

No. 779,934.

PATENTED JAN. 10, 1905.

J. G. HENDRICKSON.  
TOP LABELING MACHINE.  
APPLICATION FILED APR. 23, 1902.

4 SHEETS—SHEET 1.

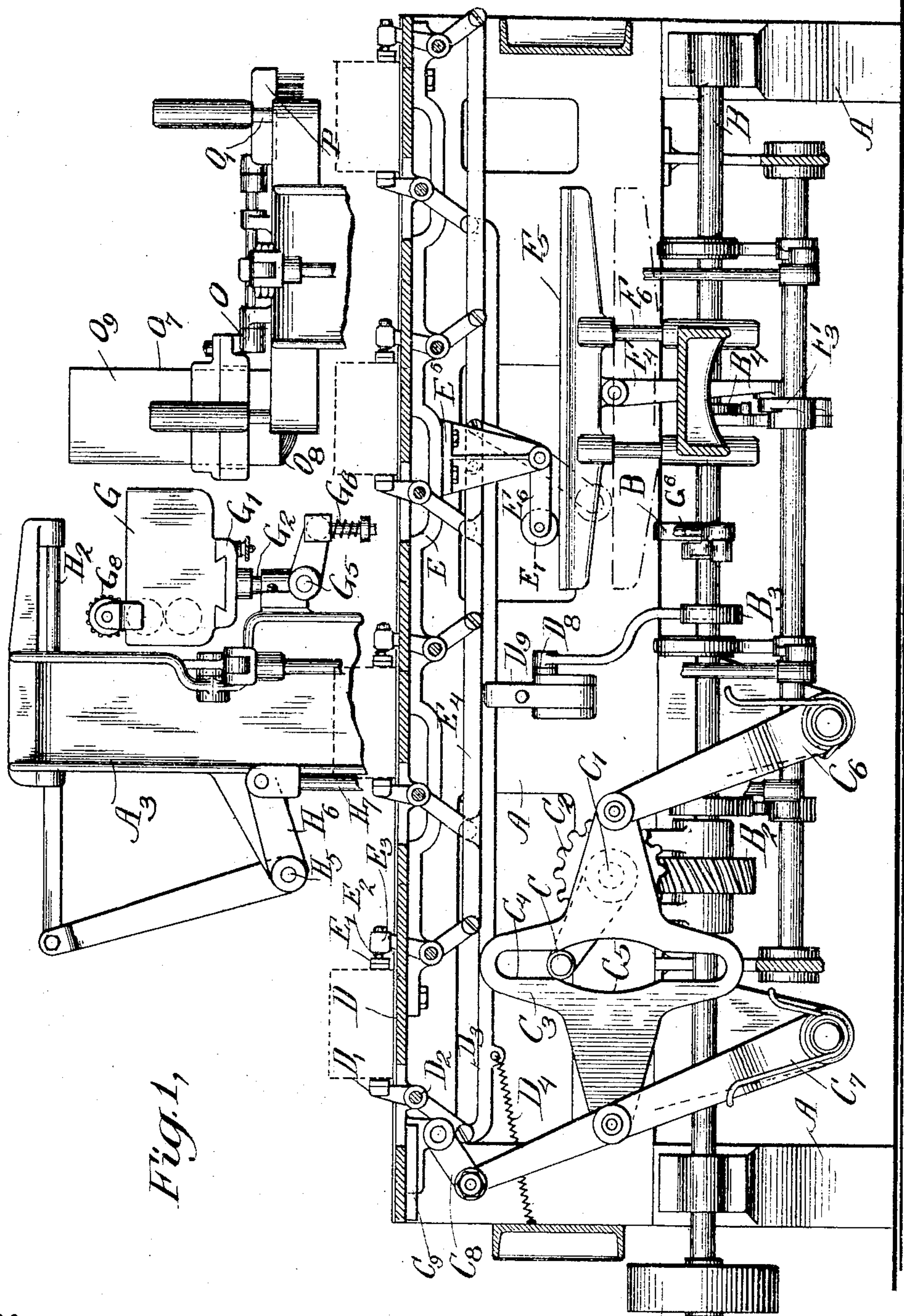


Fig. 1.

