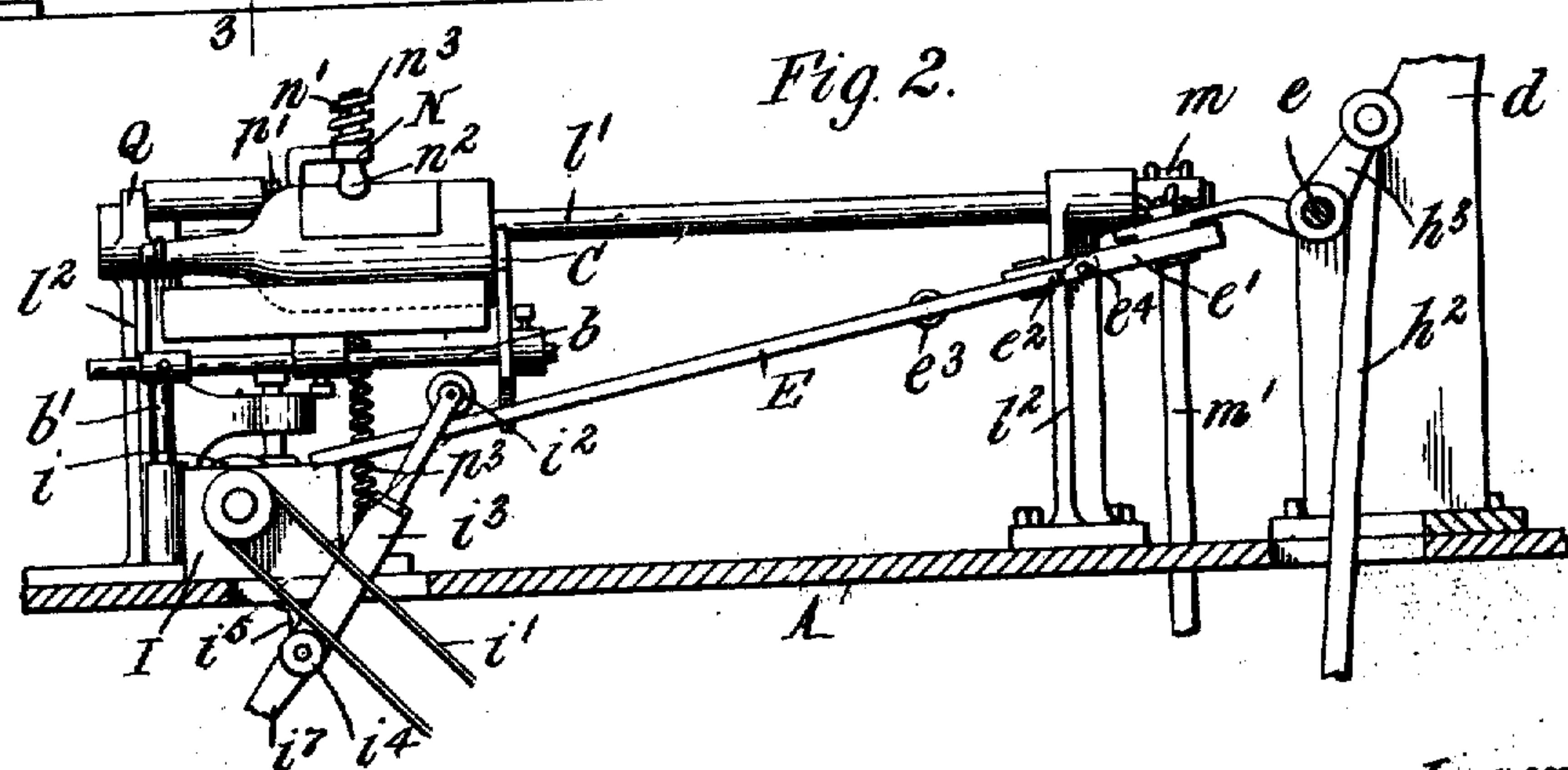
