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PATENTED JULY 26, 1904.

H. HAULICK.  
LABELING MACHINE.  
APPLICATION FILED JULY 28, 1902.

NO MODEL.

2 SHEETS—SHEET 1.

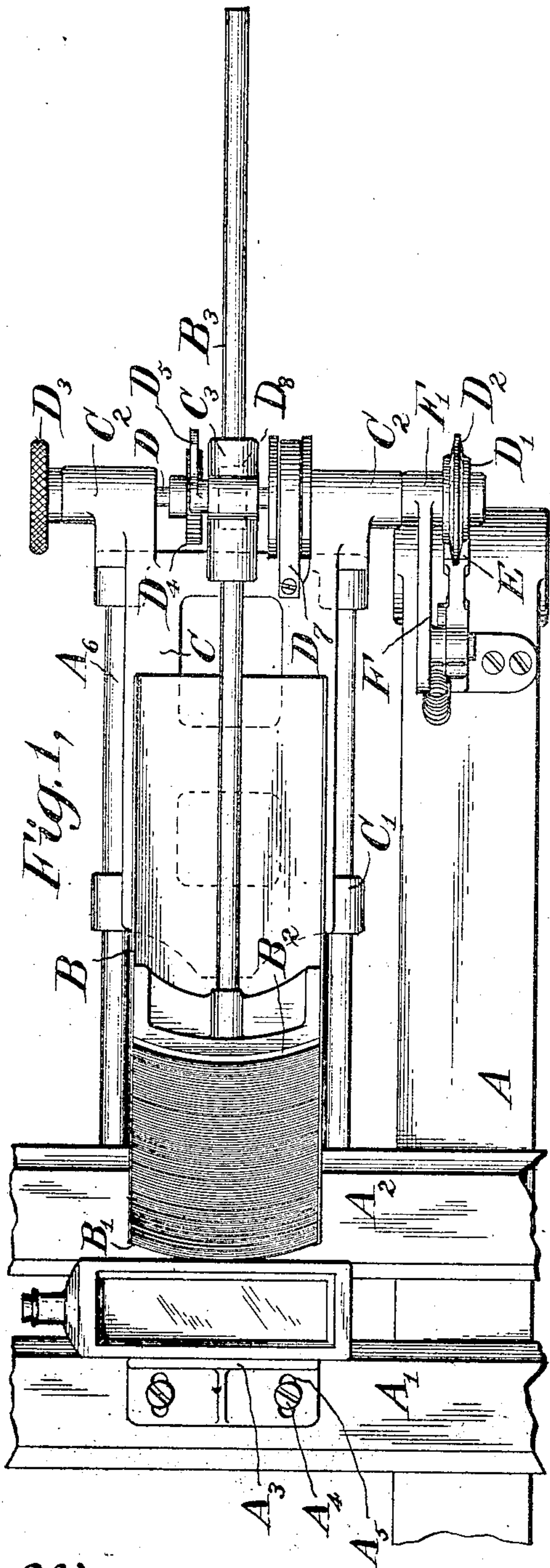
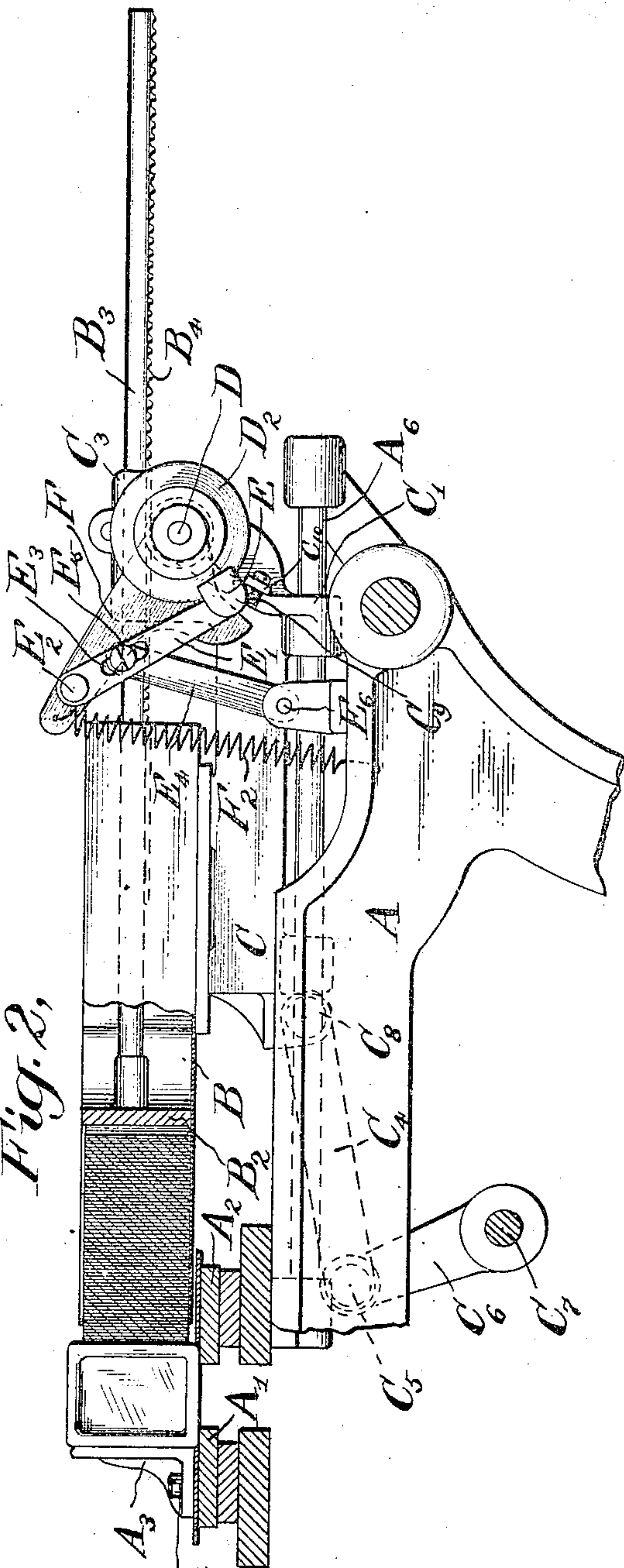


