

(No Model.)

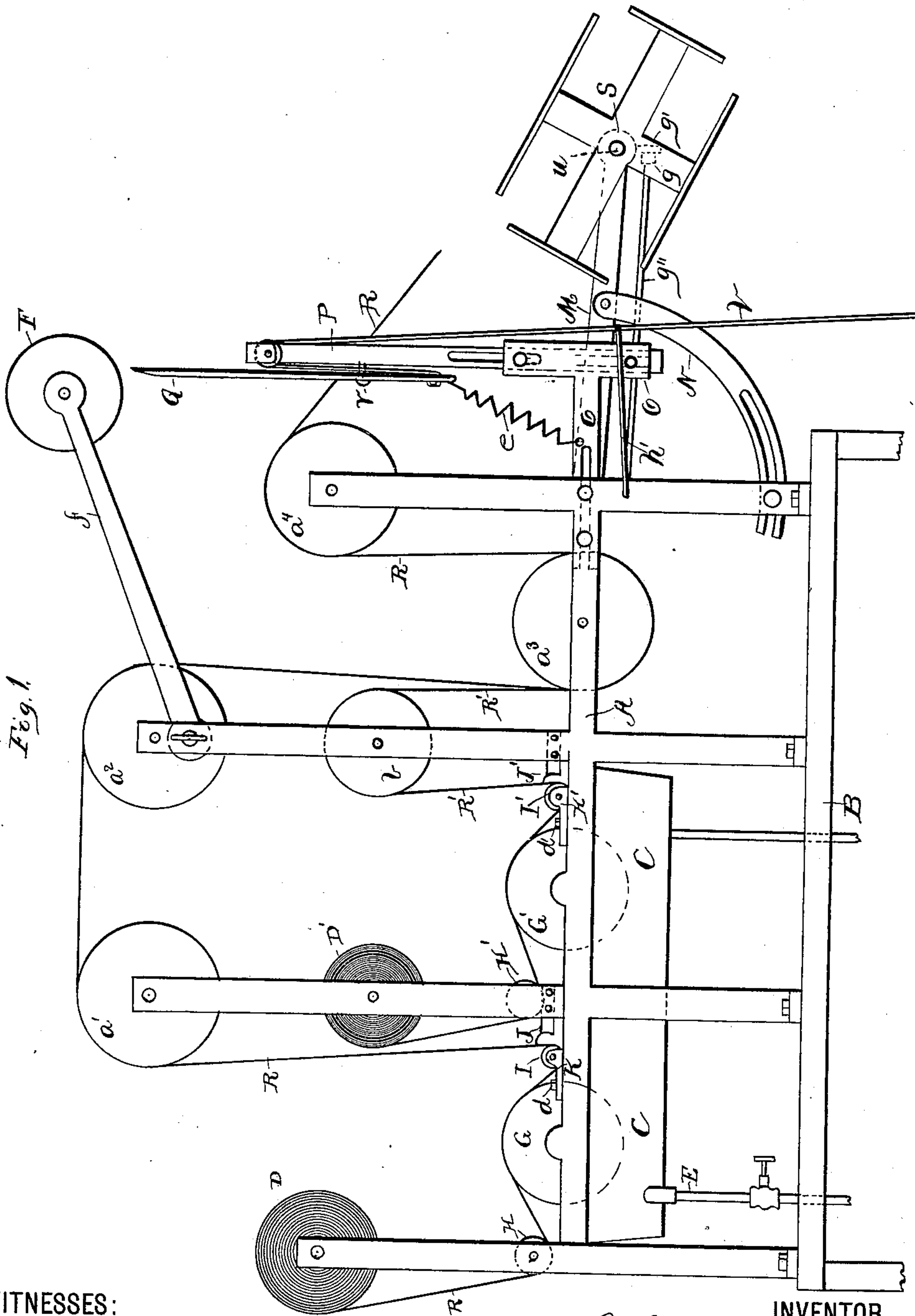
4 Sheets—Sheet 1.

C. E. CLUTE.

BOX COVERING AND TRIMMING MACHINE.

No. 335,429.

Patented Feb. 2, 1886.



WITNESSES:

Wm. H. Hollister, Jr.
John T. Booth

INVENTOR

Charles E. Clute

BY

Geo. A. Mosher

ATTORNEY

(No Model.)

