

(No Model.)

I. H. RUSSELL.

CORD SPOOL AND TENSION DEVICE FOR GRAIN BINDERS.

No. 316,917.

Patented Apr. 28, 1885.

Fig. 1.

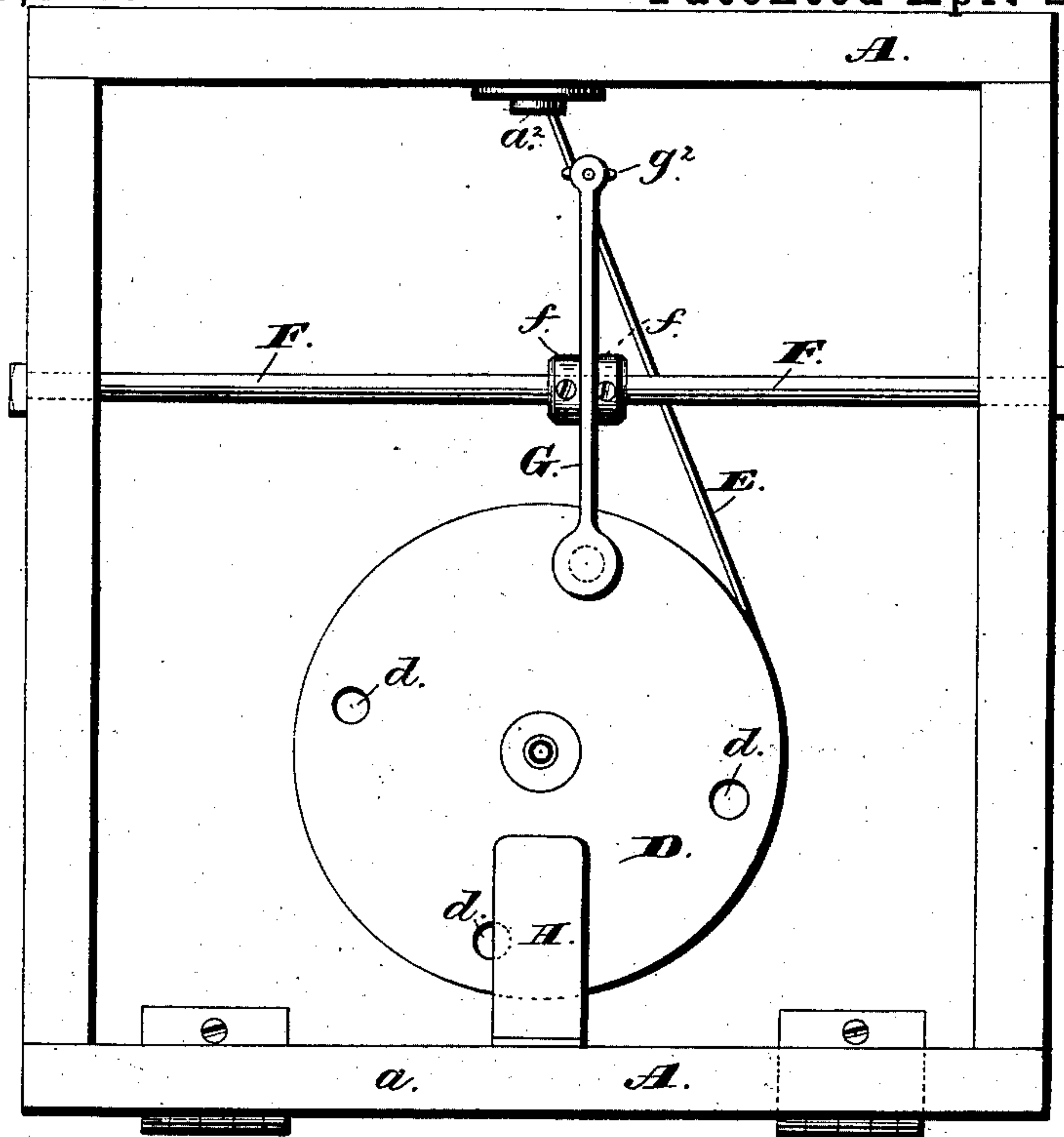


Fig. 2.