Fig. 2,



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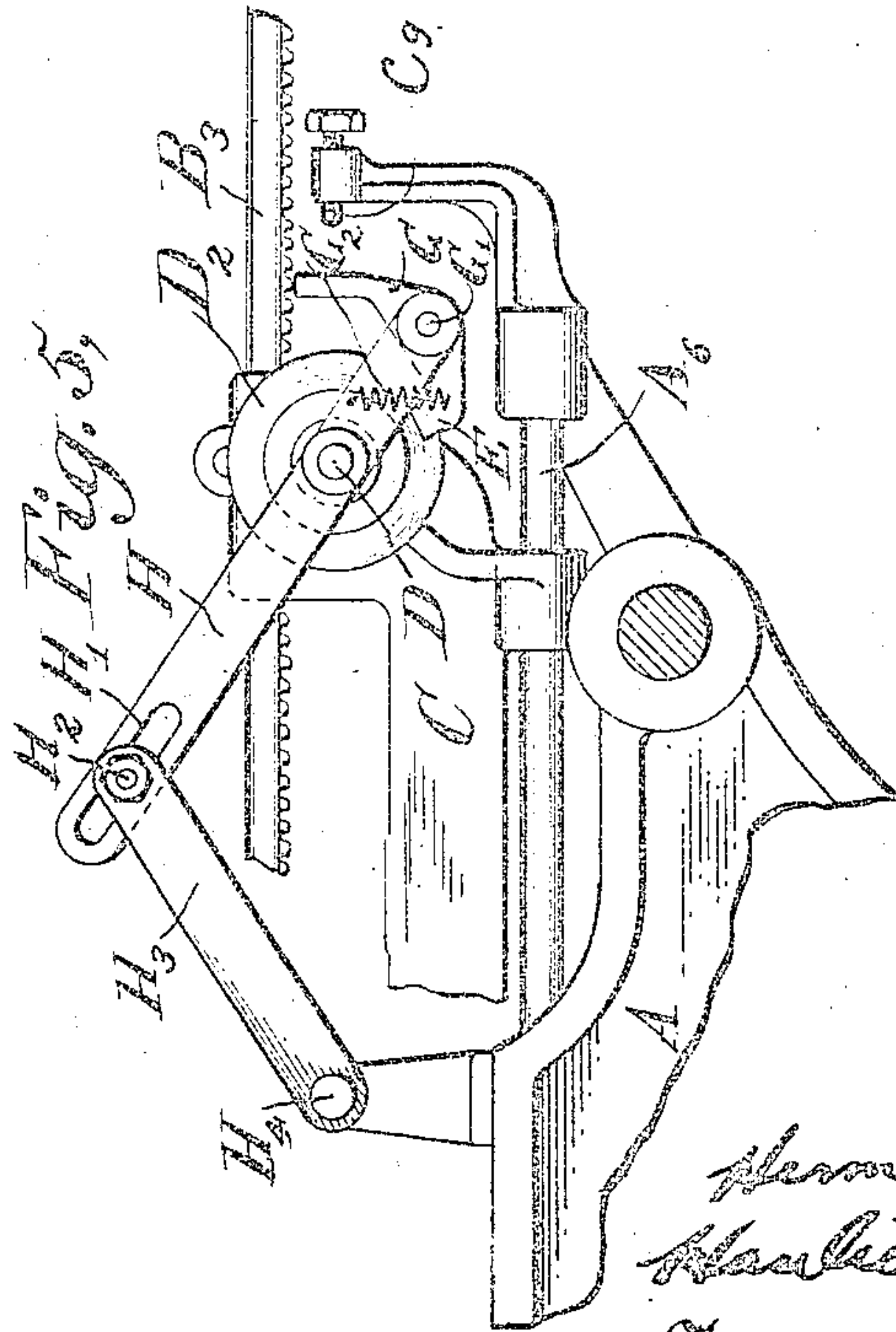
