

(No Model.)

H. THOMAS.

DEVICE FOR ATTACHING MUSIC SHEETS TO ROLLERS.

No. 327,038.

Patented Sept. 29, 1885.

Fig. 1.

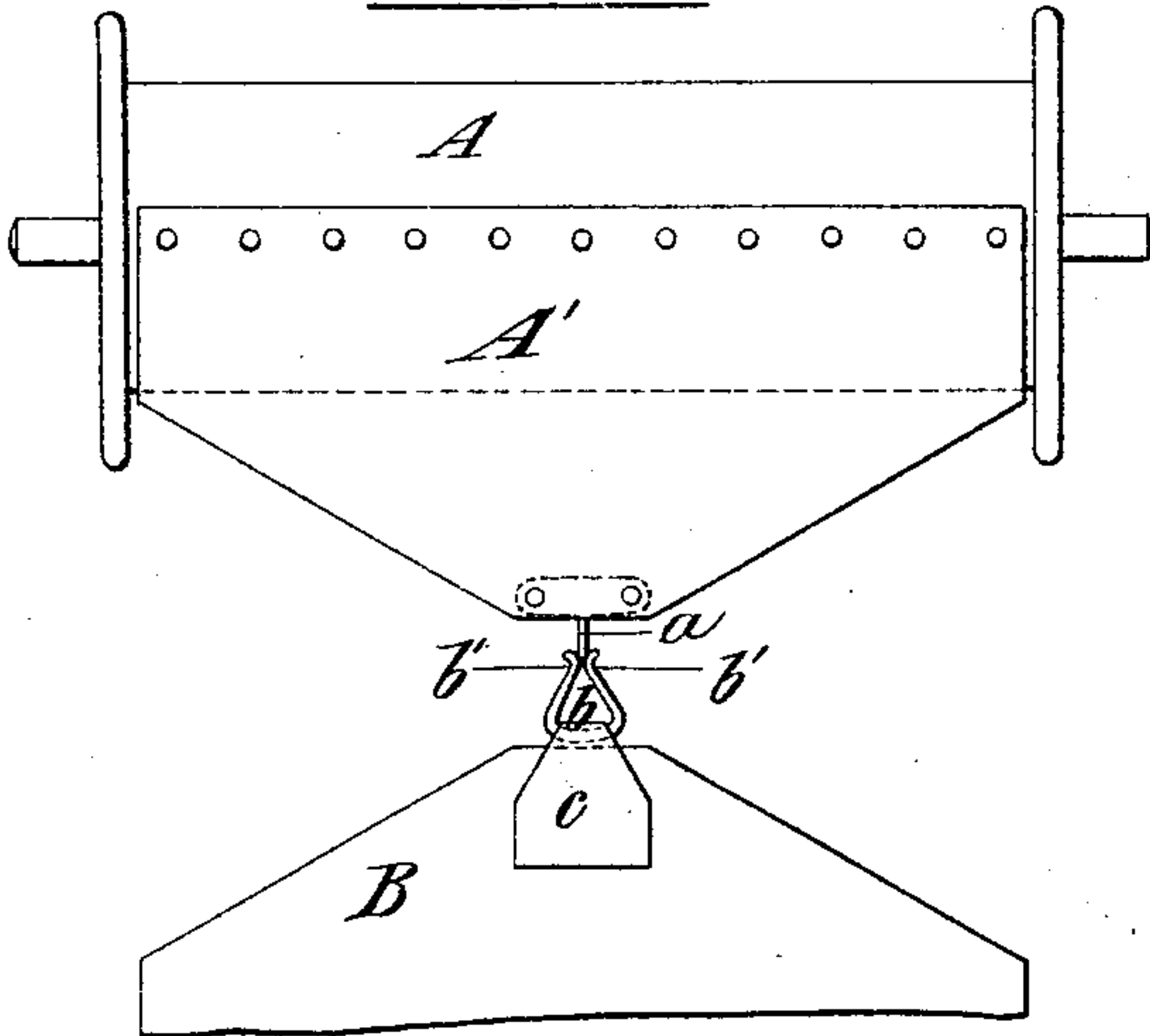


Fig. 2.

