binders it has frequently been a source of serious annoyance and delay that in the event of a binding-cord breaking or the same running out of the box the machine may continue to cut and bundle grain for a considerable distance before the operator notices that the bundles are not bound.

The object of my invention is to provide means whereby the attention of the operator will be instantly called to the failure of the binding devices to operate.

The invention consists of the matters hereinafter described, and more fully pointed out and defined in the appended claims.

In the drawings, Figure 1 is a perspective view of a device embodying my invention, showing the same attached to a part of a self-binder. Fig. 2 is an enlarged bottom plan view of the same. Fig. 3 is a side elevation. Fig. 4 is a longitudinal vertical section showing the device in operative position. Fig. 5 is a similar view showing the position the parts assume when the cord breaks or the tension is unduly relaxed from any cause.

As shown in said drawings, A indicates a part of the frame of a self-binder.

B indicates the twine case or box.

b indicates the binding-twine leading upwardly to the frame, whereon is shown a portion of the tension devices, comprising apertured projections *a a'*, through which said twine is passed.

C indicates as a whole the alarm, comprising a plate C', adapted to be rigidly secured to the under side of said frame and provided with the parallel lateral arms *c c*, each having an upwardly-opening hook at the end to receive the binding-cord *b*. Pivoted intermediate of the arms *c c* of said plate is the weighted arm C^2, provided at its outer end with a downwardly-opening hook also designed to engage the cord *b* and when so engaged thereon to be in alinement with the hooks at the extremities of the arms *c c*, as shown in Figs. 2, 3, and 4.

D indicates a bell of any desired form or construction rigidly secured on a bracket-arm C^3 integral with the plate C'. A lever E is also pivoted on said bracket-arm in alinement longitudinally with the weighted arm C^2 and is provided at its outer end with a hammer *e*, designed to give the signal on the bell.

E' indicates a spring, herein shown as a coiled spring, one end of which engages on the bracket-arm and the other end of which engages the hammer-lever E and acts to hold the same normally in positions indicated in Figs. 3 and 4. The adjacent arms of the levers C^2 and E, while relatively short, project to a position to engage each other when the weighted end of the lever C^2 swings downwardly and to pass by each other or release when the lever is swung to its lowest position.

The operation of my device is as follows: The alarm being secured in operative position on any device in which a cord or string is used under tension, said cord or string is passed over the hooks at the ends of the arms *c c*, and the hook of the lever C^2 is engaged thereon, as shown in Fig. 3. In this position the hammer rests in close proximity to the bell, and the weighted end of the lever C^2 is supported and may form a part of the tension for the cord. If now the cord runs out or breaks, the weighted end of the lever C^2 swings to the position indicated in Fig. 5, thereby engaging the short end of the lever E, swinging the hammer outwardly from the bell against the tension of the spring until the end of the lever C^2 passes by the end of said lever E, whereupon under tension of the spring the hammer is thrown into contact with the bell and the alarm given.

While, as shown, the device is gravity-act-

ing, obviously, if preferred, the bell may be secured in a different position and a spring may be provided to throw the arm C^2 outwardly when the pressure of the cord thereon is released.

Obviously many details of my invention may be varied without departing from the principle thereof.

I claim as my invention—

1. In a device of the class described, the combination with a plate provided with arms adapted to engage a cord under tension, of a bell, a hammer pivoted on the plate, a weighted lever adapted to be supported normally at its outer end on the cord between said arms, and at its inner end to positively actuate the hammer when the tension of the cord is reduced thereby giving a signal on the bell.

2. In a device of the class described, the combination with a bell, of a hammer pivoted in operative relation thereto, arms over which a cord under tension engages, a lever pivoted adjacent to the bell and supported at its outer end on the cord, and normally sustained by the tension of the cord, said lever at its inner end extending in operative relation with the hammer and adapted to actuate the same when the tension of the cord is reduced, and a spring engaged on the hammer and acting to throw the same out of engagement with the bell after the signal is given.

In testimony whereof I have hereunto subscribed my name in the presence of two subscribing witnesses.

JOHN FRED LAIRD.

In presence of—
B. J. HURD,
Z. B. RUSSELL.