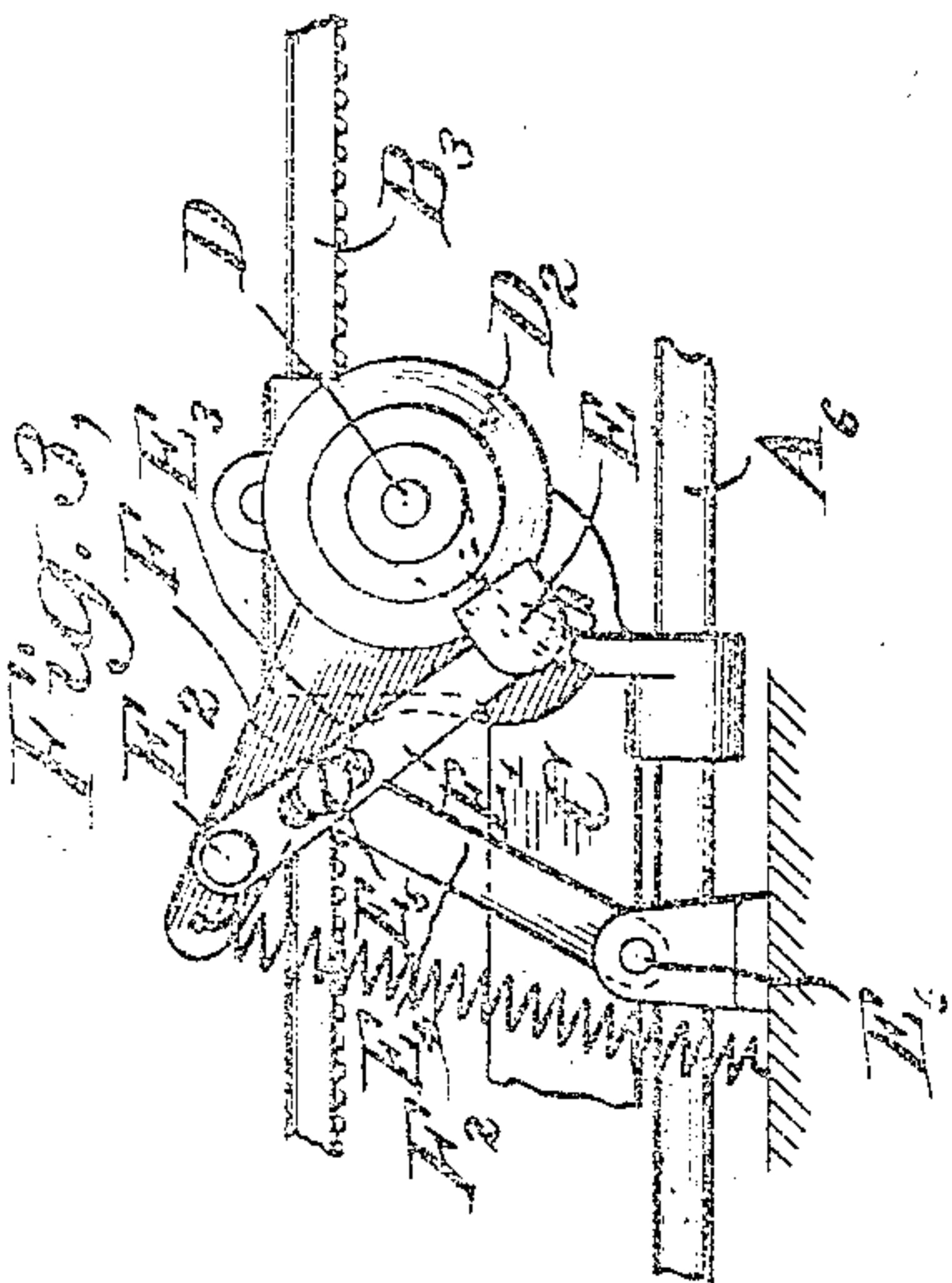
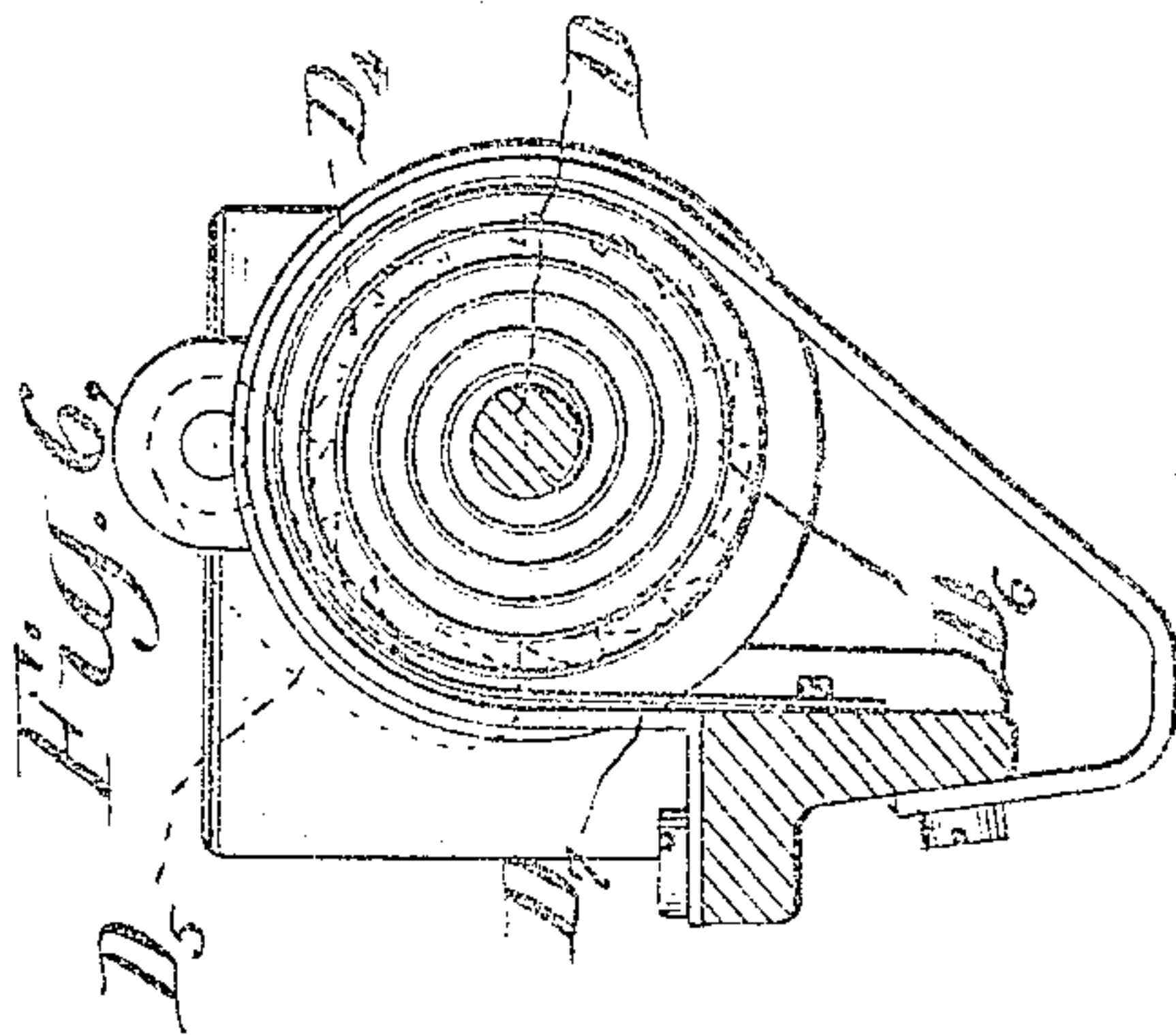