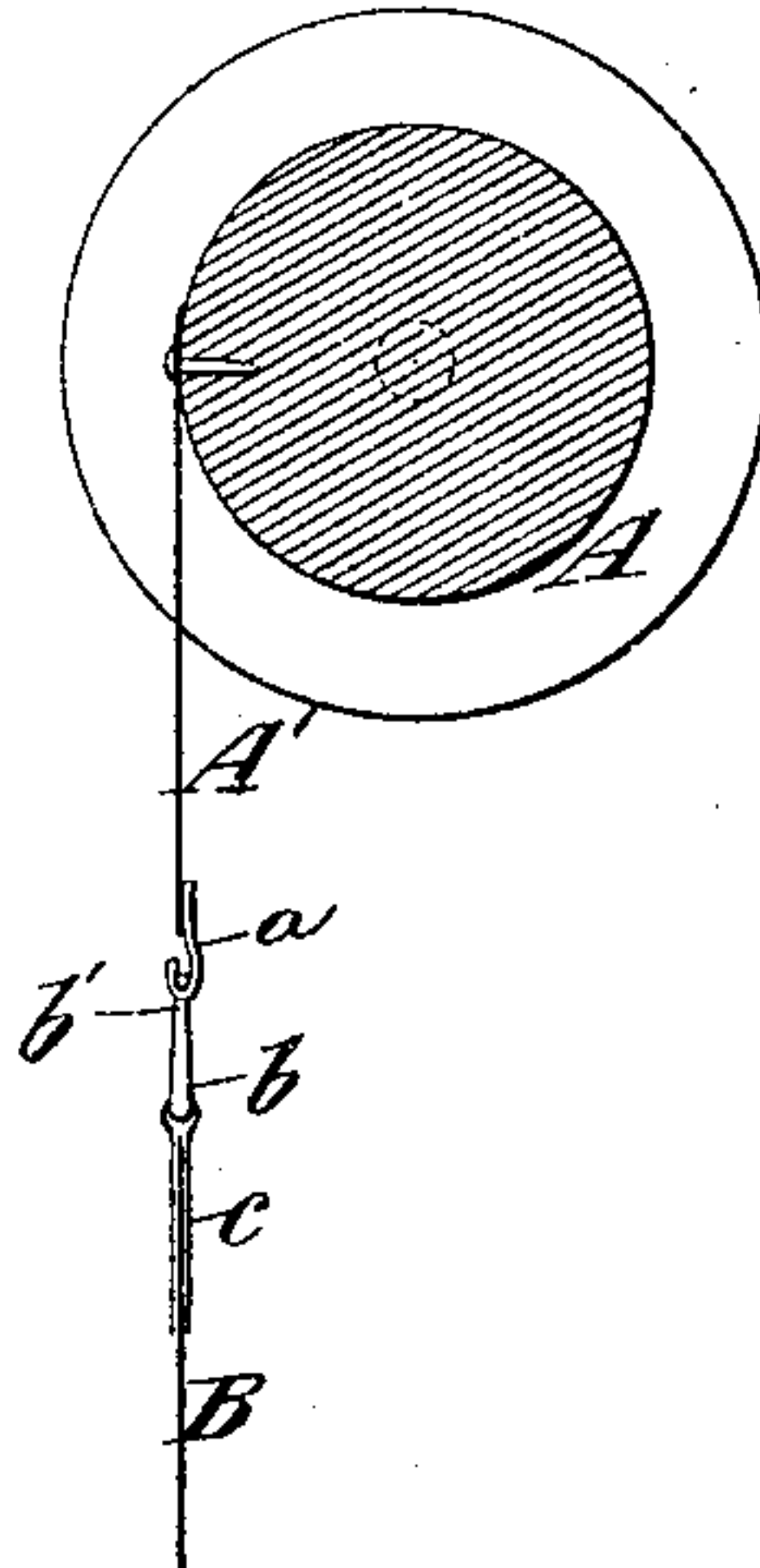


Fig. 3.