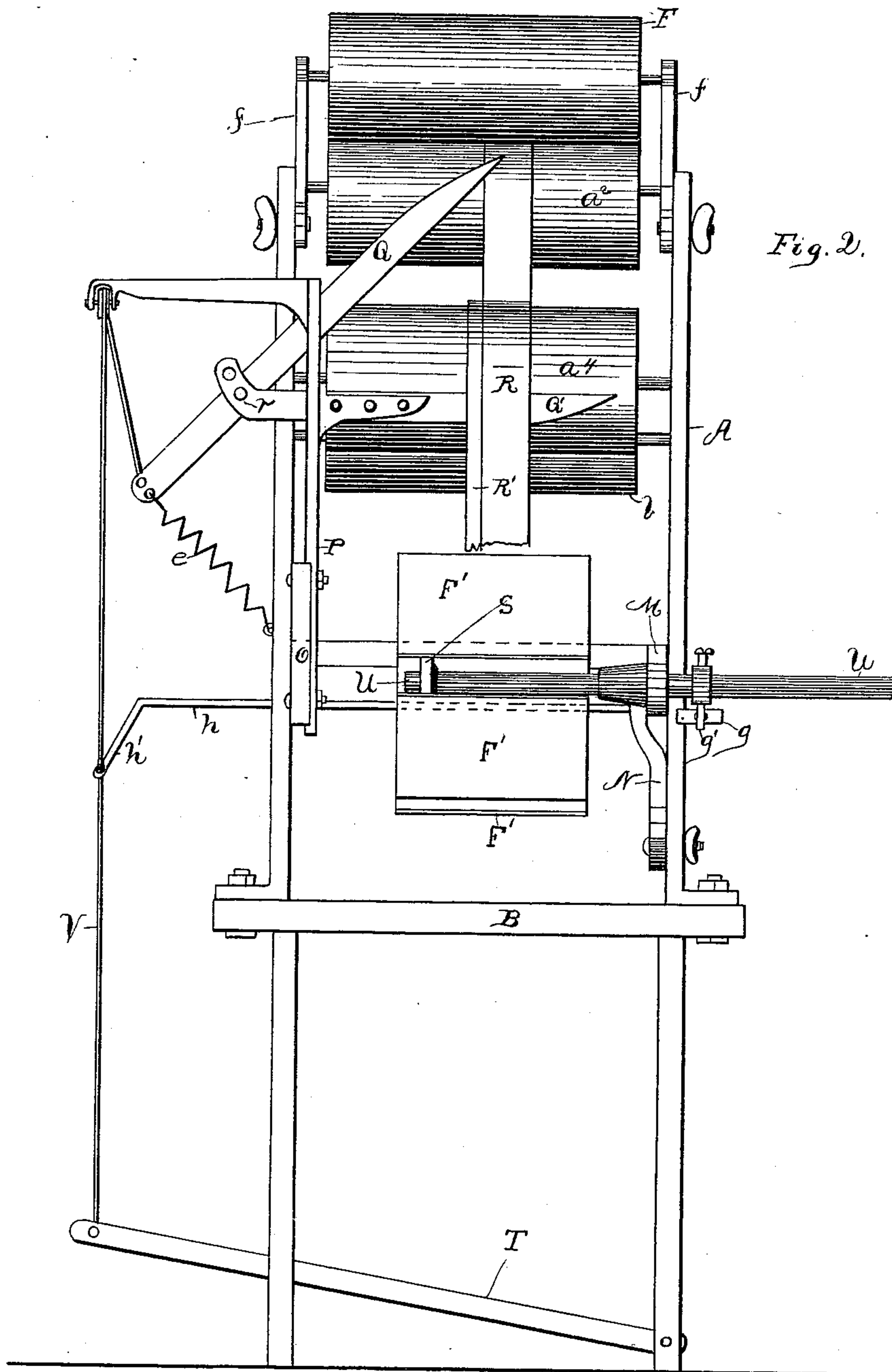
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Fig. 3.