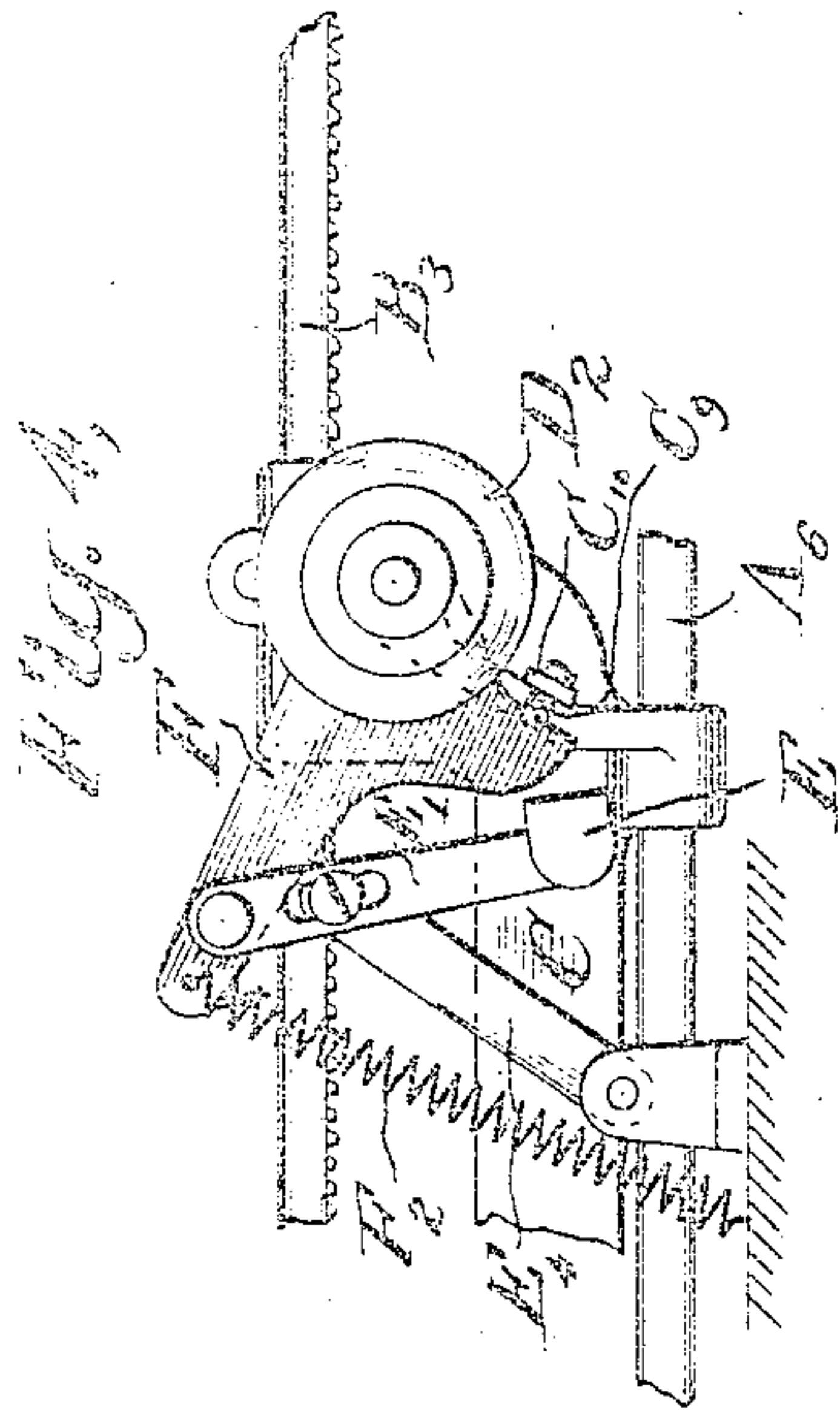
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2 SHEETS—SHEET 2.