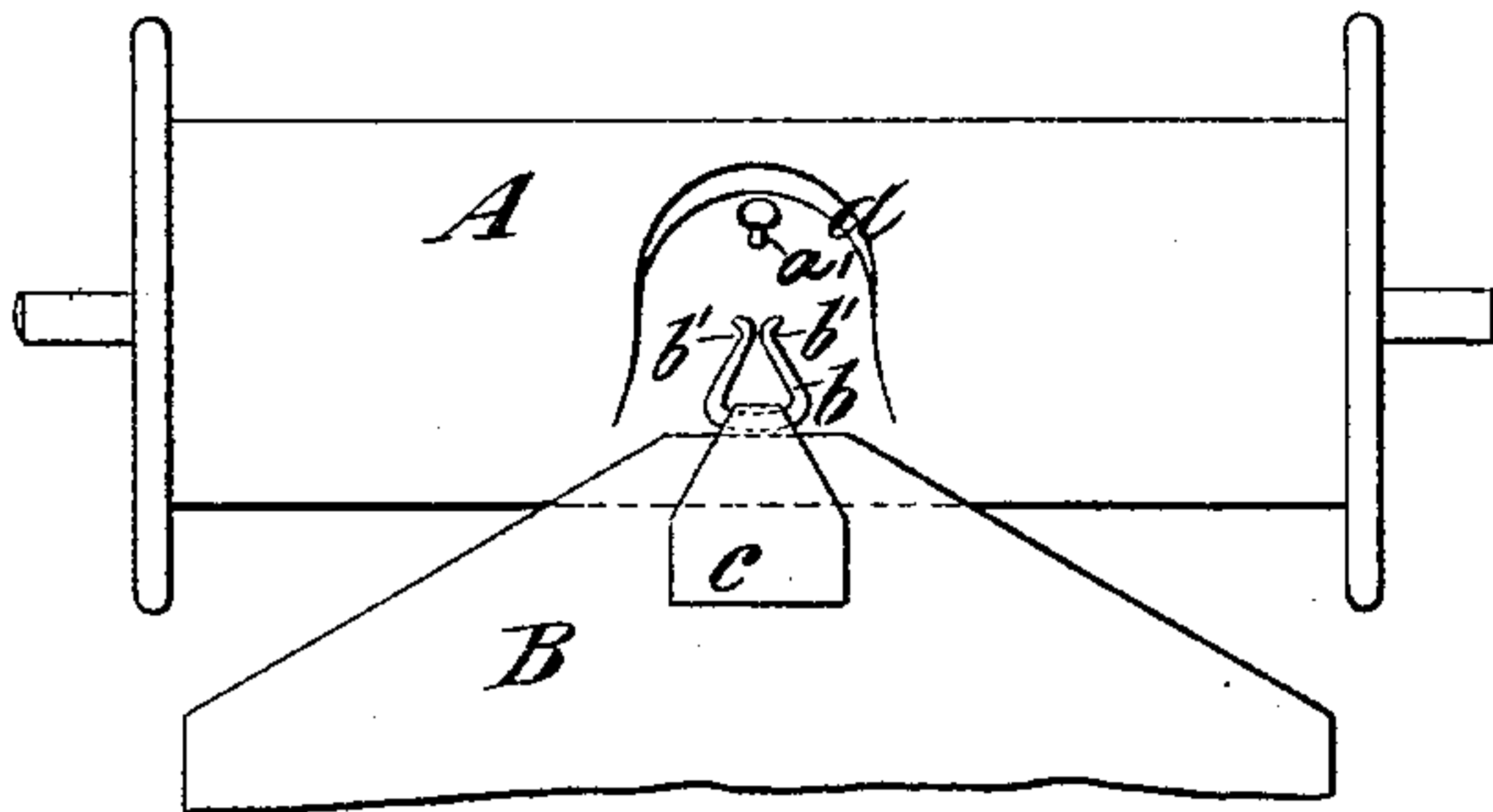


Fig. 4.