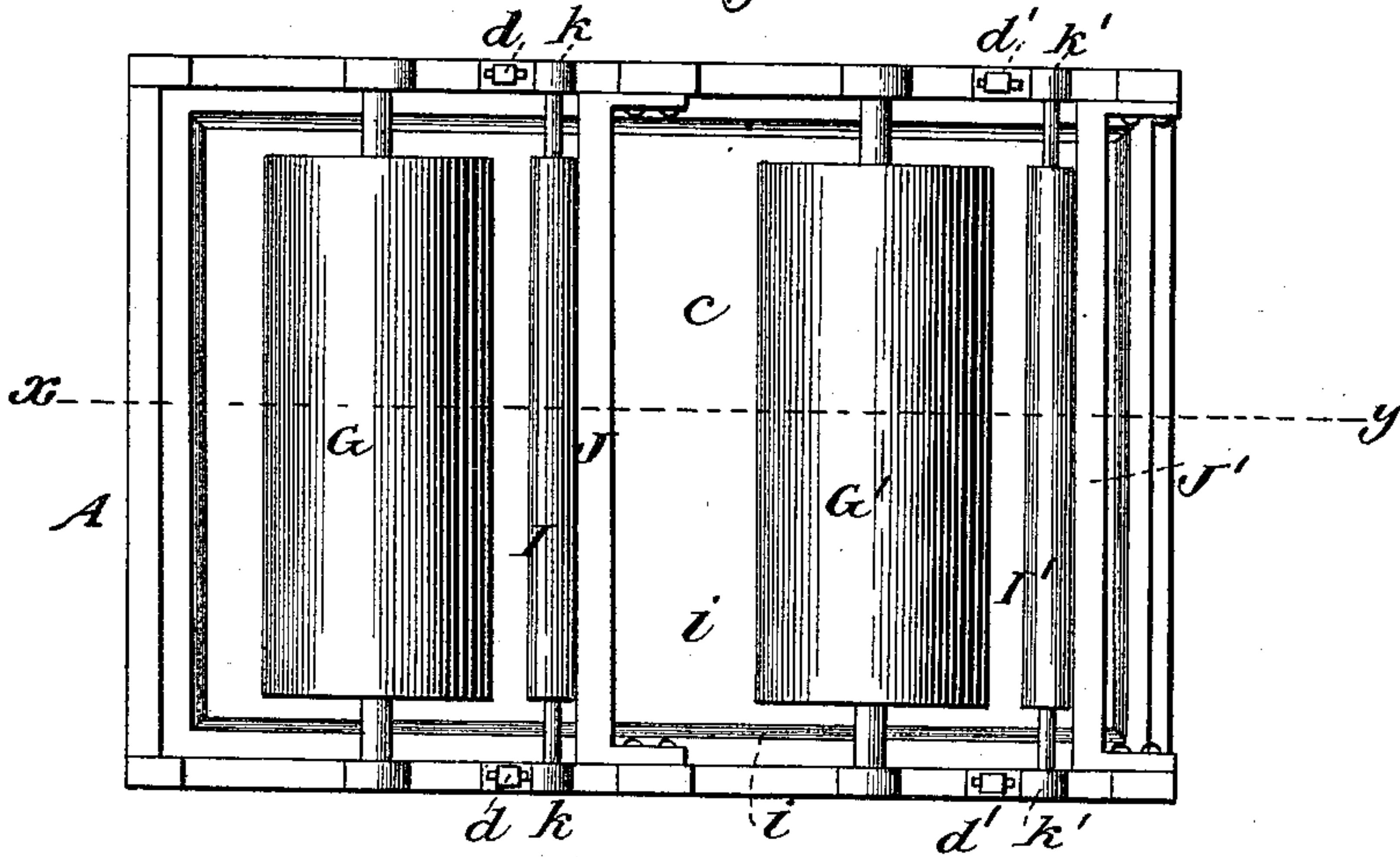


Fig. 4.

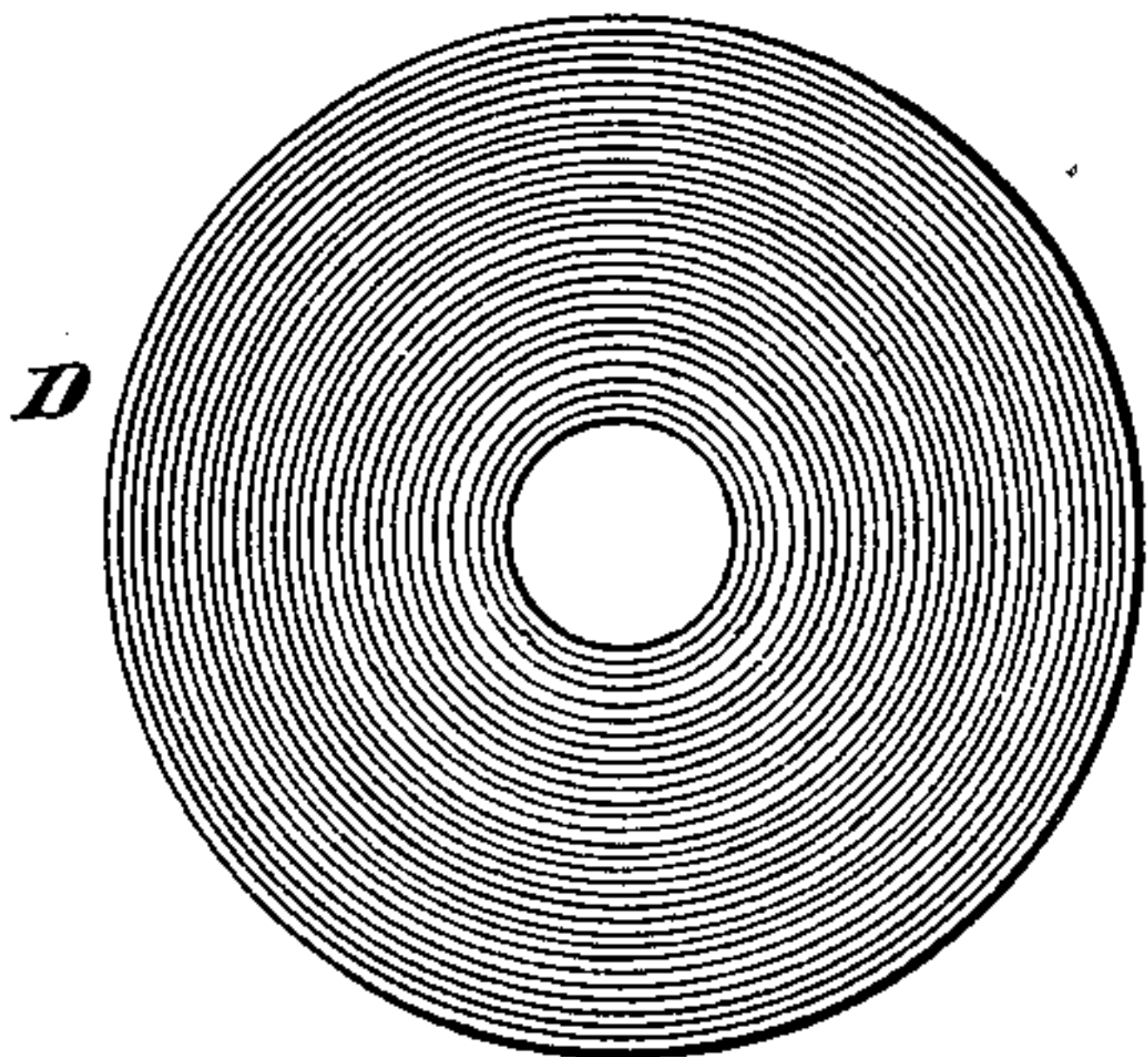


Fig. 5.