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# UNITED STATES PATENT OFFICE.

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## LABELING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 765,970, dated July 26, 1904.

Application filed July 28, 1902. Serial No. 117,232. (No model.)

*To all whom it may concern:*

Be it known that I, HERMANN HAULICK, a subject of the German Emperor, residing at New York city, in the borough of Manhattan, county and State of New York, have invented certain new and useful Improvements in Labeling-Machines, of which the following is a specification, taken in connection with the accompanying drawings, which form a part of the same.

This invention relates to labeling-machines, and relates more particularly to a label-box for supplying labels for use in such machines.

In the accompanying drawings, in which the same reference characters refer to similar parts in the several figures, Figure 1 is a plan view of a device embodying this invention. Fig. 2 is a side elevation, partly in section. Figs. 3, 4, and 6 are details of the same. Fig. 5 is a detail showing a modified construction.

As indicated in Figs. 1 and 2, the two guides A' and A<sup>2</sup>, secured to a frame A, are mounted to form a runway along which articles may be fed by any desired means. These articles are supported so as to have labels applied to them properly by the adjustable support A<sup>3</sup>, which is secured to the guide A' by the screws or bolts A<sup>4</sup>, which engage suitable slots A<sup>5</sup> in the support. As is indicated, this support engages the article on the runway and holds it firmly while a label is being applied to it. The frame A also supports the slide-rods A<sup>6</sup>, which extend, as indicated, transversely of the runway. These slide-rods serve to support the slide C, which is provided with suitable bearings C', engaging these rods, so that it moves transversely of the runway. The slide is reciprocated during the operation of the device by the connector C<sup>4</sup>, secured by the pivot C<sup>8</sup> to the slide and secured at its other end by the pin C<sup>5</sup> to the crank C<sup>6</sup> upon the shaft C<sup>7</sup>.