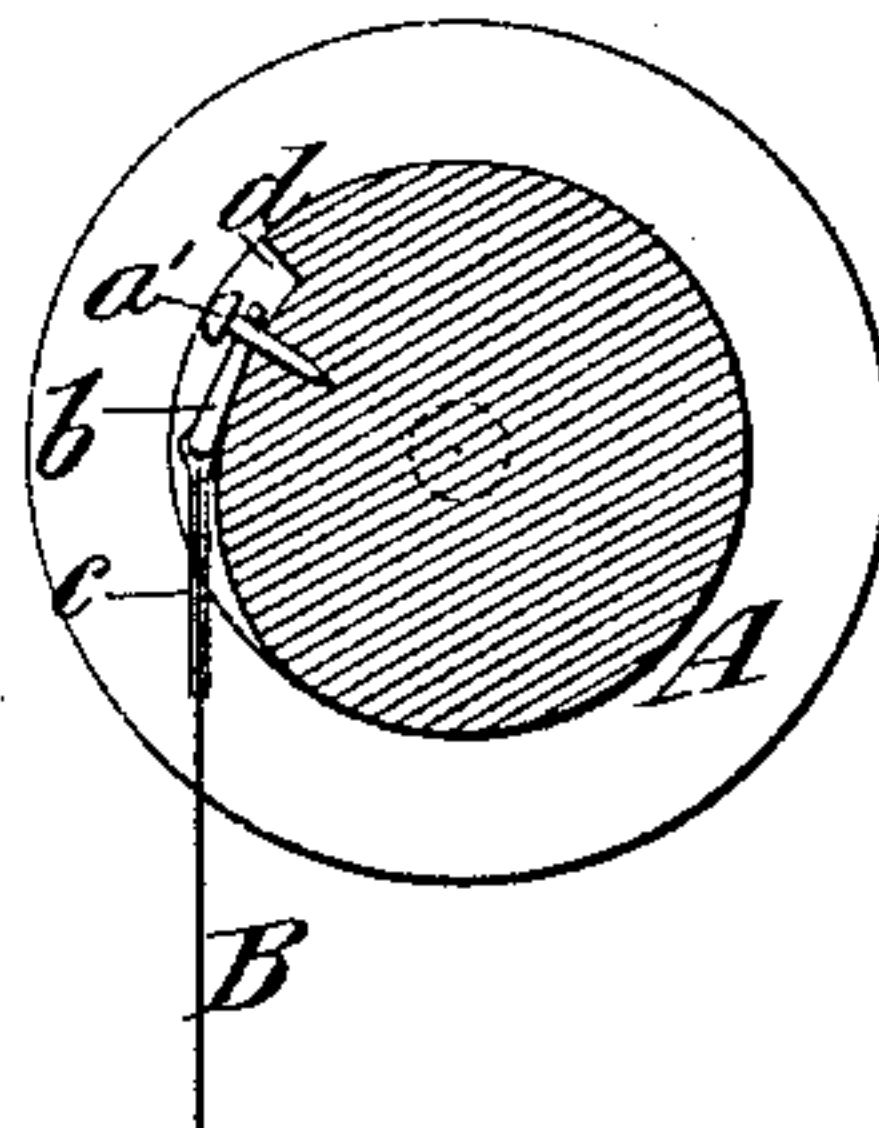


Fig. 5.