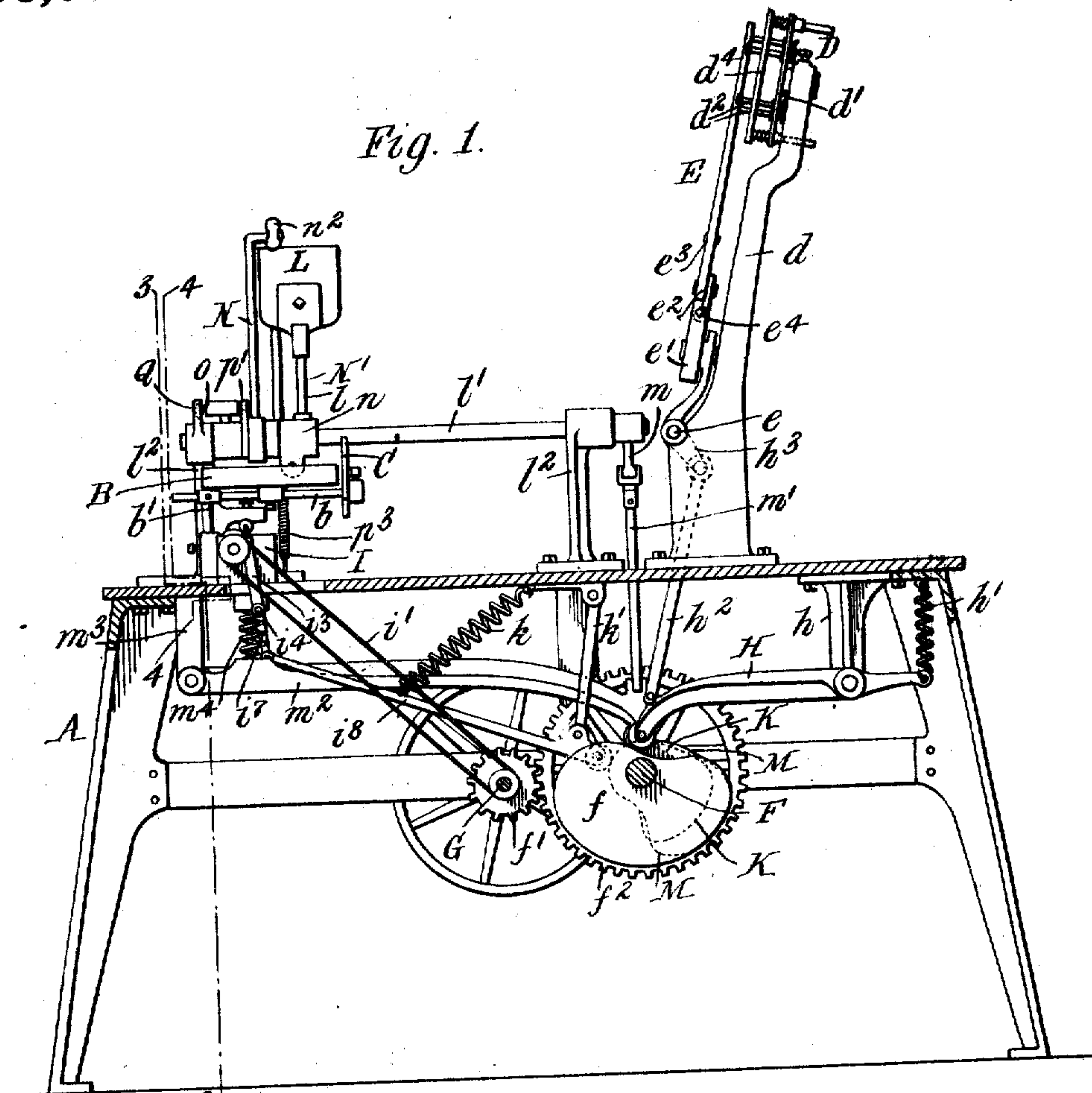