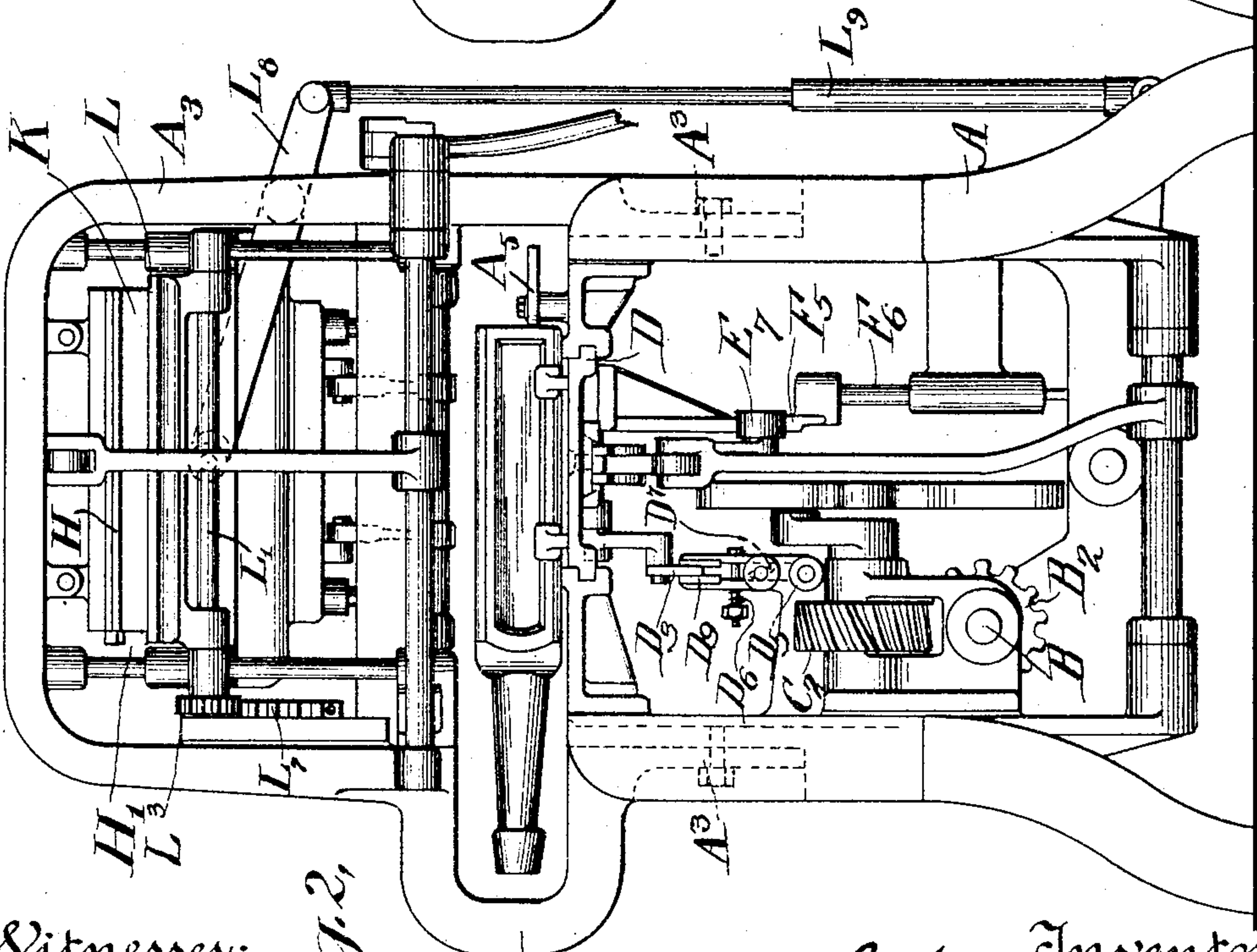
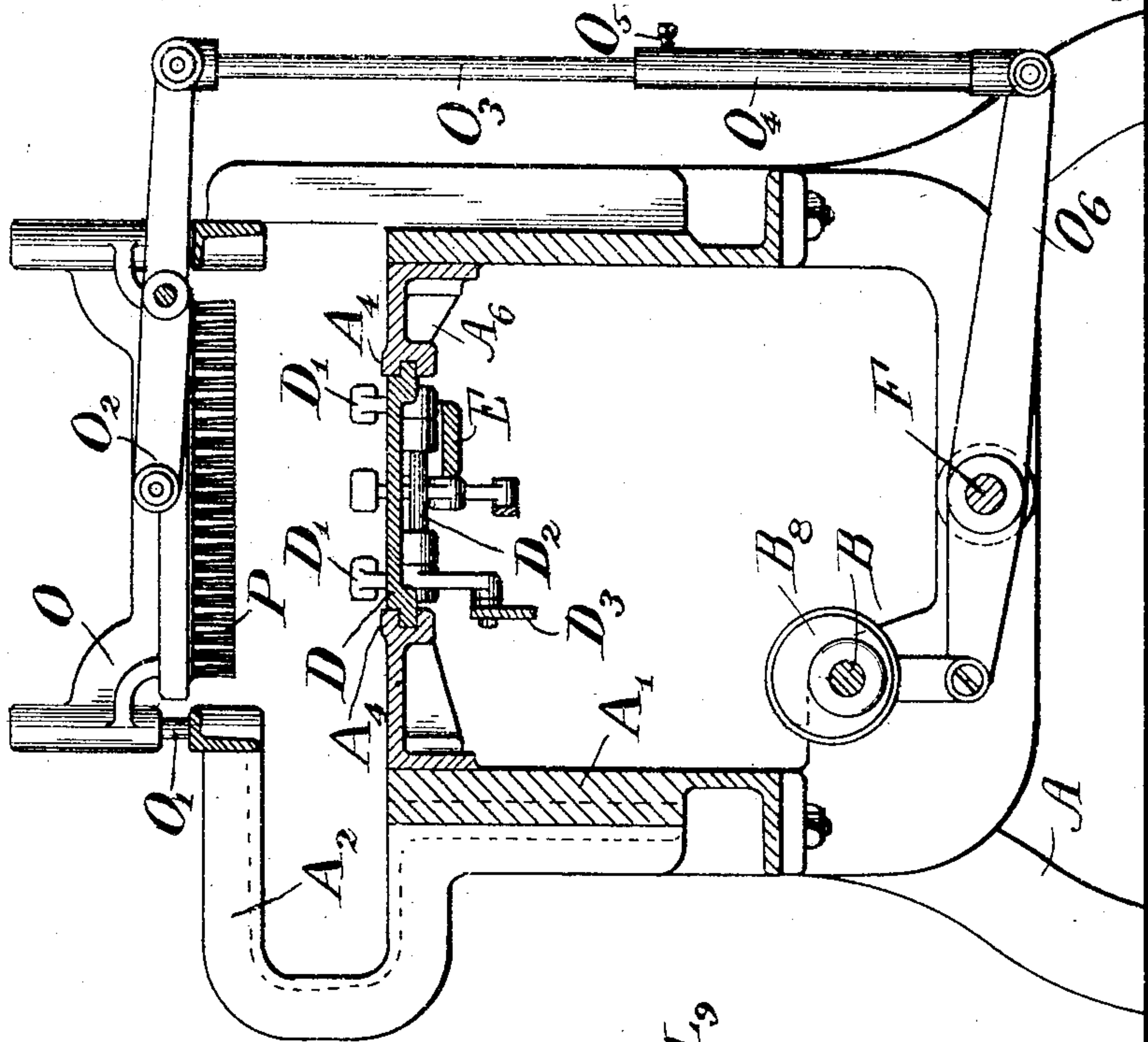
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4 SHEETS—SHEET 2.