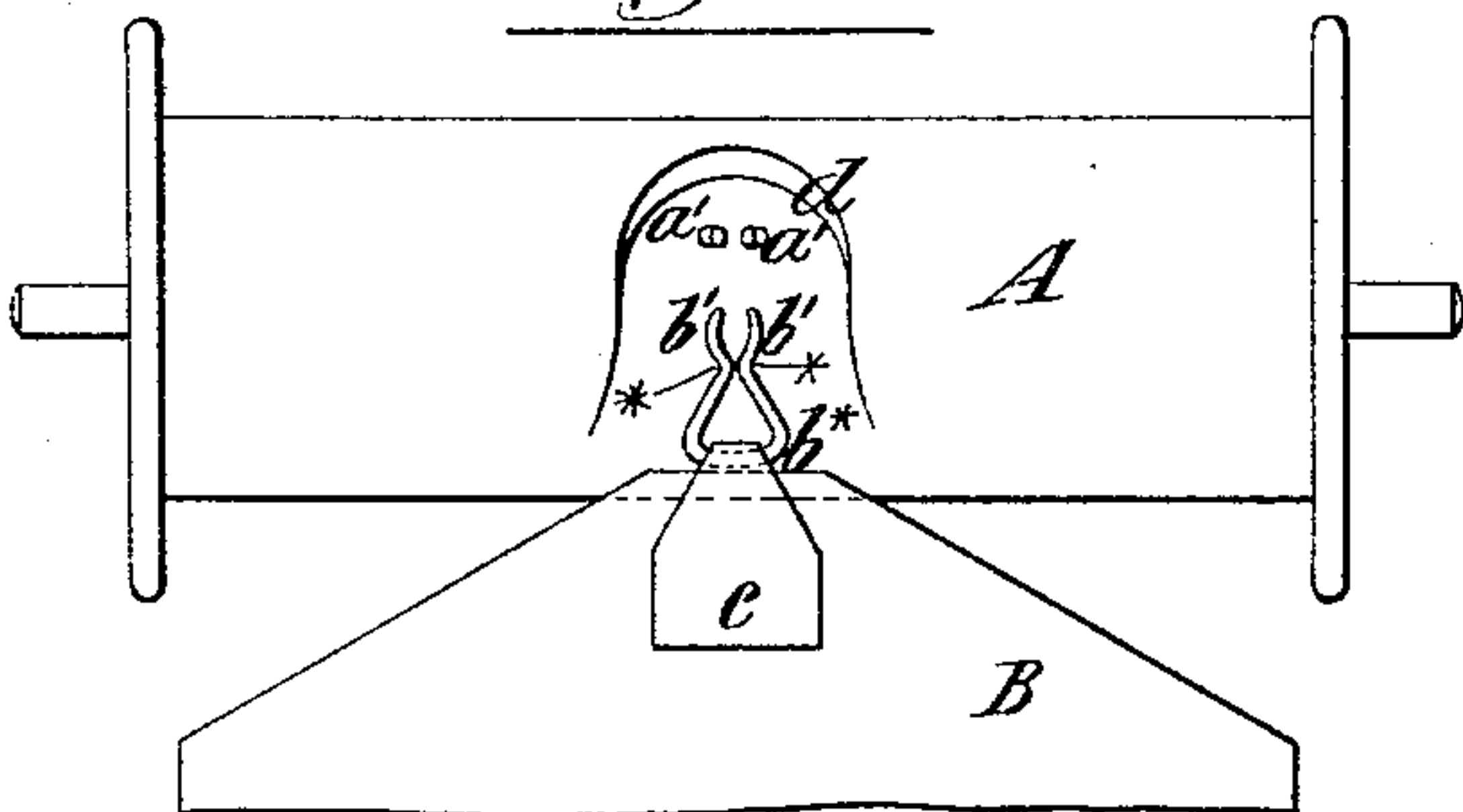


Fig. 7.