The label-box B is secured to the slide, so that by this means it is mounted to reciprocate to cooperate properly with the runway. The box is provided with the inwardly-extending ribs or projections B', which may be formed on either side of the same, as indi-

cated in Fig. 1. The projections engage the mass of labels within the box and hold them in position. The plunger B<sup>2</sup>, having a curved working face, as indicated in Fig. 1, is mounted in the box and serves to press the labels outward, this plunger being secured to the plunger-rod B<sup>3</sup>, which passes through the guiding-sleeve C<sup>3</sup> in the slide. The plunger-rod, as indicated in Fig. 2, is formed with a rack B<sup>4</sup>, which is engaged by the pinion D<sup>8</sup>, this pinion being fast on the label-shaft D, which is mounted in the suitable bearings C<sup>2</sup> in the slide. On one end of this shaft there is rigidly secured the clutch-wheel D<sup>7</sup>, preferably formed with the wedging rim D<sup>2</sup>. Upon the other end of this label-shaft the handle D<sup>3</sup> is rigidly secured, and the ratchet D<sup>4</sup> is also secured to this shaft, the pawl D<sup>5</sup> cooperating with this ratchet when desired. The plunger is forced inward against the labels in the box during the operation of the device, and this is preferably accomplished by the spiral spring D<sup>6</sup>, secured to the label-shaft D and inclosed within a suitable casing D<sup>7</sup> upon the slide. This spring operates to rotate the pinion D<sup>8</sup> and thereupon to force the plunger-rod and plunger inward. The clutch E cooperates with the clutch-wheel, and this clutch is mounted on the clutch-arm E', moving about the pin E<sup>2</sup>, which serves to secure it to the rock-lever F. This rock-lever is pivoted by the sleeve F' to move freely about the label-shaft, and its outer end is normally held downward by the spring F<sup>2</sup>. The clutch-arm is formed with the slot E<sup>3</sup>, and the pivot E<sup>5</sup> can be secured in any position in this slot, so as to give an adjustable connection between the clutch-arm and the link E<sup>4</sup>. The lower end of the link E<sup>4</sup> is pivoted about the pin E<sup>6</sup> in the frame. The adjustable stop C<sup>9</sup> is supported in the member C<sup>10</sup> on the slide, so as to engage the rock-lever when the parts come into the position shown in Fig. 4 and prevent further downward movement of the rock-lever.

Instead of mounting the clutch as has just been described the construction shown in Fig. 5 may be used. In this instance the clutch E is mounted on the clutch-arm G, which is piv-



oted about the pin G' in the rock-lever H, this lever moving freely about the label-shaft. The spring G<sup>2</sup> serves to normally hold the clutch in engagement with the clutch-wheel.  
 5 The outer end of the rock-lever is formed with the slot H', and the pivot H<sup>2</sup> is adjustable in this slot and forms a pivotal connection with the link H<sup>3</sup>. The other end of this link is secured by the pivot H<sup>4</sup> to a part of the frame. The stop C<sup>9</sup> is mounted in this in-  
 10 stance in a stationary member, so that it engages the upper end of the clutch-arm.

The operation of this device is as follows, it being understood that articles, one face of  
 15 which is suitably supplied with paste, are fed along the runway by any desired means to have labels applied to the pasted sides of them from the label-box: The label-box is reciprocated toward the article, so as to bring the  
 20 outer label in the box in contact with the pasted side of the article. The label is upon the rearward movement of the label-box withdrawn from the box and remains upon the article. In order to allow for the proper with-  
 25 drawal of the labels from the box, it is extremely desirable that the labels be practically free when the label-box is moved backward, so that no considerable resistance to the withdrawal of the outer label is offered by the  
 30 ribs B'. In order to accomplish this result, the plunger which feeds the labels forward in the box into proper engagement with the projections B' is moved backward slightly when the labels are brought into contact with the ar-  
 35 ticle, so that the pressure of the projections upon the stack of labels is less at this time, causing the outer label to be sufficiently free to be properly withdrawn from the label-box. At other times, however, the plunger moves  
 40 forward under spring-pressure, so as to feed the stack of labels forward in the label-box and compensate for the continuous withdrawal of labels therefrom. It is, however, necessary in order that the label shall be properly  
 45 applied to the articles that the outer label be pressed against the pasted article with considerable force. Where the label-box is reciprocated, it is therefore desirable that the spring-pressed plunger shall be positively  
 50 held during the time when the labels are pressed against the articles, so that the outer label can be properly attached to the article, and at the same time the outer label may be free from the label-gripping projections, so  
 55 that it may be withdrawn from the box.