Fig. 3,



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Fig. 2,

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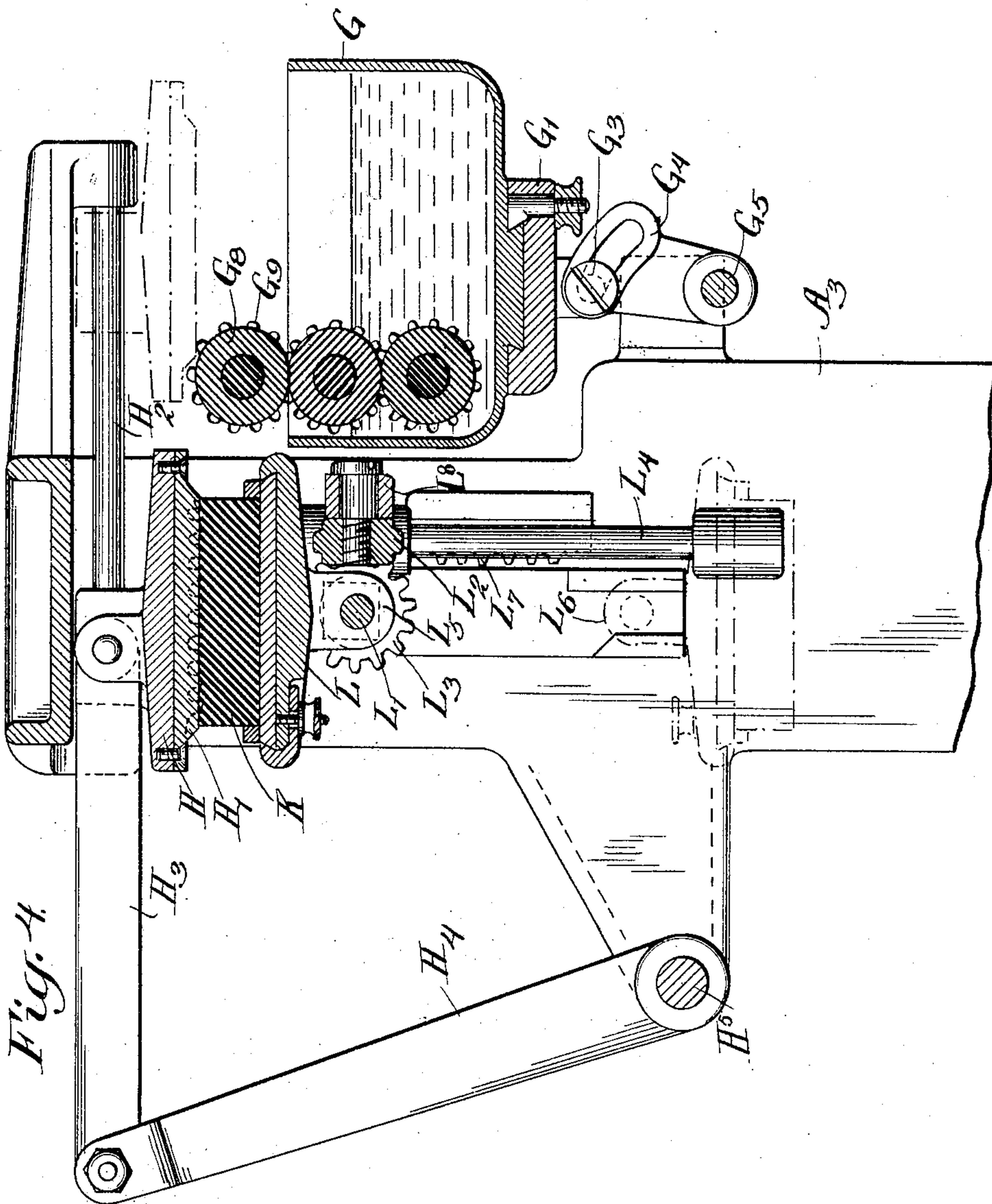


Fig. 4.

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4 SHEETS—SHEET 4.