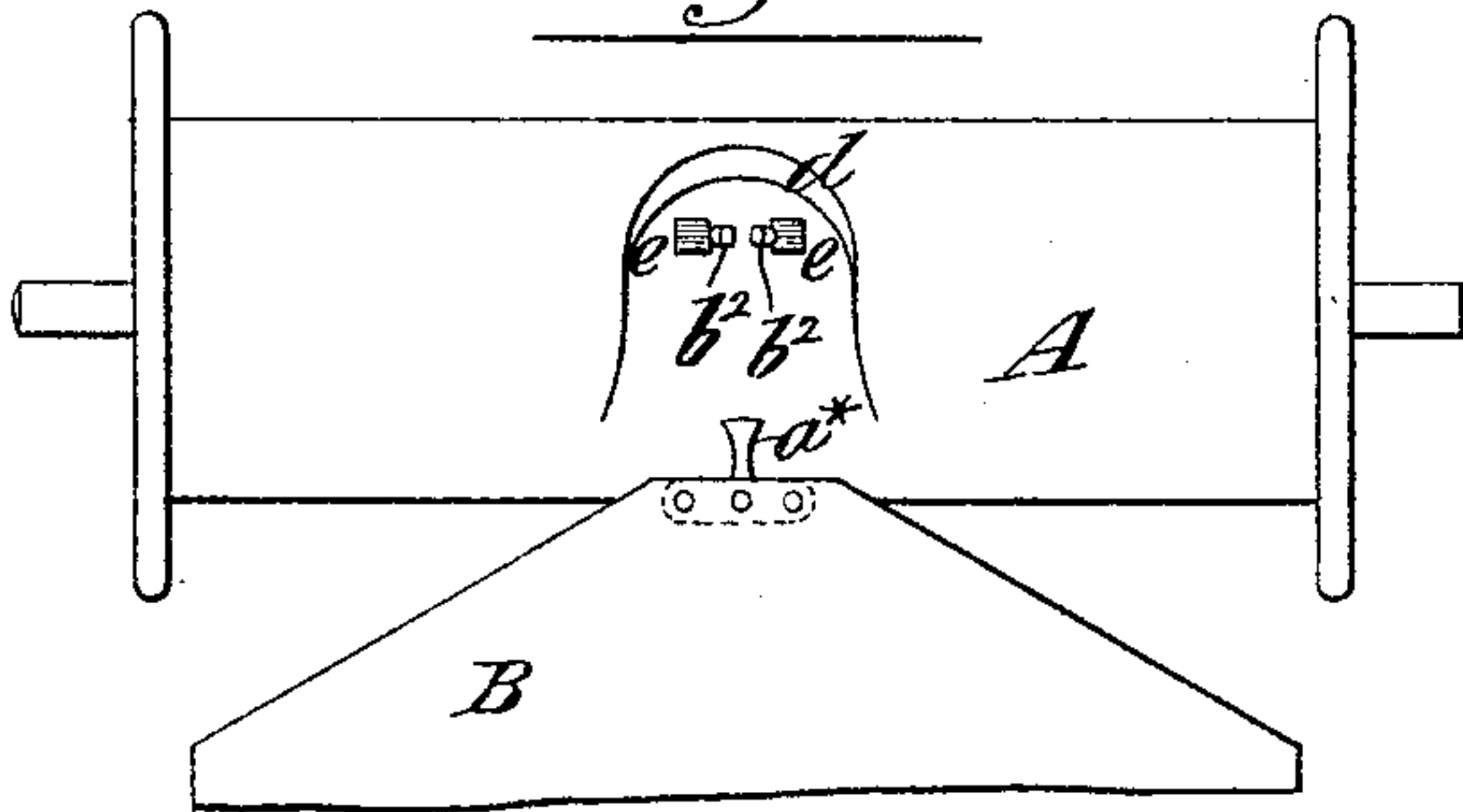


Fig. 6.

Witnesses:-

Louis W. Whitehead

C. Sundgren

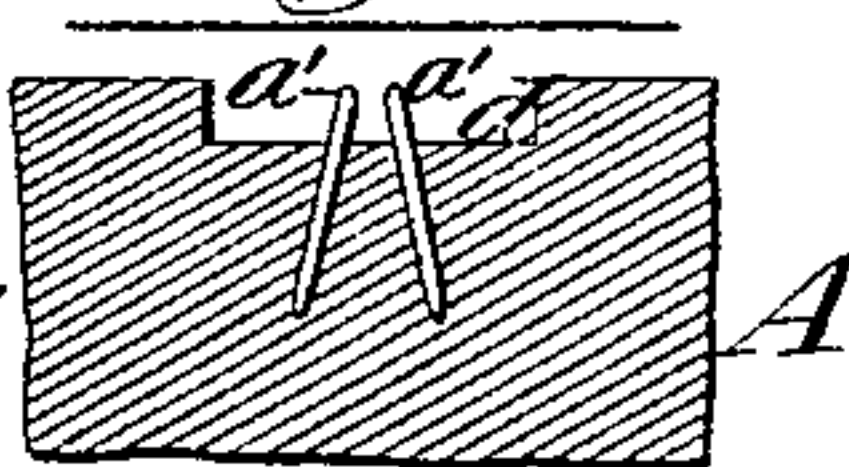
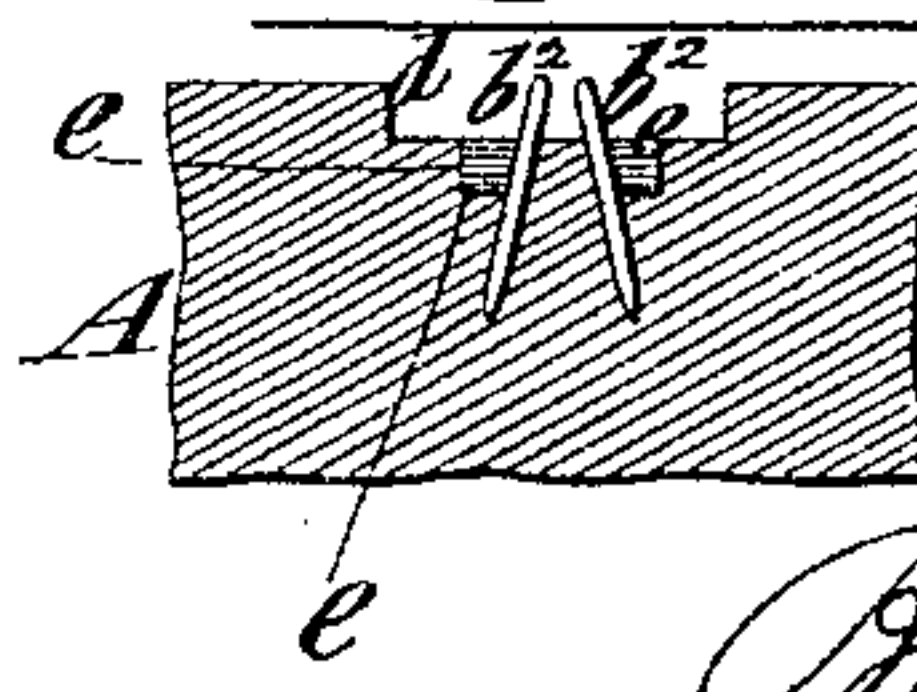