It will be seen by reference to the drawings that as the slide and label-box reciprocate the label-shaft, which is mounted in bearings on the slide, moves with them. The link E<sup>4</sup> is,  
 60 however, connected to a stationary pin E<sup>6</sup>, so that this link causes the movements of the clutch, the clutch-arm, and rock-lever. (Indicated in Figs. 2, 3, and 4.) In Fig. 2 the parts are shown when the label-box is in its

inward position, a label being applied to an 65 article.

In Fig. 4 the parts are shown in the feeding position when the label-box is in its out-  
 most position. It will be seen that in Fig. 4 the rock-lever has come into engagement with  
 70 the adjustable stop C<sup>9</sup>, which prevents further rotation of this lever by means of the spring F<sup>2</sup>. Under these conditions the link E<sup>4</sup> has withdrawn the clutch E from engagement  
 75 with the clutch-wheel, so that the label-shaft is free to rotate under the action of the spring, and the plunger may be fed forward, thereby to feed the stack of labels. It will be under-  
 stood, of course, that during the normal op-  
 80 eration of the machine the pawl D<sup>5</sup> is withdrawn from operative contact with the ratchet D<sup>4</sup> by being swung into the idle position indicated in Fig. 1. Thereafter as the label-box  
 moves forward the parts assume the position indicated in Fig. 3, in which the clutch E has  
 85 just been brought by the link E<sup>4</sup> into engagement with the clutch-wheel. As the label-box moves still farther inward the parts move into the released or applying position shown in  
 Fig. 2, the clutch E under these circumstances  
 90 being held against the clutch-wheel by the spring F<sup>2</sup> and acting to rotate the label-shaft, so as to positively withdraw the plunger to some extent. In this way the pressure of the  
 labels against the projections B' is released at  
 95 the time when the outer label is applied to the pasted article, and also since the clutch prevents rotation of the clutch-wheel the plunger is rigidly held, so that very considerable pres-  
 100 sure is exerted by the plunger upon the labels. The outer label may thus be pressed very forcibly into contact with the article without employing an excessive spring-pressure to feed the labels. The withdrawal of the outer label  
 105 from the label-box is therefore more readily accomplished under these conditions. As the label-box moves backward the movement of the parts takes place in reverse order, the label-shaft being positively rotated through a  
 110 small angle into the position shown in Fig. 3, and thereafter the clutch is withdrawn from contact with the clutch-wheel, so that the plunger is once more free to move forward under spring action.

In replenishing the label-box when the la-  
 115 bels have been withdrawn therefrom the plunger is manually moved backward, preferably by rotating the handle D<sup>3</sup>, and then the pawl D<sup>5</sup> is thrown downward into engage-  
 120 ment with the ratchet D<sup>4</sup>, so as to prevent the forward movement of the plunger. Under these conditions the label-box may be readily filled with labels, and then when the pawl is withdrawn from engagement with the ratchet the  
 125 plunger is once more allowed to move forward under spring action.

The form of device indicated in Fig. 5 has substantially the same action, the parts being



indicated in that figure in an intermediate position corresponding substantially to Fig. 3.

A further forward movement of the label-box and slide would cause the link  $H^3$  to rotate the rock-lever  $H$ , and thereby rotate the clutch-wheel by means of the clutch, so as to withdraw the plunger-rod and plunger to any desired extent, at the same time positively holding it in position in the label-box. This would accomplish a sufficient release of the labels, so that they could be readily withdrawn from the label-box. As the slide moves rearward the clutch-arm comes into engagement with the adjustable stop  $C^9$ , which swings the clutch-arm about the pivot  $G'$ , and thereby withdraws the clutch  $E$  from engagement with the clutch-wheel. The label-shaft is by this means left free to rotate, and the spring-pressed plunger is free to move forward to compensate properly for the withdrawal of labels from the label-box.

By making the stop adjustable the clutch may be withdrawn from engagement with the clutch-wheel at any desired point, and the adjustable connection of the link makes the extent of the release of the plunger from the labels adjustable, so that the proper action can be secured. This will be readily understood, since if the connection of the link is farther from the center of the label-shaft the angle through which the rock-lever is rotated is thereby decreased.