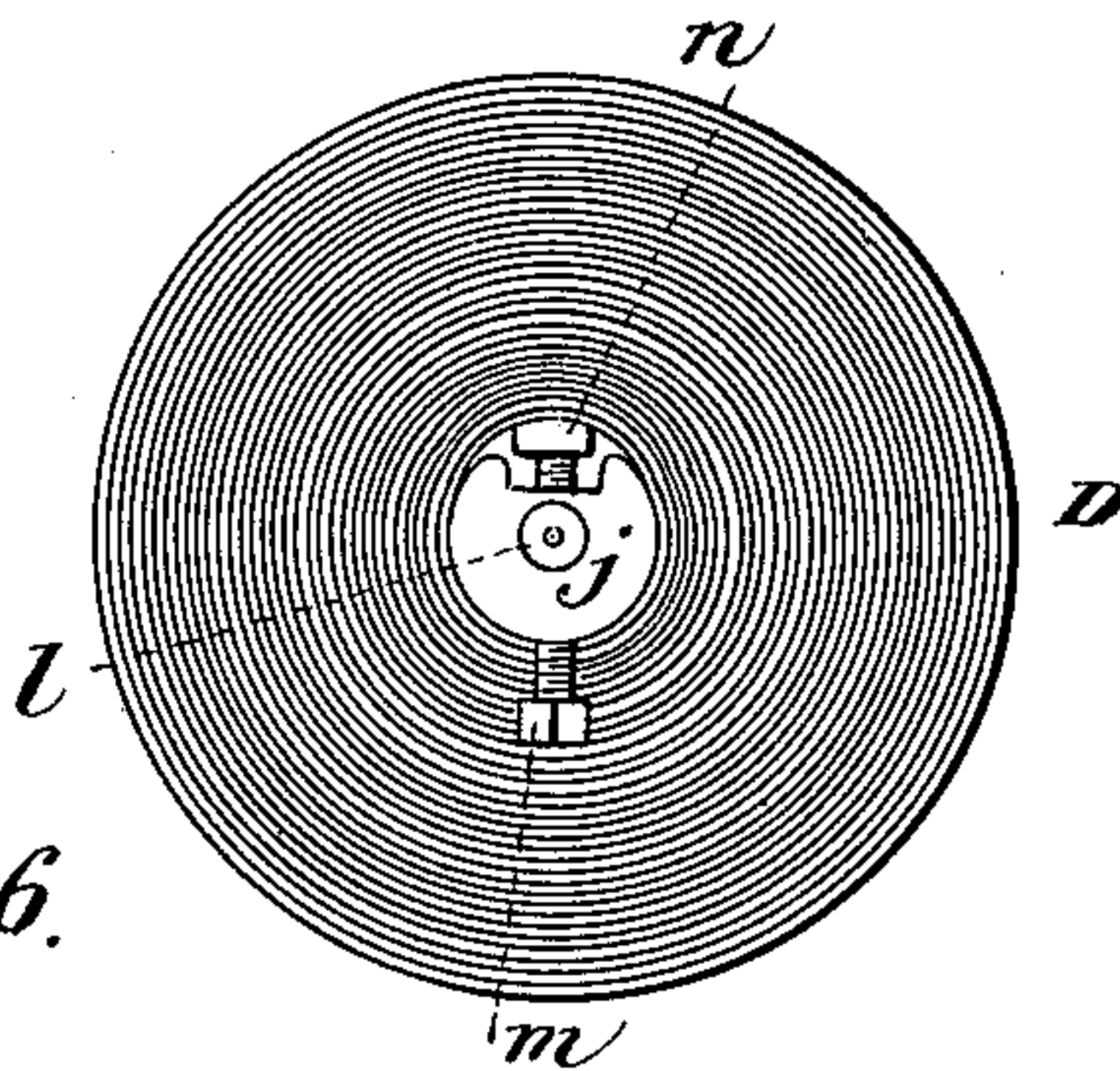
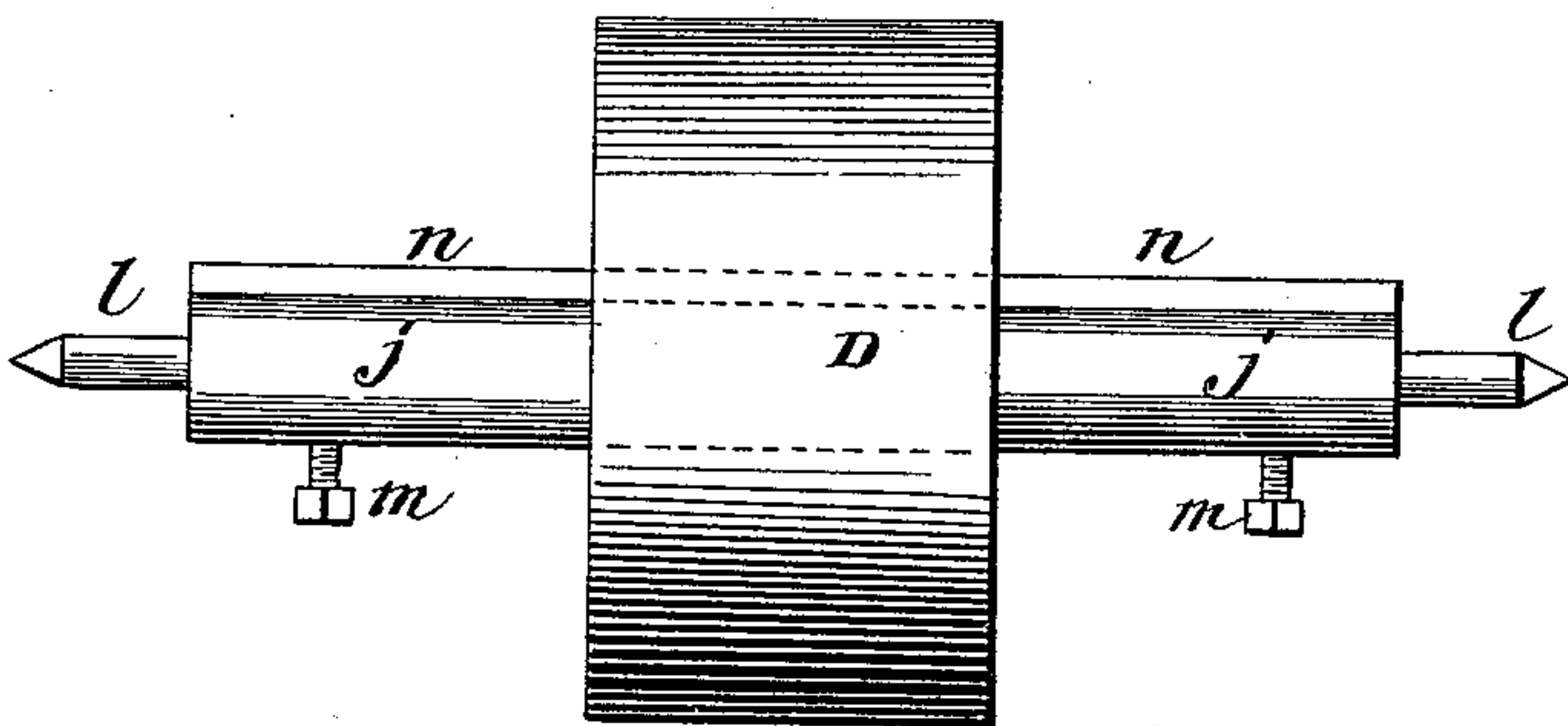