Fig. 8.



Inventor:

Hugh Thomas

By his Atty.

Brown & Hall

UNITED STATES PATENT OFFICE.

HUGH THOMAS, OF NEW YORK, N. Y.

DEVICE FOR ATTACHING MUSIC-SHEETS TO ROLLERS.

SPECIFICATION forming part of Letters Patent No. 327,038, dated September 29, 1885.

Application filed April 17, 1884. (No model.)

To all whom it may concern:

Be it known that I, HUGH THOMAS, of the city and county of New York, in the State of New York, have invented a new and useful
5 Improvement in Means for Attaching Music-Sheets to Rolls, of which the following is a specification.

My invention relates to perforated music-sheets which are employed to control the operation of sound-producing devices in mechanical musical instruments, and which are commonly made of paper.

In instruments of this class the music-sheet is often permanently attached at one end to a music-roll, and when placed in the instrument the other end is detachably connected with a take-up or winding roll, the movement of the sheet to play being produced by turning the latter roll to wind the sheet upon it. After
20 playing the sheet is rewound upon the music-roll, and this rewinding is commonly performed at a speed many times quicker than that which the sheet has in playing. A common means for attaching the sheet to the take-up roll has been a ring fastened to the sheet
25 and a hook fixed in the take-up roll and upon which the ring is placed; but in rewinding it has been necessary to slacken the quick speed before the end of the sheet is reached and to
30 complete the rewinding slowly, finally removing the ring from the hook. This has been necessary, because if the rewinding were terminated at the quick speed which is so desirable, and the speed were not decreased, the
35 end of the sheet would be detached from the roll with a jerk, which would almost certainly tear off the ring from the sheet, or tear off the end portion of the sheet. The same difficulty has been experienced with devices other than
40 a hook and ring which have been used for a like purpose.

The object of my invention is to provide a means of attaching the music-sheet to the take-up roll, which is of such nature that
45 while it is sufficiently secure to provide for drawing forward the sheet in playing it will permit of the sheet being safely detached from the take-up roll by a pull upon it at the termination of the operation of rewinding.
50 The entire operation of rewinding can then be performed at a quick speed and without slackening the speed, and when the end of the

sheet is reached it will pull off from the roller without any possibility of injury.

The invention consists, essentially, in the combination of a music-sheet and a roll therefor, one provided with a hook or analogous holding device, and the other provided with a pair of elastic arms or jaws adapted to engage with said hook or device and to be dis-
60 engaged therefrom by a pull upon the sheet; and it also consists in a music-sheet having a permanently-attached loop or eye with yielding jaws or arms.

In the accompanying drawings, Figure 1 represents a take-up roll and the end portion of a music-sheet embodying my invention. Fig. 2 is a transverse section of the roll and sheet shown in Fig. 1. Figs. 3 and 4 are views corresponding to Figs. 1 and 2, illustrating a
70 modification of my invention. Fig. 5 represents a roll and the end portion of a sheet, illustrating another modification of my invention. Fig. 6 is a sectional view of a portion of the roll shown in Fig. 5. Fig. 7 represents
75 a roll and a portion of a sheet, illustrating still another modification of my invention, and Fig. 8 is a sectional view of a portion of the roll shown in Fig. 7.

Similar letters of reference designate corresponding parts in all the figures.