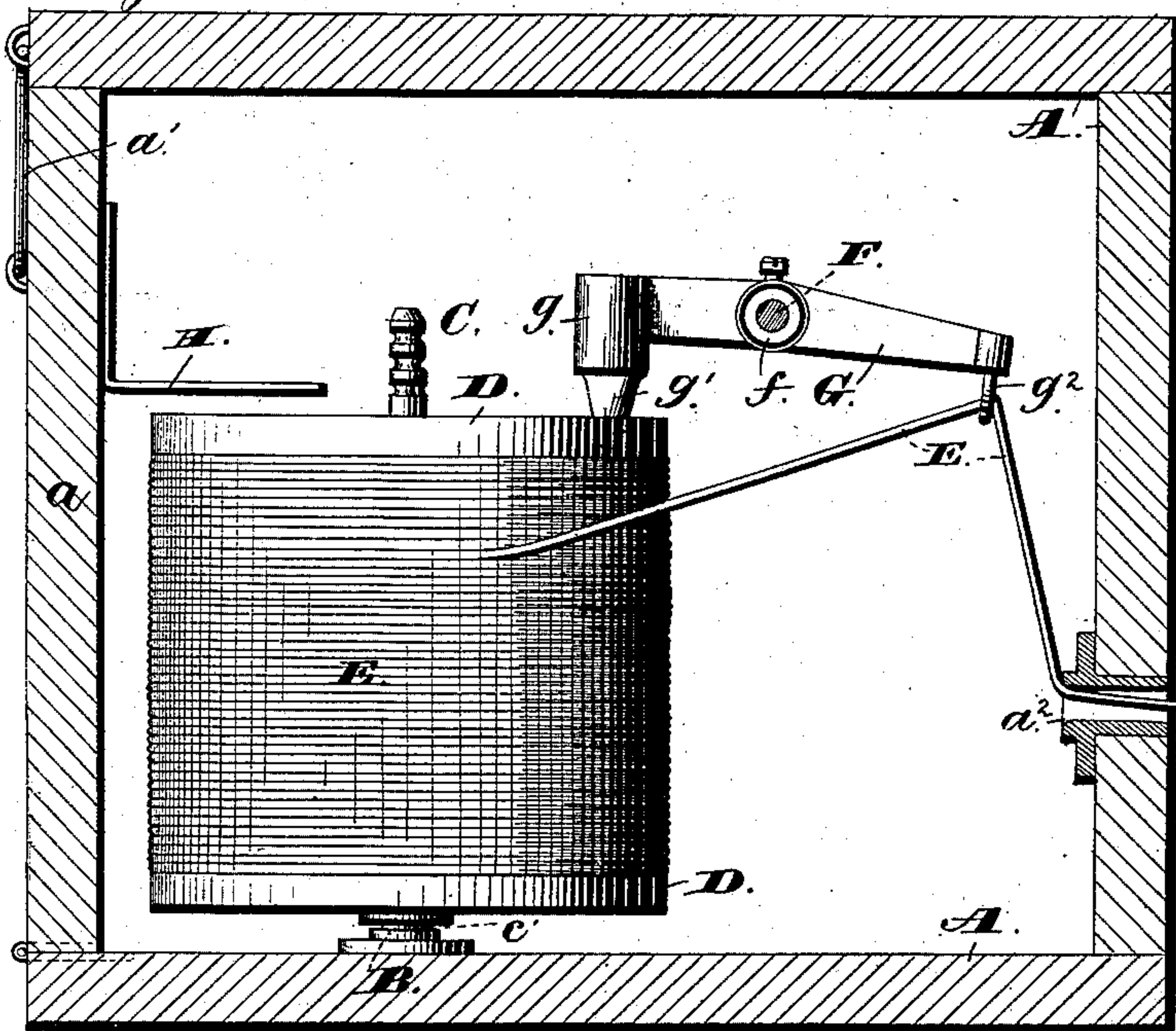