Fig. 6,

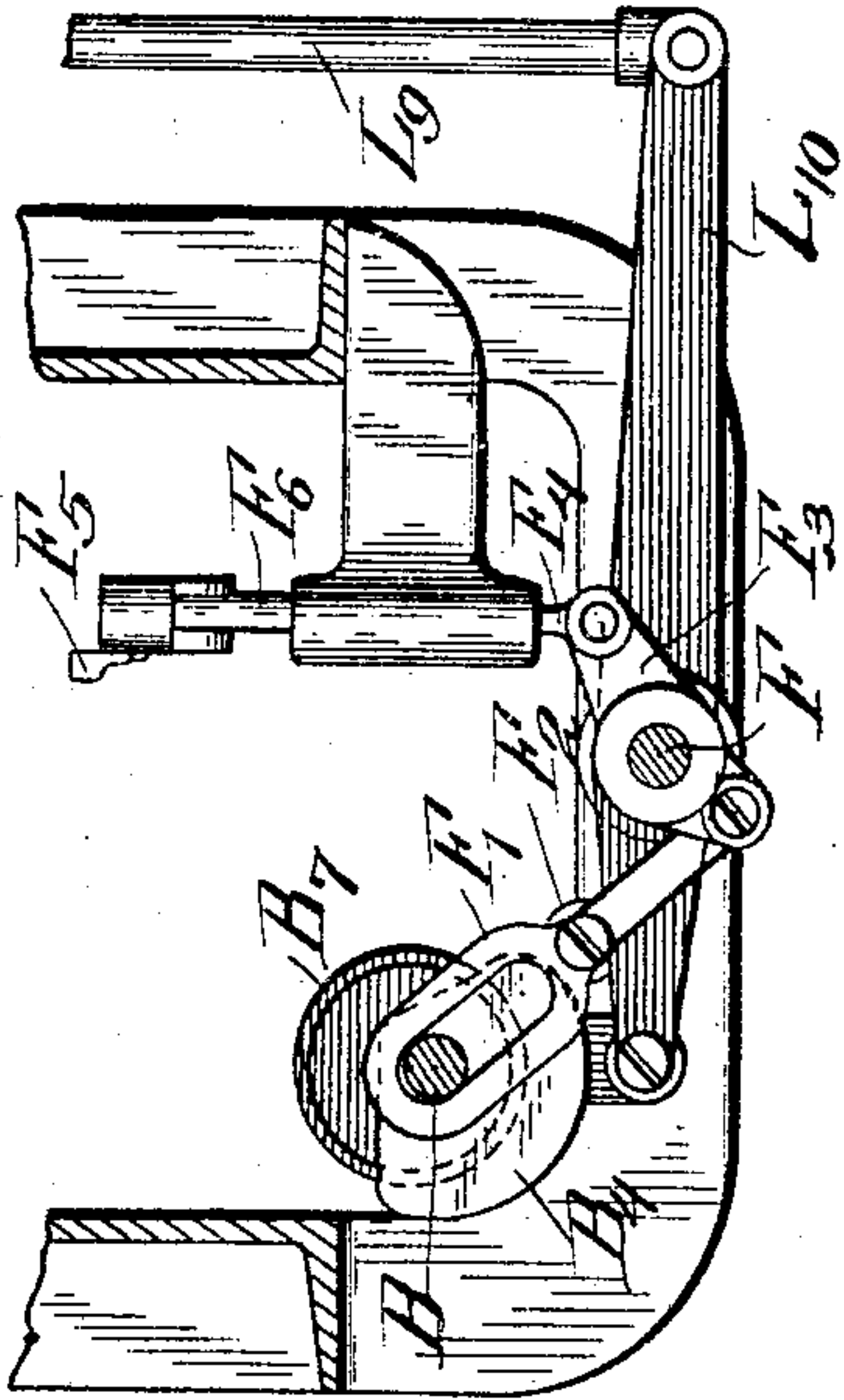


Fig. 7,

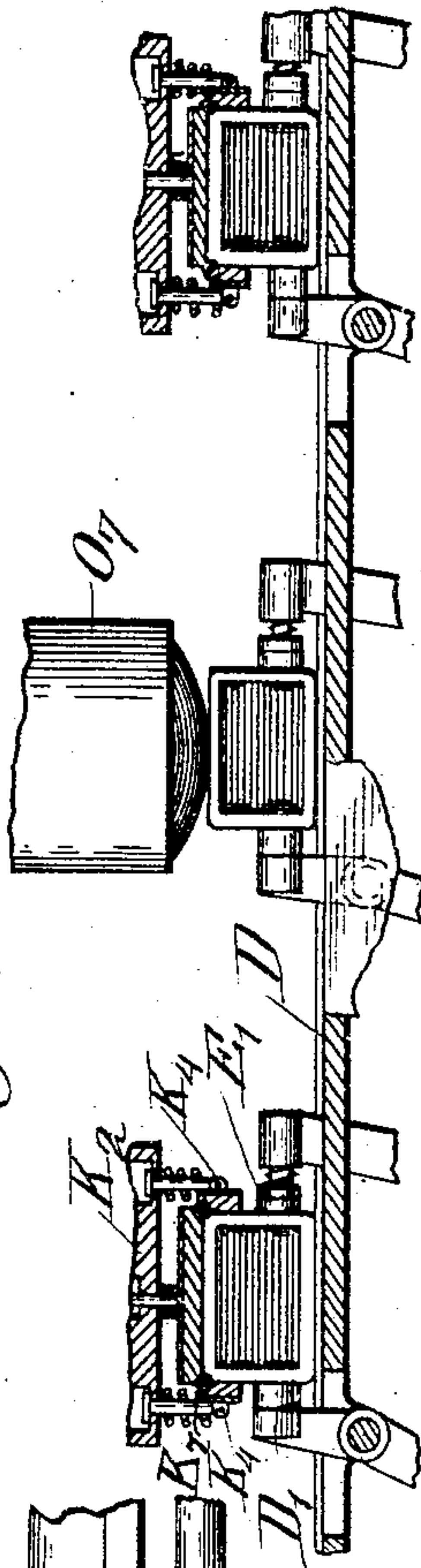


Fig. 5,

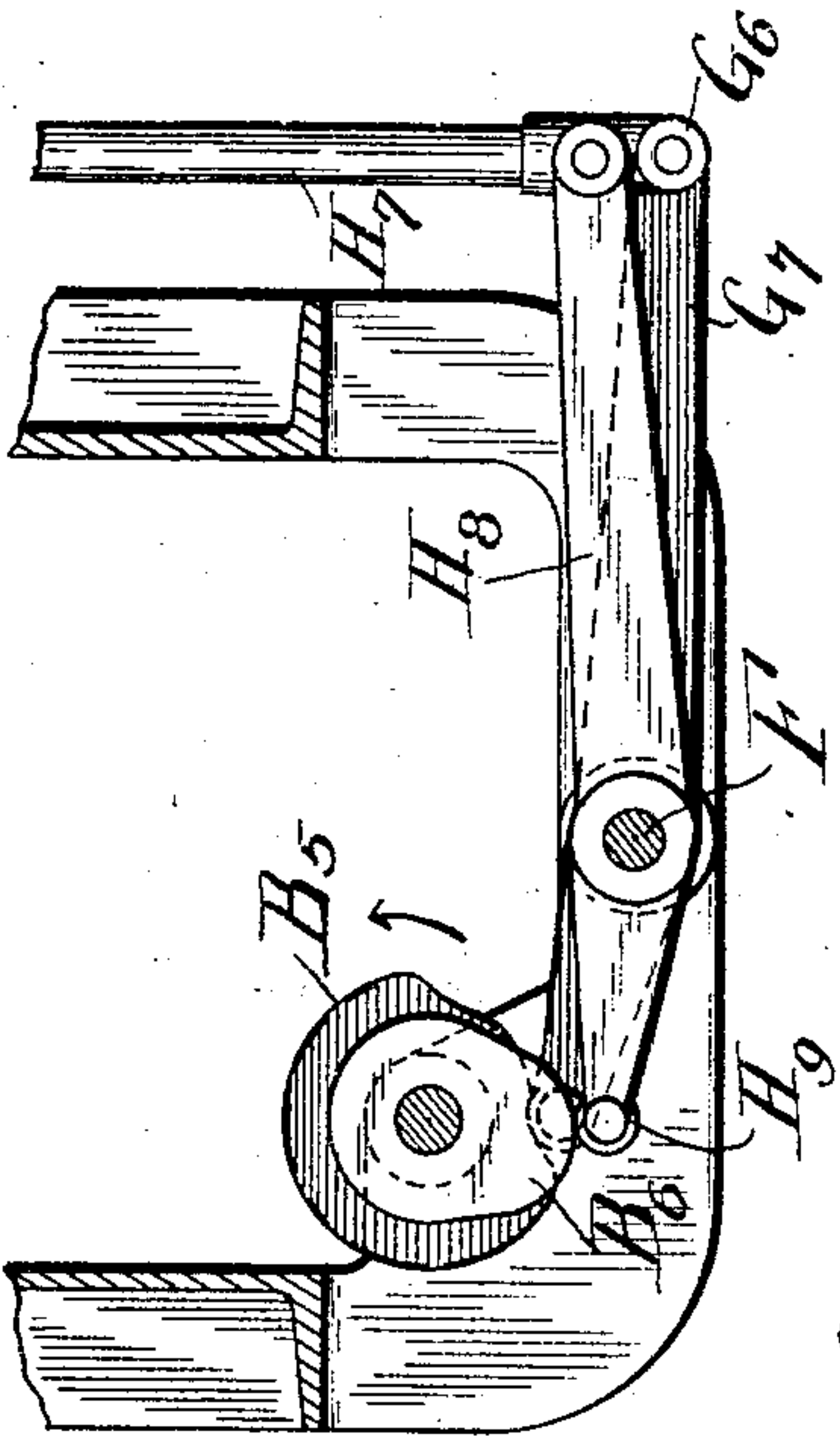
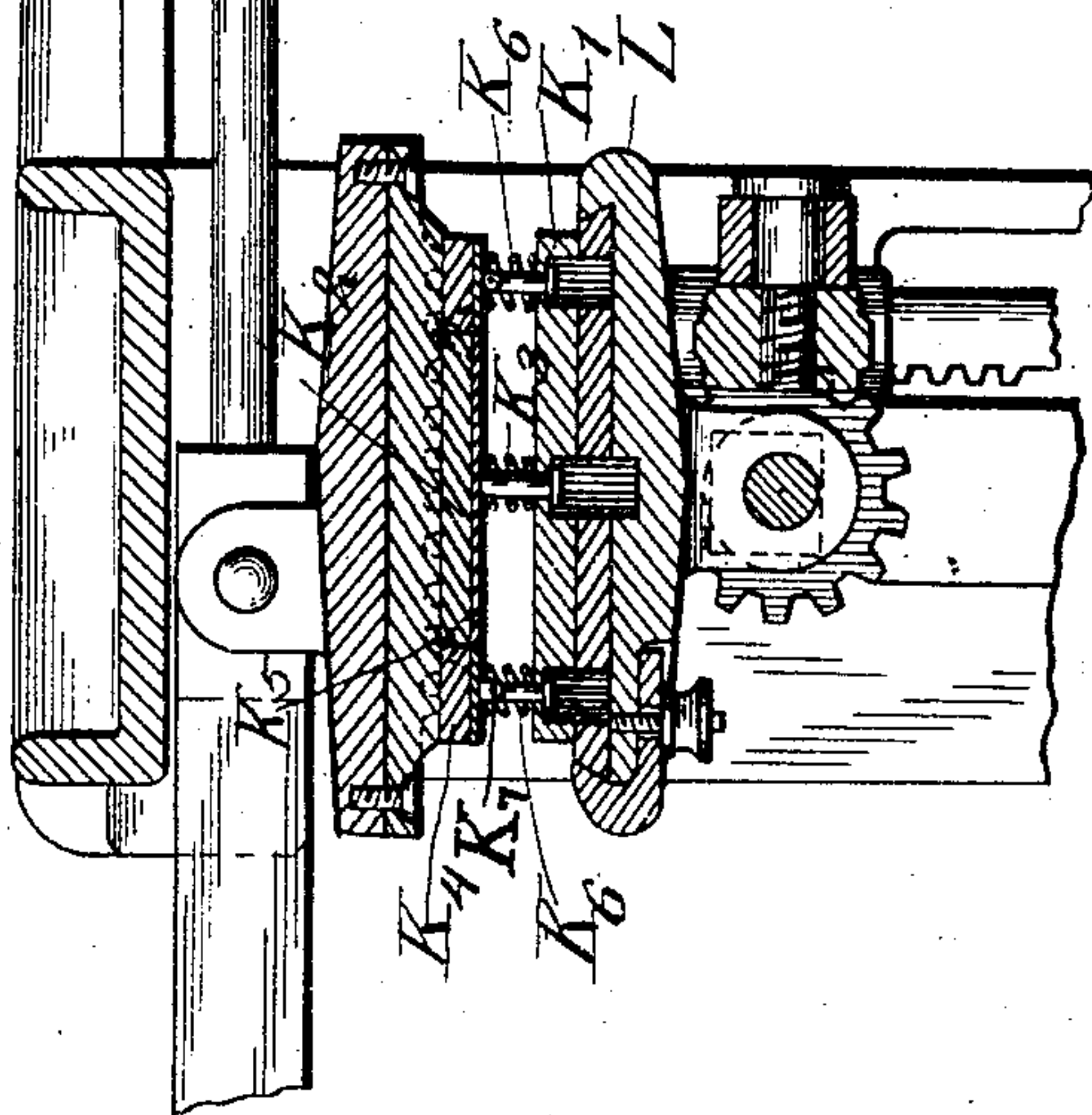


Fig. 8



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# UNITED STATES PATENT OFFICE.

JAMES G. HENDRICKSON, OF BAYONNE, NEW JERSEY, ASSIGNOR TO  
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## TOP-LABELING MACHINE.

SPECIFICATION forming part of Letters Patent No. 779,934, dated January 10, 1905.

Application filed April 23, 1902. Serial No. 104,256.

*To all whom it may concern:*

Be it known that I, JAMES G. HENDRICKSON, a citizen of the United States, and a resident of Bayonne, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Top-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 in which a series of articles are fed along a runway and a series of labeling devices, preferably mounted above said runway, cooperate with the same to successively apply labels to said articles.

In the accompanying drawings, in which the same reference characters refer to similar parts in the several figures, Figure 1 is a vertical sectional view of a machine embodying this invention, parts being shown in elevation. Fig. 2 is an end elevation. Fig. 3 is a transverse sectional view. Fig. 4 is a detail view of the paste apparatus. Figs. 5 and 6 are detail views showing the actuating mechanism. Fig. 7 is a partial sectional view similar to Fig. 1. Fig. 8 is a detail of the paste apparatus.

The frame of the machine is composed of transverse members A and longitudinal or side members A'. The curved support A<sup>2</sup> allows space on one side of the machine for projecting portions of articles to be labeled and serves to support the paste-frame A<sup>3</sup>, which is vertically adjustable, the guides A<sup>4</sup> extending upward from the table. Members A<sup>6</sup> are secured to the side members and form a runway to support articles fed through the machine. As will be seen in Fig. 2, the gage-piece A<sup>5</sup> is mounted adjacent one side of this runway, so as to aline articles transversely of the machine.