Fig. 6.



Witnesses.

A. Ruppert.

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Chas E. Clute,
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Thomas P. Simpson,
att'y

(No Model.)

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C. E. CLUTE.

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Fig. 7.

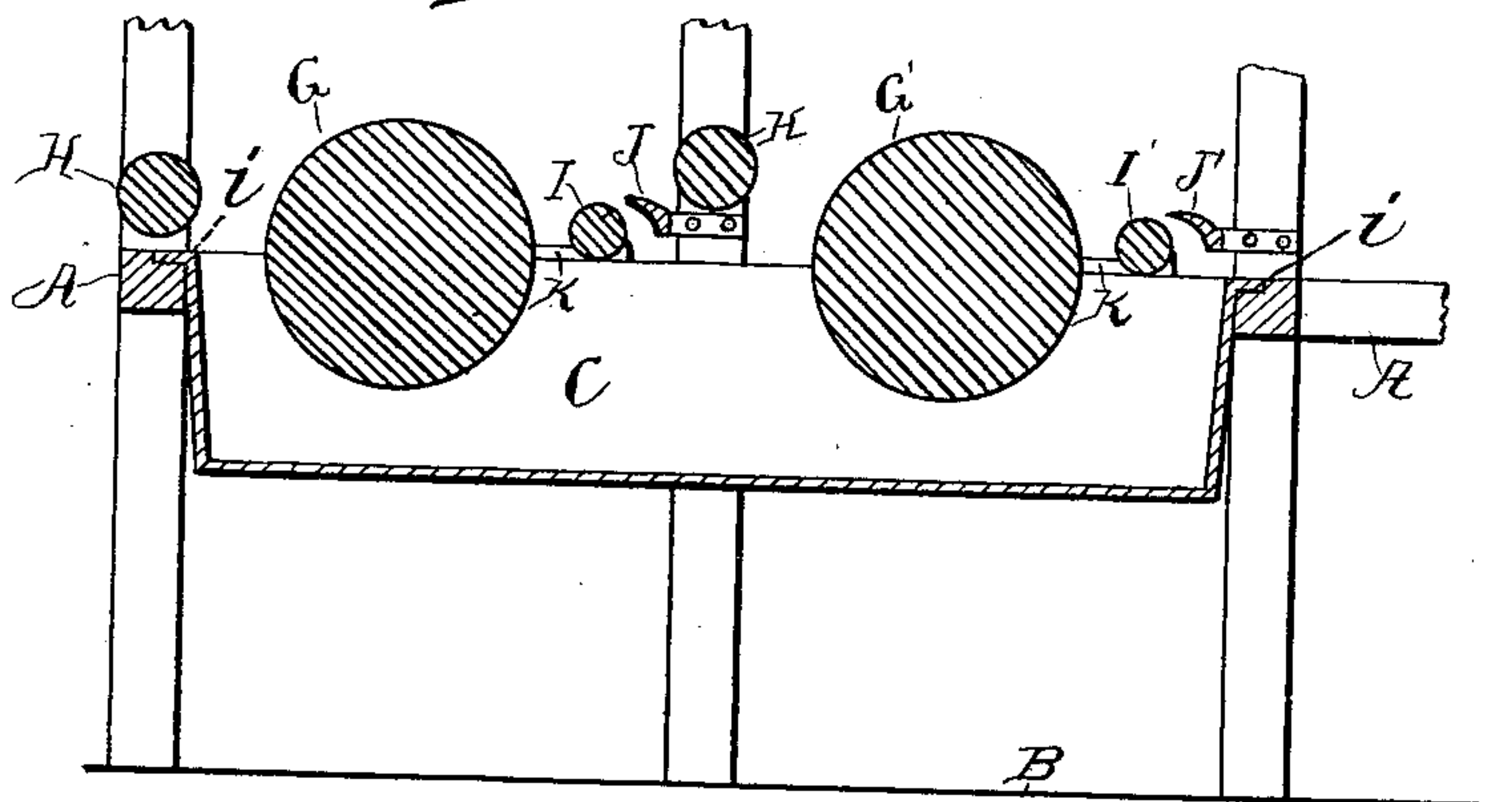


Fig. 8.