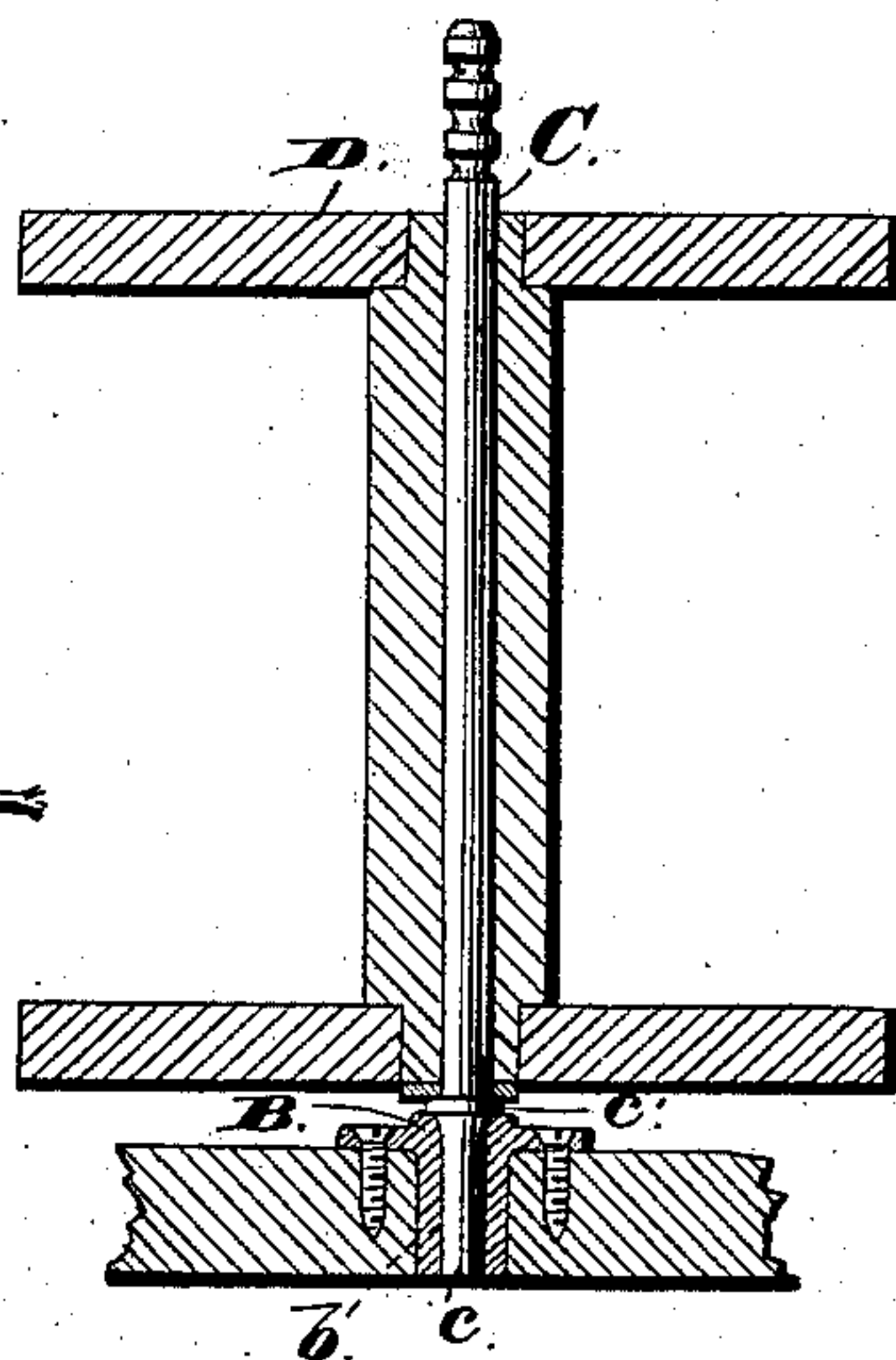