The feeder D is mounted to reciprocate in suitable slots formed adjacent the guides, as is indicated in Fig. 3. This feeder carries the series of pawls D', which are formed in pairs, as indicated in Fig. 3, and secured to the shafts D<sup>2</sup>, mounted in the feeder. The lower ends of these pawls are pivotally con-

nected to the feeder-bar D<sup>3</sup>, which is actuated by a spring D<sup>4</sup>, connected to the frame of the machine, as is indicated in Fig. 1. The feeder-bar is engaged by the clamp D<sup>9</sup>, comprising two jaws pivoted about the point D<sup>5</sup> and pressed together under the action of an adjustable spring D<sup>6</sup>. These jaws normally grip the feeder-bar, and when the feeder moves backward—that is, to the left, as seen in Fig. 1—the clamp serves to retard the feeder-bar to such an extent as to move the pawls D' out of the runway. The pivoted wedge D<sup>7</sup> is situated between the clamp-jaws, and when this is rotated by the lever D<sup>8</sup> it serves to release the clamp and allow the spring D<sup>4</sup> to raise the pawls into the runway, so that they assume the position shown in Fig. 1.

The slide E is adjustably mounted on the feeder D and is secured in position thereon by suitable screws. This slide carries the stops E', which are mounted in the upper ends of the pivoted levers E<sup>3</sup>, suitable springs E<sup>2</sup> being provided to yieldingly press the stops against articles in the runway, and it will be noted also that the pawls and stops may be formed with faces of suitable yielding material, if desired, to engage articles in the runway in a yielding manner. The stops are all pivoted to the stop-bar E<sup>4</sup>, and this stop-bar is loosely connected with the lever E<sup>6</sup>, which carries the track-roll E<sup>7</sup> at its lower end and which is mounted in the bracket E<sup>5</sup> on the slide. The track F<sup>5</sup>, which is supported on the rods F<sup>6</sup> to reciprocate vertically, engages the track-roll and when in the position indicated in Fig. 1 holds the stops against articles in the runway, so as to grip the same in connection with the pawls. Since two pawls are employed and since the stop engages an article between the two pawls, the article is held rigidly under the action of these three holding members and is fed forward in a parallel manner. If, however, the track is lowered into the dotted position, the stop-bar will be moved so as to quickly withdraw the stops from the runway. This movement occurs just before the reciprocating feeder



moves backward, so that the stops are withdrawn from the runway, leaving the articles stationary.

The cam-shaft B is mounted in suitable bearings in the frame of the machine and is driven by a pulley B' or by any other desired connection. This shaft carries the skew-gear B<sup>2</sup>, which meshes with the corresponding gear C<sup>2</sup> on the crank-shaft C'. In this way the crank C is operated so as to revolve at the same rate as the cam-shaft. The crank C, which may, if desired, be provided with a suitable antifriction-roller, engages the feeder-yoke C<sup>3</sup>, since the crank enters the slot C<sup>4</sup> in this yoke, this slot being provided with relieved portions C<sup>5</sup> near the center of the same. The feeder-yoke is pivoted at either end to the levers C<sup>6</sup> and C<sup>7</sup>, the lever C<sup>7</sup> being connected by the link C<sup>8</sup> to the lug C<sup>9</sup>, adjustably secured to the feeder. As indicated in Fig. 1, suitable springs are used to engage the levers C<sup>6</sup> C<sup>7</sup> at either end of their movement, so as to hold the yoke in engagement with the crank. In this way it will be seen that as the crank rotates in a regular manner the feeder will be reciprocated, there being, however, a pause at each end of the movement of the feeder when the crank comes into the relieved portion C<sup>5</sup> of the yoke-slot. If desired, other means may be employed for reciprocating the feeder, although it is desirable that there should be a suitable pause at the end of the stroke of the feeder to allow the labeling devices to come into engagement with articles fed along the runway. The cam B<sup>3</sup> on the cam-shaft engages the lever B<sup>8</sup>, so as to release the clamp when the feeder reaches its rear position, and causes the clamp to engage the feeder-bar when the feeder reaches its forward position. The track F<sup>5</sup> is operated by the cam B<sup>4</sup> on the cam-shaft, this cam having the contour indicated in Fig. 6. The slotted link F' passes over the cam-shaft, and the cam-roll F<sup>2</sup> on this link engages the cam B<sup>4</sup>. The free end of this link operates the lever F<sup>3</sup>, mounted upon the fulcrum-shaft F, and through the link F<sup>4</sup> reciprocates the track F<sup>5</sup> vertically.

The feeder and the feeding mechanism which has been described operates to simultaneously engage a series of articles upon the runway and to intermittently feed them from station to station along the runway, these articles being placed in the runway at the rear end of the same and being received at the forward end of the runway in any desired manner. The position of the pawls on the feeder at the end of the stroke may be adjusted by moving the member C<sup>9</sup>, and the position of the stops may be adjusted by adjusting the slide E so that by these two adjustments articles of any size may be labeled, and these articles may be accurately aligned at the several stations. The labeling devices, which preferably comprise a paste apparatus, a label-box,

and a presser, are usually mounted above the runway to cooperate with articles at the several stations. It will be seen that since the feeder engages articles on either side of the same and near the lower portion of these articles the entire top of each of the articles is left free and labels may be applied which extend entirely across the top of the articles, or, indeed, labels may be applied which extend around three sides of the articles, as is indicated in Fig. 7. The labeling devices are formed to accomplish the particular work intended, and the paste-pad supplies paste to each of the articles throughout the extent which the label occupies. The paste-pad is in some cases formed in sections and with side wings, which apply paste to the vertical sides of articles while the central portion of the pad applies the paste to the top of the article.

The paste apparatus is mounted in the vertically-adjustable frame A<sup>3</sup>, which engages the lower members of the frame by suitable guides and which may be clamped at any desired height. The paste-pot G is secured to the reciprocating support G'. This support is mounted upon the rods G<sup>2</sup>, which engage suitable guides in the frame A<sup>3</sup>. The paste-lift, which reciprocates the paste-pot, comprises the cam G<sup>4</sup>, formed with the curved slot G<sup>3</sup>. (Indicated in Fig. 4.) This cam is mounted on the shaft G<sup>5</sup> and is oscillated by the rod G<sup>6</sup>. As is seen in Fig. 5, this rod is connected with the lever G<sup>7</sup>, pivoted about the shaft F, and the inner end of this lever engages the cam B<sup>5</sup>, which imparts a vertical reciprocation to the paste-pot. The paste-rolls G<sup>8</sup> are revolvably mounted in the paste-pot and are provided with gears G<sup>9</sup>, which cause the regular rotation of these rolls. The transfer-pad H is mounted to reciprocate horizontally on suitable guides H<sup>2</sup> in the frame. A suitable rack H' is secured to this transfer-pad and engages the gear G<sup>9</sup> on the paste-roll when the paste-pot is raised into the position indicated in Fig. 4. The movement of the transfer-pad under these conditions rotates the paste-rolls, and in this manner a regular coating of paste is applied to the transfer-pad. The paste-pot is preferably lowered to carry the paste-roll out of engagement on the return stroke of the transfer-pad. The transfer-pad is reciprocated by the link H<sup>3</sup>, connected to the lever H<sup>4</sup>. This lever is secured to the rock-shaft H<sup>5</sup>, operated by the rock-arm H<sup>6</sup>. The rod H<sup>7</sup> connects with the lever H<sup>8</sup>, (indicated in Fig. 5,) and the cam-roll H<sup>9</sup> on the inner end of this lever engages the cam B<sup>6</sup> on the cam-shaft.