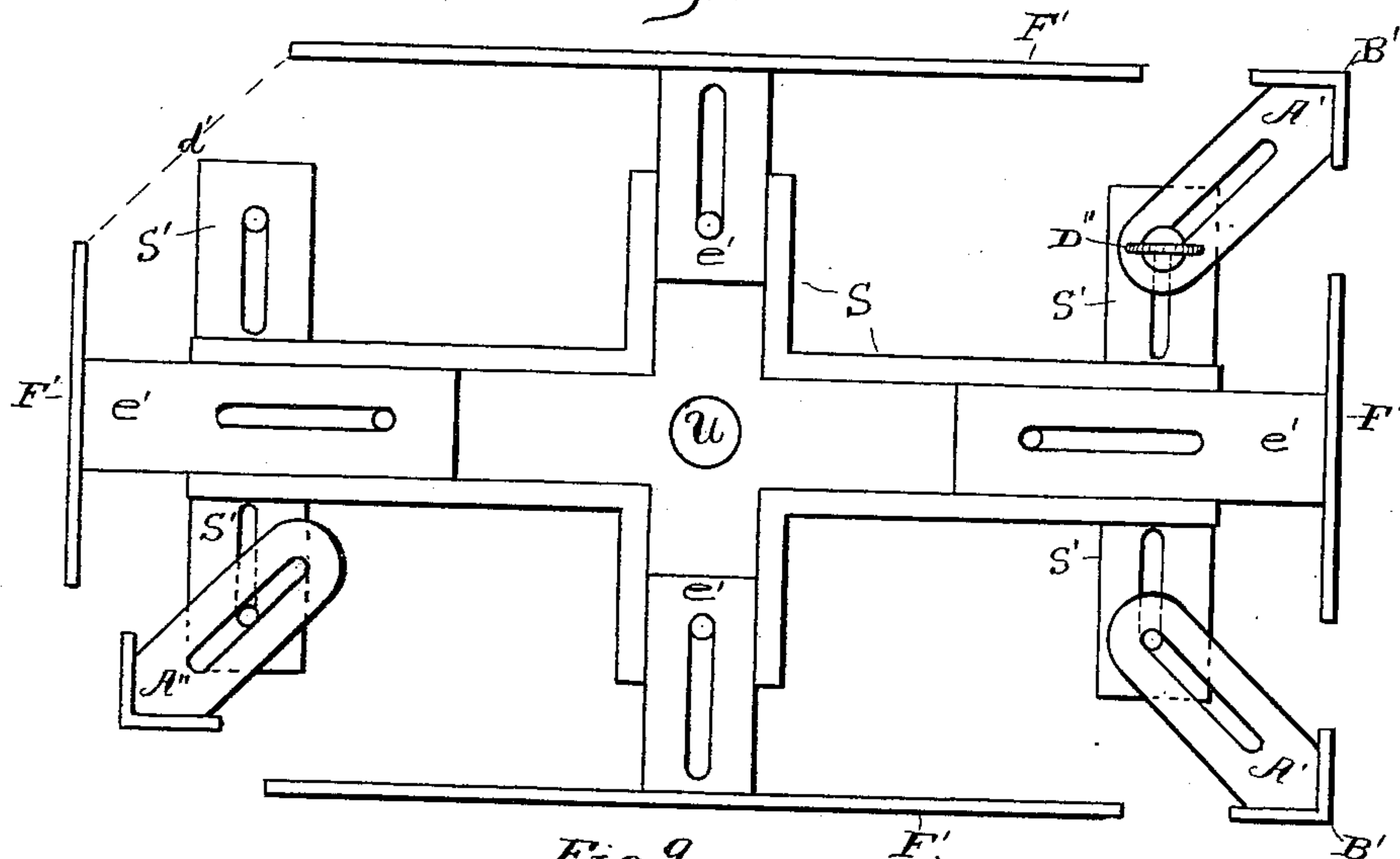
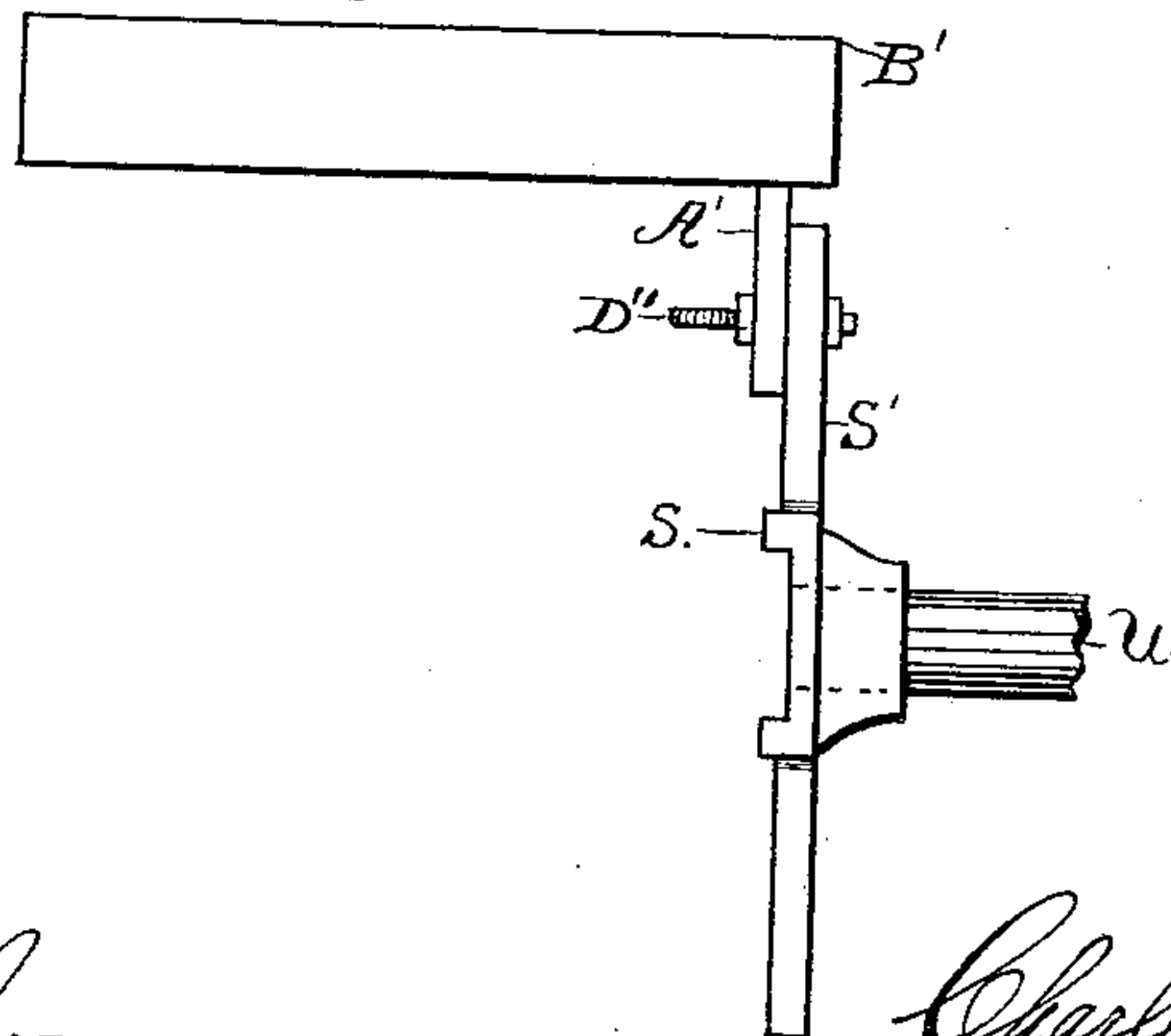