Fig. 3.



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UNITED STATES PATENT OFFICE.

ISAAC H. RUSSELL, OF EAST HAMPTON, MASSACHUSETTS.

CORD-SPOOL AND TENSION DEVICE FOR GRAIN-BINDERS.

SPECIFICATION forming part of Letters Patent No. 316,917, dated April 28, 1885.

Application filed September 11, 1883. (No model.)

To all whom it may concern:

Be it known that I, ISAAC H. RUSSELL, of East Hampton, in the county of Hampshire and State of Massachusetts, have invented certain new and useful Improvements in Cord Spool and Tension Devices for Grain-Binders; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a top plan view of my mechanism, the upper side of the casing being removed. Fig. 2 is a side elevation of the same with the casing in section, the full lines showing the position of the brake-lever when engaged with the spool; and Fig. 3 is an axial section of said spool, and of the support or bearing for the lower end of the spindle.

Letters of like name and kind refer to like parts in each of the figures.

The design of my invention is to provide an automatically-operating brake for arresting the motion of a cord-spool for grain-binders when the cord is too slack, thereby furnishing the necessary tension for the cord when being used, to which end said invention consists, principally, in the construction and operation of the tension-producing mechanism, substantially as and for the purpose hereinafter specified.

It consists, further, in the construction of the spool-spindle and its combination with the supporting parts, substantially as and for the purpose hereinafter shown.

It consists, finally, in the combination of the casing and stop with the spool, substantially as and for the purpose hereinafter set forth.

In the annexed drawings, A represents a square box, one side of which, *a*, is hinged and capable of being opened outward, when desired, and is provided with a suitable fastening, *a'*, whereby it may be locked in place when closed.

Secured to the upper side of the bottom of the box or casing A, near the hinged side *a*, is a metal socket, B, which extends downward into or through said bottom, and is provided with an axial opening, *b*, that is adapted to receive and contain one end, *c*, of a spindle,

C, that from thence extends upward about two thirds the distance between said bottom and the top of said casing. Said opening is preferably made slightly tapering, and the end *c* correspondingly shaped, while immediately above said socket a collar, *c'*, is, if desired, formed upon or secured to said spindle.

The spindle C is for the reception of a spool, D, for containing cord or wire E for binding sheaves of grain, and such spool is fitted loosely upon and adapted to revolve freely around said spindle. An opening, *a²*, in the side of the casing A, opposite to the hinged side *a*, permits said cord or wire to pass outward to the binding mechanism. Said opening is preferably protected from wear by means of a metal thimble or bushing, *a³*.

Extending horizontally through the casing, at a point slightly above the spool C, and between the same and the farther side of the former, is a rod, F, upon which is pivoted a bar, G, that is held in position lengthwise of said rod by means of two collars, *f*, or other equivalent devices, and is free to oscillate thereon, so as to cause its inner end to engage with or be raised above the upper end of said spool.

The inner end of the bar G is overbalanced by means of a head, *g*, which is attached thereto, and will drop upon and remain in contact with said spool end unless prevented from so doing, as hereinafter shown. Said head has a pointed lower end, *g'*, which, when permitted, engages with one of a series of recesses, *d*, that are provided in the upper end of said spool and are arranged in a circle at equidistant points.

A loop or eye, *g²*, secured within the lower side, at the outer end of the lever or bar G, and a stop, H, projecting from the hinged side *a* horizontally over the upper end of the spool D, to lock the latter in vertical position, completes the mechanism, the operation of which is as follows, viz:

The cord or wire E from the spool D passes through the eye *g²*, and from thence outward through the opening *a²* to the binding mechanism. When the strain upon said cord is sufficient to depress the outer end of the bar G, the said spool is released, and said cord unwinds therefrom until the strain is suffi-

ciently overcome to permit said bar to resume its normal position, when said spool is again locked in place.

5 The resistance to the outward passage of the cord E is governed by the amount of downward pressure necessary in order to move the locking or tension bar G, and may be increased or diminished by moving the eye g^2 toward or from the axial bearing of said
10 bar, or by increasing or lessening the weight of the head g .

To remove the cord-spool D, the hinged part a is turned downward, and the spindle C (with said spool) raised out of its socket.

15 Having thus fully set forth the nature and merits of my invention, what I claim as new is—

1. In combination with the upright cord-spool provided in its upper end with a concentric series of recesses, the lever extending at
20 one end over the spool, and at that end weighted and provided with a conical projection adapted to fall into and fit any one of the recesses that may be below it when the lever
25 end is down, the eye or loop on the other end of the lever through which the cord passes

from the spool, and the guide through which the cord passes from the eye or loop on the lever situated below such eye, substantially as and for the purpose described.

2. In combination with the spool provided with a series of round recesses in its end, the weighted lever having its weighted end extending over the spool end, and provided with a conical projection adapted to drop in-
35 to and fit any one of said recesses, substantially as and for the purpose described.

3. In combination with the spool D, journaled upon the spindle C, the casing A, having the hinged side a , and the stop H, secured
40 to said hinged side, and when the same is closed operating to lock said spool in place vertically, substantially as and for the purpose set forth.

In testimony that I claim the foregoing I
45 have hereunto set my hand this 6th day of September, A. D. 1883.

ISAAC H. RUSSELL.

Witnesses:

WM. G. BASSETT,
PATRICK J. ASHF.