In all the figures, A designates a roll, supposed to be the take-up roll of a mechanical musical instrument, and B designates the end
85 portion of a music-sheet to be wound thereon.

To the roll A (shown in Figs. 1 and 2) is attached permanently a flap, A', which may be of leather or cloth, and has at its end a hook, a, which may be attached to it by rivets or other means. At the end of the music-sheet
90 B is securely fastened an eye or loop, b, having an opening formed by two slightly elastic or flexible jaws, b' b'. The eye or loop b may be attached to the sheet by a piece of cloth, c, passed through it and pasted to the two sides
95 of the sheet or by other suitable means.

When the music-sheet is placed in the instrument, the eye or loop b is placed on the hook a, and by turning the roll the sheet is drawn forward for playing. The thickness of
100 the hook a is greater than the opening between the jaws b' b', and consequently the sheet will not become detached from the roll in playing.

In rewinding the sheet is drawn rapidly off from the roll A, and when the end of the sheet is reached the two jaws $b' b'$ will spring apart or yield sufficiently to detach them from the hook a , but the pull necessary to so detach them will not be sufficient to tear the sheet.

In Fig. 1 I have shown the eye or loop b as detached from the hook in order to more clearly illustrate it.

In Figs. 3 and 4 I have represented the sheet B as having a loop or eye, b , with elastic or yielding jaws $b' b'$, secured to it by a piece of cloth, c ; but in this example of the invention the loop or eye b is to be engaged with a headed pin, a' , inserted in a recess, d , in the roller. The diameter of this pin a' is greater than the opening between the jaws, and consequently a pull upon the sheet which is insufficient to tear it will detach the loop or eye b from the pin a' .

In the example of my invention shown in Figs. 5 and 6 the sheet B is provided with a loop or eye, b^* , having jaws $b' b'$, which tend to spring apart, and the roll A has two pins, $a' a'$, which are in a recess, d , in the roller. The loop or eye b^* has a neck or contraction at $*$, and when it is to be engaged with the pins a' this neck is pressed between said pins. In rewinding a pull upon the sheet which would be insufficient to tear the sheet will cause the jaws $b' b'$ to spring inward, so that they may be drawn from between the pins a' . These pins will preferably be set so that they will slightly converge toward their outer ends, as shown in Fig. 6.

In the example of my invention shown in Figs. 7 and 8 the music-sheet B is provided with a projecting tongue or device, a^* , which is adapted to be received between two pins, $b^2 b^2$, inserted in a recess, d , in the roll A, and forming elastic or yielding jaws. These pins are set slightly converging, and are supported at the back by rubber or other material, e , inserted in holes in the roller, and which allows them to yield when a sufficient pull is exerted on the music-sheet. This pull will not be sufficient to tear the sheet.

In all the examples of my invention the connecting devices between the roll and sheet

consist of a hook, pin, or other analogous device on the one part and elastic or yielding jaws or arms on the other part, capable of being disengaged from the hook, pin, or other device by a pull which will be insufficient to tear the sheet.

One of the journals of the roll may be constructed in any suitable way for the attachment of the mechanism whereby it is to be rotated. One of the journals may be prolonged and screw-threaded to receive a hand-crank. Such a means of rotating the roller is well known, and I have not thought it necessary to illustrate it.

I am aware that it is not new to employ in a mechanical musical instrument a music-roll having an attached flap to which the music-sheet may be connected, and I do not claim such a roll, broadly, as my invention.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination of a music-sheet and a roll therefor, one provided with a hook or analogous holding device, and the other provided with yielding arms or jaws adapted to engage with said hook or device and to be disengaged therefrom by a pull upon the sheet, substantially as herein described.

2. The combination, with a music-sheet having an attached loop or eye provided with yielding jaws or arms, of a roll for the sheet provided with a hook or analogous holding device, with which the said jaws or arms may be engaged and from which they may be disengaged by a pull upon the sheet, substantially as herein described.

3. The combination, with a take-up roll provided with an attached flap and a hook, a , of a music sheet provided with an attached loop having elastic arms or jaws, substantially as herein described.

4. The combination, with a music-sheet, of a loop or eye having yielding arms or jaws and permanently attached to the sheet, substantially as herein described.

HUGH THOMAS.

Witnesses:

C. HALL,
FREDK. HAYNES.