Fig. 9.



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UNITED STATES PATENT OFFICE.

CHARLES E. CLUTE, OF WATERFORD, NEW YORK.

BOX COVERING AND TRIMMING MACHINE.

SPECIFICATION forming part of Letters Patent No. 335,429, dated February 2, 1886.

Application filed May 14, 1885. Serial No. 165,496. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. CLUTE, a resident of Waterford, in the county of Saratoga and State of New York, have invented certain new and useful Improvements in Box Covering and Trimming Machines; and I do hereby declare that the following is a full, clear, and exact description of the invention, that will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

Similar letters refer to similar parts in the several figures therein.

My invention relates to improvements in box covering and trimming machines.

The invention will first be described in connection with the drawings, and then pointed out in the claims.

Figure 1 of the drawings is a side elevation of the machine. Fig. 2 is a front elevation of same. Fig. 3 is a top plan view of the paste tank, rollers, and scrapers, the upper rollers being removed to facilitate the view. Fig. 4 is a side elevation of the paper-roll. Fig. 5 is same with mandrels inserted. Fig. 6 is a front elevation of mechanism shown in Fig. 5. Fig. 7 is a central vertical section taken at broken line xy in Fig. 3. Fig. 8 is a side elevation on an enlarged scale of an adjustable box form. Fig. 9 is an end view of portion of same.

A is the main supporting-frame, which may be provided with legs adapted to stand upon the floor or upon a platform or bench, B. The frame is adapted to support an elongated paste-tank, C, having flanges to rest thereon, and is provided with suitable bearings on the sides of the tank to support the paste-rollers $G G'$, adapted to rotate in the paste or any adhesive substance with which the tank may be supplied.

D and D' are reels or rolls of box-covering paper or trimming.

$a' a^2 a^3 a^4$ are tempering and transferring rollers for carrying the strips from the paste-pan to the box to be covered, which is held by the rotary support S, adapted to rotate in suitable bearings in one end of the arm M, pivoted at the other end to the main frame, which permits of its vertical adjustment by

means of the slotted or bifurcated brace N, pivoted at one end to arm M, and attached by a thumb-screw applied at or near the other end to the main frame.

When a box has been placed upon support S, the ends of the paper strips $R R'$, ready pasted, are applied to one side of the box. The box and support are rotated, which draws the strips along over the rolls from the rolls $D D'$, as shown by the lines $R R'$, which represent the strips. When the support S has completed one rotation, the sides of the box are covered and the box is removed and another substituted in its place; but this cannot be done without severing the strips, which has heretofore been done in various ways; but I prefer to shear it off by a pivoted knife, Q, which is pivoted by a rivet, r , upon a knife, Q' , fixed upon the standard or post P. The latter is provided at its upper end with a pulley adapted to receive the cord V, one end of which is secured to the head of knife Q, as shown, and the other end to treadle T, whereby the operator of the box-support is easily able with his foot to cut off the strips at the proper time, as the strips in traveling from roll a^4 to the box pass directly over the stationary knife Q' .

To insure uniformity in the length of strip wound upon the boxes and prevent waste of material, I provide a stop, g , secured to arm g'' , projecting from one end of shaft h , which shaft extends transversely of the frame, and is provided at its other end with arm h' . The stop g is adapted to engage with a pin, g' , projecting from a collar on box-supporting shaft U. When support S has performed a complete rotation, drawing from the rolls sufficient length of strips to cover a box, the pin comes in contact with the stop and arrests the rotation of the box and its support. At the same instant the operator works the treadle, which actuates the knife Q to sever the strips, and at the same time, through cord V and arm h' , removes the stop from the path of the pin, leaving the box-support free to perform another rotation, stop g resuming its position in the track of the pin as soon as the treadle is released and drawn back by the retraction-spring e , and the knife is thrown up in position for repeating the operation of severing the strips.