The paste-pad K is mounted on the pad-support L. This pad-support is secured to the shaft L', mounted in suitable bearings in the paste-guide L<sup>2</sup>. The gear L<sup>3</sup> is secured to the paste-shaft L', and the cam L<sup>5</sup> is also fast to this shaft. The paste-guide moves upon the



vertical rods  $L^4$ , and the gear and cam serve to oscillate the paste-pad as it is reciprocated vertically, these parts operating in conjunction with the rack  $L^7$  and the cam-slots  $L^6$ .

5 The paste-guide is loosely pivoted to the lever  $L^8$ , and this lever is operated by the rod  $L^9$ , connected to the lever  $L^{10}$  on the fulcrum-shaft, the inner end of this lever being oscillated by the eccentric  $B^7$ , as indicated in Fig. 6. In  
10 the operation of the paste apparatus (indicated in Fig. 4) the paste-pad receives paste from the transfer-pad when the two are in engagement, as indicated in that figure, and then the paste-pad is reciprocated downward and simultaneously oscillated about the shaft  $L'$ , so  
15 as to assume the position indicated in dotted lines when it applies paste to articles on the runway. As the paste-pad moves downward the transfer-pad is reciprocated horizontally  
20 into the position indicated in dotted lines, so as to receive paste from the paste-roll in the manner described. At each revolution of the cam-shaft, therefore, the paste-pad conveys a fresh portion of paste from the transfer-pad  
25 to an article on the runway.

The label-support  $O$  (shown in Figs. 1 and 3) is mounted to reciprocate vertically on the rods  $O'$ , the vertical movement being given by the lever  $O^2$ , loosely pivoted to the label-support and connected to the rod  $O^3$ . This  
30 rod is adjustably connected to the lower member  $O^4$ , telescoping within the latter and being secured thereto by the set-screw  $O^5$ . The lever  $O^6$  is pivoted to  $O^4$ , and the inner end of this lever, which is mounted on the fulcrum-shaft  $F$ , is oscillated by the eccentric  $B^8$ . In  
35 this manner it will be apparent that the label-support may be adjusted so as to properly coact with articles of different height on the runway. It will be seen that the reciprocation of the paste-pad is regulated in a similar  
40 manner. In order to have the paste-pad cooperate with articles of different height, it is, however, necessary to vertically adjust the frame  $A^3$ , as has been described. The label-support carries the label-box  $O^7$ , formed with the ribs  $O^8$  on its lower end and serving to support a column of labels, which are preferably pressed downward by a weight  $O^9$ . As  
45 the label-box is reciprocated the lowest label comes into contact with a pasted article on the runway and is withdrawn from the label-box as the latter moves upward. The presser  $P$  is also mounted on the label-support and may  
50 be formed with a face of bristles or any other yielding material to suitably smooth the labels upon articles on the runway.

It will be seen that the paste-pad, the label-box, and the presser are readily removable  
55 from their supports, and they may therefore be replaced by devices of different size, so as to properly apply labels of any desired size to articles fed along the runway, and, if desired, the labels may extend entirely across

the upper face of articles or around three 65 sides of the same.

The paste-pad (indicated in Fig. 8) may be readily attached to the paste-support  $L$ , so as to cooperate properly with the rest of the paste apparatus. This sectional paste-pad 70 preferably comprises the center  $K^2$ , which is mounted on the guide-rods  $K^3$ , so as to have a limited movement with respect to the backing  $K'$ . This center is pressed away from the backing by the spring indicated. The wings 75  $K^4$  are pivoted to the center by suitable pivotal connections  $K^5$ , which preferably are formed on the outside of the yielding surface of the sectional pad, each one of the sections of the pad being mounted in a light frame, as 80 indicated, and the several frames being connected by any desired means. The wings are pivoted by the pins  $K^7$  to the rods  $K^6$ , which are spring-pressed outward from the backing. When this sectional paste-pad is pressed up- 85 ward against the transfer-pad, its surface remains horizontal, as indicated, and receives an even coating of paste from the transfer-pad. When, however, the sectional paste-pad has been brought into its lower position into 90 contact with an article upon the runway, as indicated in Fig. 7, the center engages the top of the article and applies paste thereto. Further downward movement of the support causes the center to be pressed upward, so 95 that the wings  $K^4$  move about the center under the action of the rods  $K^6$ , so that the wings apply paste to the sides of the article. As the sectional pad moves upward the wings are rotated through the connections shown 100 into substantially horizontal position before the center is withdrawn from the article. In this way a uniform coating of paste is applied to three sides of an article on the runway, the movable sections of the paste-pad automatically engaging the several faces of the article 105 as the pad is pressed against the same, and when this article is fed forward the label-box applies a label to the same, as indicated in Fig. 7, the label extending in substantially 110 flat position on either side of the article. At the succeeding station the sectional presser used in this case and constructed with a yielding center and wings connected in the same manner as the sectional paste-pad is 115 brought into contact with the article, presses the label upon the top of the article, and then the wings press the ends of the label against the pasted sides of the article, so as to press all parts of the label smoothly upon the article. 120

If desired, the paste-pad and presser may be given a different form from what is indicated, so as to properly apply labels to articles which have slightly-irregular surfaces, the labels being applied to the top of the same 125 or to a plurality of sides of the same, as indicated. It is not necessary in all cases to form the sectional paste-pad and presser with piv-



oted wings, since movable wings or wipers of other construction may be used.