It is of course apparent that many modifications may be made in this device by those familiar with this art. Furthermore, parts of this invention may be employed without using all of the same, and parts may be used in connection with other devices without departing from the spirit of this invention. I do not, therefore, wish to be limited to the disclosure which I have made in this case; but

What I claim as new, and what I desire to secure by Letters Patent, is set forth in the appended claims:

1. In a labeling-machine, a runway to support articles to be labeled, a slide mounted to reciprocate adjacent said runway, a label-box provided at its outer end with means to engage labels secured to said slide, a plunger in said label-box, a plunger-rod formed with a rack secured to said plunger, a label-shaft mounted in said slide and provided with a pinion coöperating with said rack, a spring to rotate said shaft, a clutch-wheel and a ratchet, a pawl to engage said ratchet to prevent the rotation of said shaft, a rock-lever loosely mounted on said shaft, a clutch mounted in a clutch-arm which is pivoted to said rock-lever, a spring connected to said rock-lever and a link adjustably pivoted to said clutch-arm and connected and also pivoted to a stationary part and an adjustable stop to engage said rock-lever, to move said plunger into released position as said label-box moves inward and to allow said plunger to move forward under the

action of said spring as said label-box moves outward.

2. In a labeling-machine, a label-box mounted to reciprocate adjacent a runway, projections at the outer end of said box to retain labels therein, a spring-pressed plunger within said label-box, a plunger-rod formed with a rack secured to said plunger, a shaft mounted adjacent said plunger-rod and provided with a pinion to engage said rack, a clutch-wheel on said shaft, a rock-lever loosely mounted on said shaft, a clutch pivoted to said rock-lever and means connected to said clutch to bring said clutch into engagement with said clutch-wheel as the label-box is moved forward and to rotate said clutch-wheel to withdraw the plunger, said means operating as said label-box is moved backward to release said clutch from said clutch-wheel to allow said plunger to move forward under spring action.

3. In a labeling-machine, a label-box mounted to reciprocate adjacent a runway, a spring-pressed plunger within said label-box, and means to withdraw said plunger as said label-box is moved forward and to allow said plunger to move forward under spring action as said label-box is moved backward away from said runway.

4. In a labeling-machine, a movable label-box, a spring-pressed plunger in said label-box and means to withdraw and positively hold said plunger as said label-box is moved into position to apply labels to articles and to allow said plunger to move inward under spring action as said label-box is withdrawn from said articles.

5. In a labeling-machine, a movable label-box to apply labels to articles, a spring-pressed plunger within said label-box and means to positively withdraw said plunger into released position as said label-box is moved forward.

6. In a labeling-machine, a label-box having label-engaging projections on one end of the same, a curved plunger within said label-box spring-pressed into engagement with labels therein, means to reciprocate said label-box and means to simultaneously withdraw said plunger as said label-box is moved into position to apply a label to an article to relieve the pressure of said labels upon said projections.

7. In a labeling-machine, a movable label-box having label-engaging projections, a spring-pressed plunger in said label-box to feed labels in said label-box into engagement with said projections and means to withdraw said plunger and to positively hold the same in position in said label-box as said label-box is moved into engagement with articles to firmly press the outer label in said box against an article to allow the outer label to be readily withdrawn from said box.

8. In a labeling-machine, a label-box relatively movable with respect to an article to be



- labeled, projections on said box to engage labels, a spring-pressed plunger within said box to feed labels against said projections and means operating when said label-box and said article approach to withdraw said plunger to relieve the pressure of the outer label upon said projections and to positively hold said plunger in said label-box to press the outer label firmly into engagement with said article.
9. In a labeling-machine, a label-box relatively movable with respect to an article to be labeled, projections on said box to engage labels, a spring-pressed plunger within said box to feed labels against said projections and means to positively hold said plunger in position with respect to said label-box to press the outer label firmly into engagement with said article.
10. In a labeling-machine, a movable label-box having label-engaging projections, a spring-pressed plunger in said label-box to feed labels in said label-box into engagement with said projections and means to positively hold the same in position in said label-box as said label-box is moved into engagement with articles to firmly press the outer label in said box against an article.
11. In a labeling-machine, a reciprocating label-box having label-engaging projections, a spring-pressed plunger in said label-box to feed labels into engagement with said projec-

tions, a clutch-wheel operatively connected to said plunger, a rock-lever provided with a clutch and means to move said rock-lever during the reciprocation of said label-box.

12. In a labeling-machine, a label-box having means to engage labels at its outer end, a plunger mounted therein, a clutch-wheel operatively connected with said plunger, a clutch to intermittently engage said clutch-wheel and adjustable means to actuate said clutch as said label-box is moved.

13. In a labeling-machine, a movable label-box having means to engage labels therein, a plunger in said box, means to feed forward said plunger, a clutch-wheel operatively connected to said plunger, a clutch to engage said wheel, means to move said clutch and means to regulate the extent of the engagement of said clutch with said clutch-wheel.

14. In a labeling-machine, a movable label-box having means to engage labels at the outer end of the same, a plunger within said label-box, and a clutch operated simultaneously with the movement of said label-box to intermittently withdraw said plunger into released position.

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