The standard P is vertically adjustable by

slots and set-screws in the arm O, which is in the same manner horizontally adjustable upon the frame, as shown, which adjustment enables one to locate the knives in any desired position. The arm M being pivoted upon the main frame and provided with the slotted brace N, pivoted at one end to arm M, and adjustable at the other end upon the main frame by a set-screw, as shown, the box-support S can be adjusted at any desired height.

F is a tempering-roller supported by the arms *f*, adjustably pivoted to the main frame by thumb-screws, substantially as shown. By passing the covering-strip over this roll the distance it travels from the paste-tank to the box is increased and may be varied by adjusting the arms *f* to different angles. For example, if the arms are inclined to the left, as viewed in Fig. 1, until roller F is in close proximity to roller *a'*, the strip R will not travel so far in passing over the roller F as it would when the latter roller occupies the position shown in the drawings.

The arms F may be pivoted to the frame at a point above the axle of roller *a'*, when they may be swung back far enough to bring roller F vertically over roller *a'*. By constructing the paste or glue receptacle of sufficient length to receive two paste-rollers, G G', extending transversely of the tank and about parallel with each other, the paste is always of the same consistency upon both rollers, and one large receptacle for the paste is more easily supplied and kept in order than two or more separate tanks. The rollers H I and H' I' serve to bring the strips in contact with the paste-rollers, and by means of the slotted bearings K K', adjustably secured to the frame A by screws *d d'*, the rollers I I' can be horizontally adjusted to increase or diminish the tension of the strips upon the paste-scrapers J J', which serve to remove the surplus paste or other adhesive substance from the strips as they leave the rollers I I', the surplus falling back again into the paste-tank. The amount of paste taken from the strips can be varied by adjusting the rolls nearer to or farther from the scrapers to increase or diminish the tension of the strips upon the scrapers.

j and *n* are sections of a roll-sustaining mandrel, provided with bearing-points *l l* at the ends of section *j*. While the two sections are closed they are inserted in the central opening, *k*, and when adjusted to the proper position therein the sections are forced apart by the screws *m* to the position shown in Fig. 5, or until the pressure of the two sections upon the walls of aperture *k* is sufficient to hold the roll firmly in position. One of the screws *m* is removed before placing the roll on the mandrel. I am thus able to firmly and adjustably secure a roll of covering-strips in a box covering and trimming machine without the necessity of winding the same upon a reel.

The relative position of the bearings may be reversed when desired, the section *j* being

provided with depressions in its ends adapted to receive bearing-points or journals *l*, fixed upon the frame, the mandrel rotating upon the fixed journals or points.

In Figs. 8 and 9, I have shown a box-support, S, with adjustable arms F' and corners B', and on a scale considerably larger than that shown in Figs. 1 and 2, in which latter figures the arms in box-support S are not shown adjustable.

Box-supports having adjustable arms, as heretofore constructed, have had no corner-supports. There was a space, *d'*, Fig. 8, between the side and end supports F', leaving the corners of the box unsupported and liable to lateral displacement.

A part of my invention consists in providing corner-supports, by means of which the corners of the boxes are held firmly in place and lateral displacement prevented. Adjustable box-supports have been made in various ways.

I have shown the rests F', upon which the box is placed, as provided each with a slotted arm, *e'*, adapted to be adjustably secured to the arms S from a rotary shaft, U. The radial arms S are also provided with slotted arms S', projecting out therefrom in a position to support the slotted arms A', adjustably secured thereto and supporting the corner-rests B'. When the rests F' are secured in a position at the limit of their extension from the supporting-shaft U, as shown in Fig. 8, the arms A' are slid outward from shaft U to their limit of extension, and in a position such that one side of the outer angular corner, B', is in the line of the side rest, F, when both are extended, as shown, on the right-hand side of Fig. 8. When the rests F are drawn in toward the center to adapt them to receive a smaller box, the corners are also drawn in and secured in the proper position, as shown at A". The arms A' may be secured by a thumb-screw, D", as shown. One of the arms A' is removed to show arm S' more clearly.

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

1. A transverse shaft having arms *g'' h'* and a stop, *g*, on arm *g''*, in combination with a shaft, U, carrying the box-support and having a collar carrying the pin *g'*, said arm *h'* being connected with a treadle mechanism, as shown and described.

2. The combination, with the roll *a'* and box-support S, of the arm *f*, made radially adjustable, and carrying end roll, F, as and for the purpose set forth.

3. In a box-covering machine, a post or standard provided with a knife for severing the covering-strip vertically adjustable upon an arm horizontally adjustable upon a fixed support, substantially as and for the purposes set forth.

4. An adjustable box support or form having adjustable end and side rests adapted to receive rectangular-shaped boxes of different

sizes, in combination with adjustable corner-supports, for the purpose of supporting the corners of different-sized boxes, substantially as described.

- 5 5. In a box-covering machine, a box support or form composed of shaft U, arms S, slotted arms S' S', slotted arms A', and corner-supports B', organized and operating substantially as and for the purposes set forth.

In testimony whereof I have hereunto set my hand this 28th day of April, 1885.

CHARLES E. CLUTE.

Witnesses:

GEO. A. MOSHER,
CHAS. L. ALDEN.