Many other modifications may be made by those familiar with this art without departing from the spirit of this invention. Further-  
 5 more, parts of this device may be used without employing all of the same. I do not, therefore, wish to be limited to the disclosure which I have made in this case; but what I  
 10 claim as new, and what I desire to secure by Letters Patent, is set forth in the appended claims.

I claim—

1. In a labeling-machine, a runway, a recip-  
 15 rocating feeder mounted below said runway, a spring-pressed feeder-bar mounted on said feeder, a feeder-yoke formed with a slot having relieved portions near the center of the same, a crank to engage said slot to operate  
 20 said feeder, a series of pawls mounted on said feeder-bar, a series of stops to cooperate with said pawls mounted on a slide adjustably connected to said feeder, a stop-bar pivoted to said stops, a track-roll connected to said stop-  
 25 bar, a movable track to cooperate with said track-roll to actuate said stops, a clamp to engage said feeder-bar, means to disengage said clamp to allow said pawls to project into said runway, paste apparatus mounted above said  
 30 runway comprising a vertically - movable paste-pot, a paste-roll mounted therein to receive paste, a reciprocating transfer - pad mounted to cooperate with said paste-roll, a reciprocating oscillating paste-pad to engage  
 35 said transfer-pad, said paste-pad being formed in sections automatically movable to apply paste to three sides of an article, a reciprocating label-box to cooperate with said runway and a sectional presser to press labels upon  
 40 three sides of articles in said runway.

2. In a labeling-machine, a runway, a recip-  
 rocating feeder mounted below said runway to cooperate therewith, a feeder-bar mounted  
 45 on said feeder, pawls pivoted to said feeder and connected to said feeder-bar, a spring normally tending to project said pawls into said runway, a clamp engaging said bar to hold said pawls out of said runway as said  
 50 feeder is moved backward, a slide adjustably secured to said feeder, stops having yielding faces pivoted in said slide, means to quickly withdraw said stops from said runway as said feeder moves backward, a feeder-yoke connected to said feeder formed with a slot hav-  
 55 ing a relieved central portion and a crank engaging said feeder-yoke to reciprocate said feeder and to give a pause at the forward end of its reciprocation.

3. In a labeling-machine, a runway, a recip-  
 60 rocating feeder to cooperate with said runway, pawls mounted in said feeder, means to positively withdraw said pawls from said runway when said feeder is moved backward, stops mounted in said feeder and means to  
 65 quickly withdraw said stops from said runway

as said feeder is moved backward, a feeder-yoke connected to said feeder formed with a slot having a relieved central portion and a crank to engage said slot to reciprocate said feeder and to give a pause at the forward end of  
 70 said reciprocation.

4. In a labeling-machine, a runway, an intermittently-operating labeling device cooperating with said runway, a reciprocating feeder adjacent said runway, a feeder-yoke  
 75 connected to said feeder, said yoke being formed with a slot having a relieved central portion, and a crank engaging said slot.

5. In a labeling-machine, a feeder mounted below said runway, pawls and stops mounted  
 80 on said feeder to engage an article on either side of the same near the bottom of said article and a labeling device to apply a label to three sides of said article.

6. In a labeling-machine, a runway, a feeder  
 85 mounted adjacent said runway to cooperate therewith, pawls and stops mounted on said feeder to engage articles in said runway on either side of the same to clamp and feed forward said articles, and labeling mechanism co-  
 90 operating with said runway to apply a label to three sides of each article fed along said runway.

7. In a labeling-machine, a runway, means to feed articles along said runway, and label-  
 95 ing mechanism cooperating with said runway to apply labels to three sides of said articles, said labeling mechanism comprising a sectional paste-pad to apply paste to three sides of  
 100 said articles.

8. In a labeling-machine, a runway, a feeder to cooperate with said runway to feed articles along the same and labeling mechanism to  
 105 apply labels to three sides of said articles comprising a sectional paste-pad having a yielding center and wings secured to said center to apply paste to three sides of said articles.

9. In a labeling-machine, a paste-pad comprising a backing, a center yieldingly mounted  
 110 upon said backing, wings pivoted to said center and spring-pressed bars connected to said wings to rotate the same about said center to apply paste to three sides of an article.

10. In a labeling-machine, a paste-pad to  
 115 apply paste to a plurality of sides of an article comprising movable sections yieldingly mounted.

11. In a labeling-machine, a paste-pad to automatically apply paste to a plurality of  
 120 faces of an article comprising spring-pressed movable sections to automatically engage said faces when pressed into contact with said article.

12. In a labeling-machine, a paste-pot hav-  
 125 ing a roll mounted therein, a horizontally-reciprocating transfer-pad, a paste-pad, means to reciprocate and to oscillate said paste-pad into contact with said transfer-pad and means to vertically reciprocate said paste-roll with  
 130 respect to said transfer-pad.



13. In a labeling-machine, a paste-pot, a paste-roll mounted in said paste-pot, a reciprocating transfer-pad to coöperate with said paste-roll and to rotate the same, a paste-pad to engage said transfer-pad and means to reciprocate said paste-roll with respect to said transfer-pad.

14. In a labeling-machine, a support for an article to be labeled and labeling mechanism to apply a label to a plurality of sides of said article, said labeling mechanism comprising a backing, a sectional labeling device mounted in said backing and means to operate said backing to cause said sectional labeling device to engage a plurality of sides of said article.

15. In a labeling-machine, a labeling device comprising a backing and movable sections mounted in said backing and means to operate said backing to cause said sections to automatically approach a plurality of faces of an article to be labeled and to move into perpendicular contact with said faces.

16. In a labeling-machine, a support for an article to be labeled and labeling mechanism to apply a label to three sides of said article comprising a backing and a sectional labeling device having a yielding center and wings se-

cured to said center mounted in said backing to engage three sides of said article.

17. In a labeling-machine, a labeling device comprising a backing, a center yieldingly mounted upon said backing, wings pivoted to said center and spring-pressed bars connected to said wings to rotate the same about said center to engage a plurality of sides of an article.

18. In a labeling-machine, a labeling device to engage a plurality of sides of an article comprising a backing and spring-pressed movable sections mounted in said backing to automatically engage a plurality of sides of said article when said backing is moved toward the same.

19. In a labeling-machine, a labeling device to engage a plurality of sides of an article comprising a backing and a plurality of relatively movable sections yieldingly mounted in said backing to automatically engage a plurality of sides of said article when said backing is moved toward the same.

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