906,631.

F. H. HOUSE & E. DIETZ.
LABELING MACHINE.
APPLICATION FILED JAN. 9, 1907.

Patented Dec. 15, 1908.
3 SHEETS—SHEET 1.



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3 SHEETS—SHEET 2.

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Fig. 3.

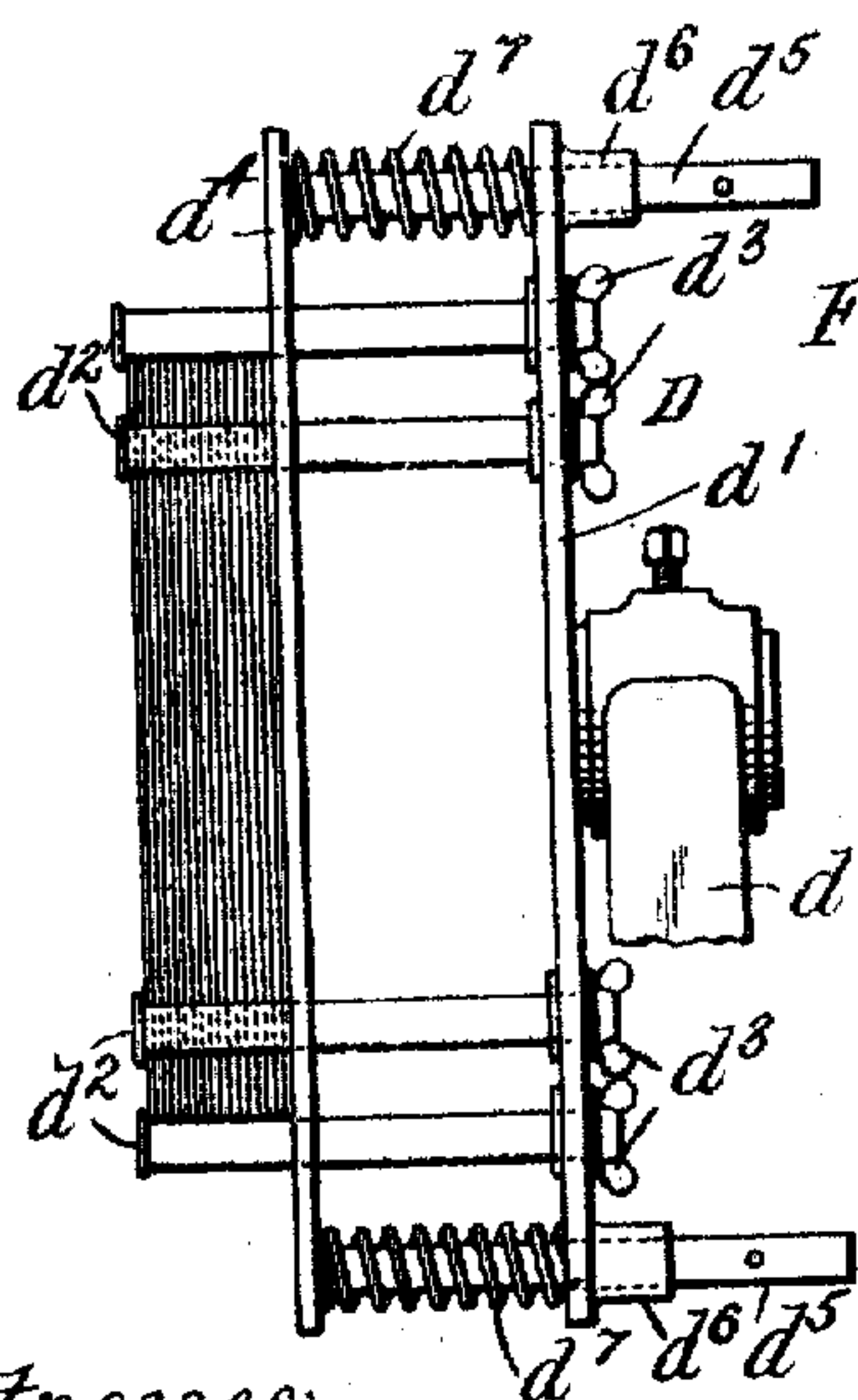
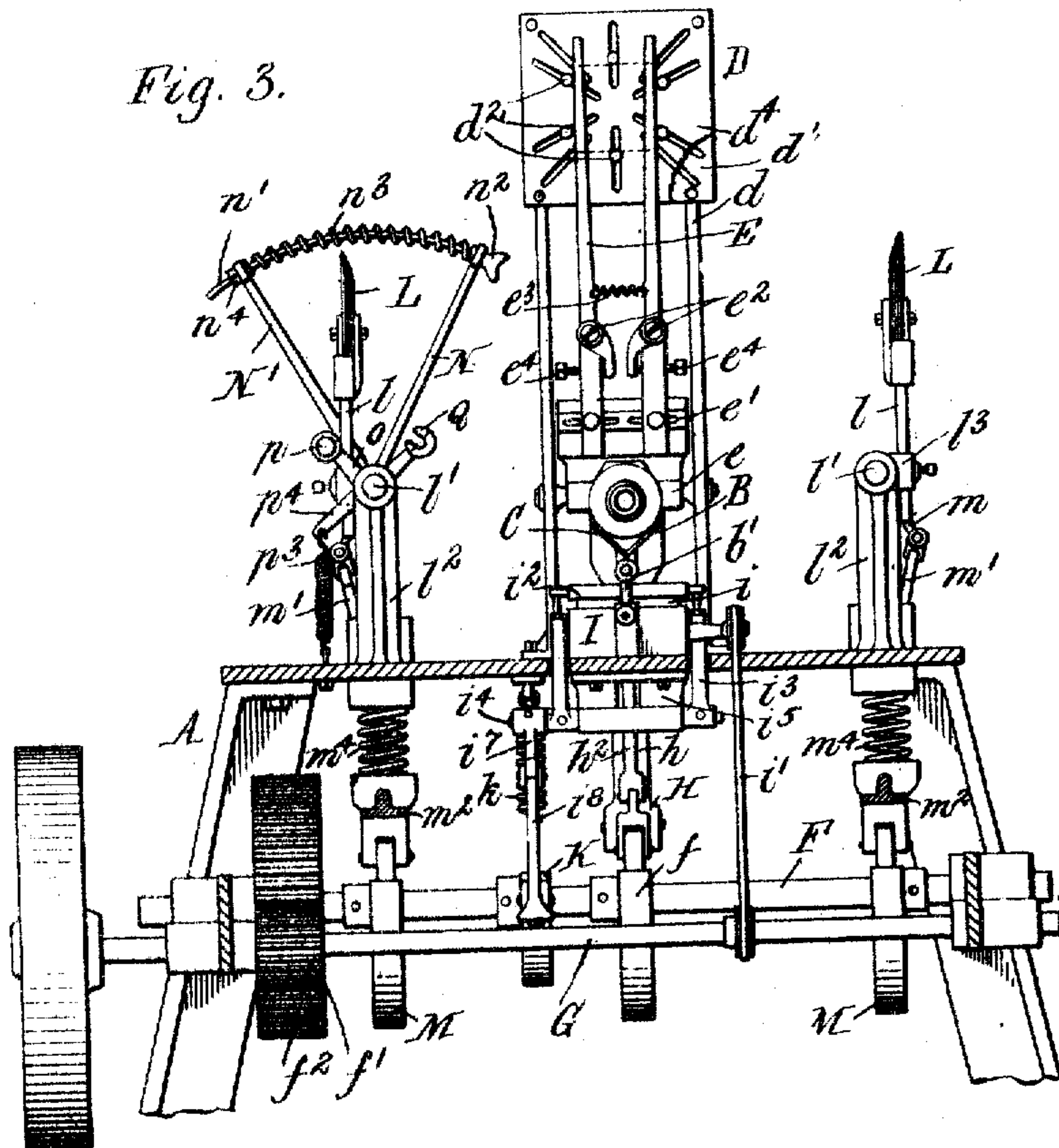


Fig. 8.

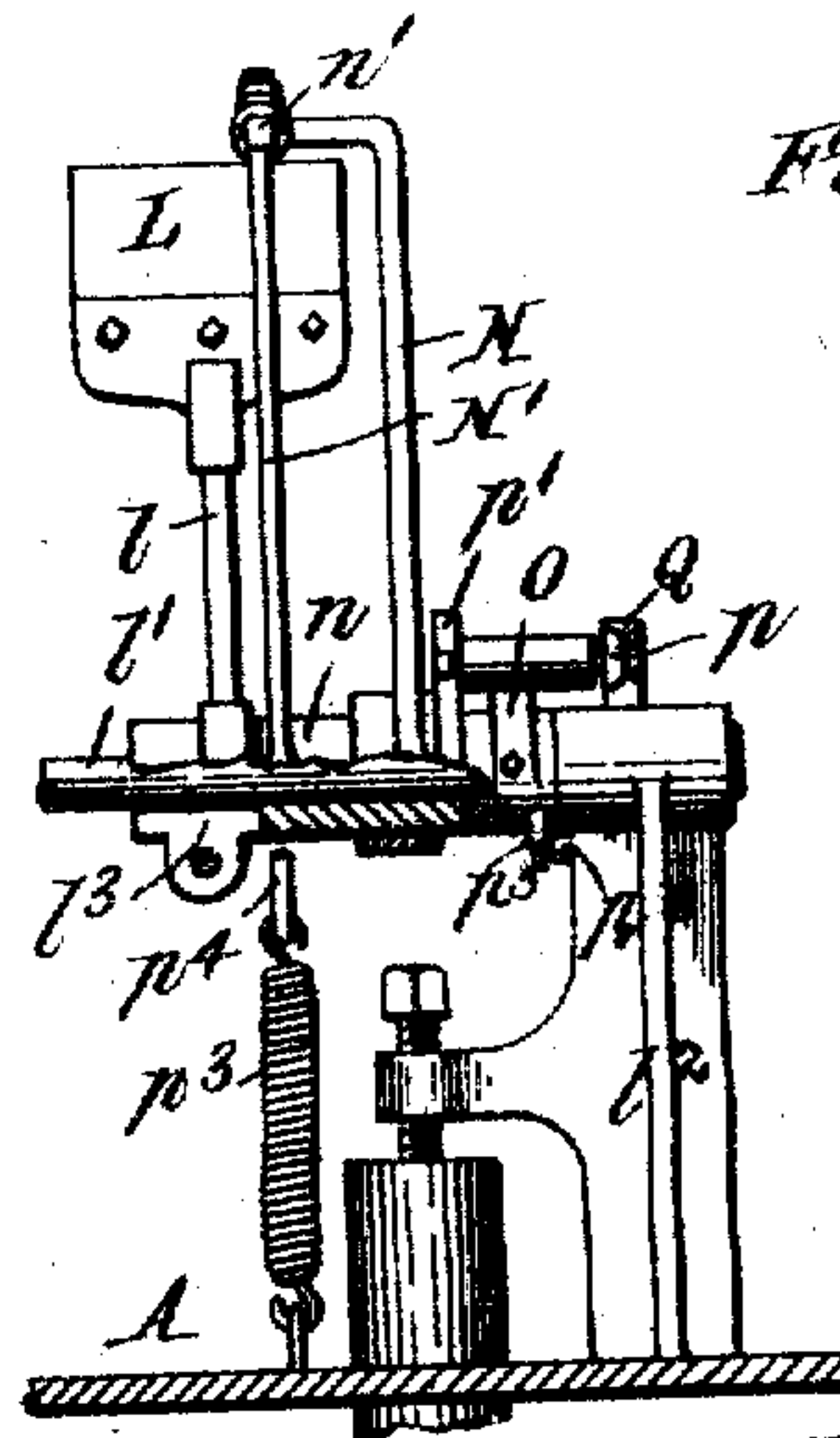


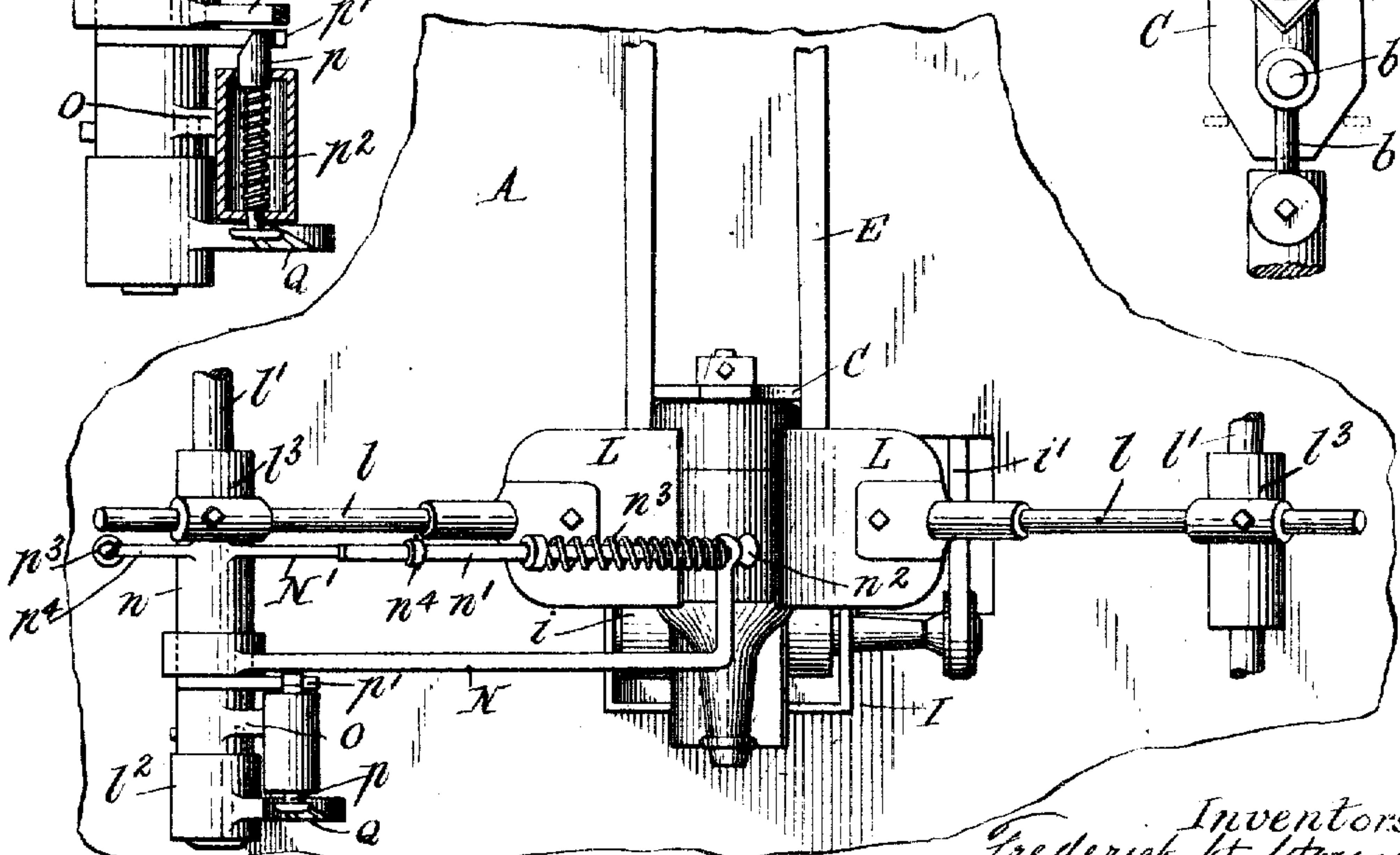
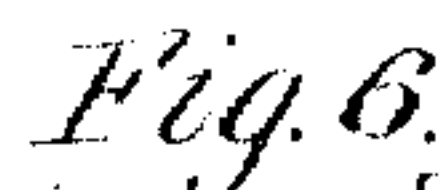
Fig. 9.

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APPLICATION FILED JAN. 9, 1907.

3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

FREDERICK H. HOUSE AND ERNEST DIETZ, OF BUFFALO, NEW YORK; SAID DIETZ ASSIGNOR
TO SAID HOUSE.

LABELING-MACHINE.

No. 906,631.

Specification of Letters Patent.

Patented Dec. 15, 1908.

Application filed January 9, 1907. Serial No. 351,421.

To all whom it may concern:

Be it known that we, FREDERICK H. HOUSE and ERNEST DIETZ, citizens of the United States, residing at Buffalo, in the
5 county of Erie and State of New York, have invented a new and useful Improvement in Labeling-Machines, of which the following is a specification.

This invention relates more particularly to
10 machines for applying labels to bottles and other articles, and more particularly to machines of that type in which the labels are stacked or piled in the machine and a label carrier is employed to which paste is applied
15 and which is moved against the stack of labels to pick up the topmost label and is then moved to place the label over the article with its pasted side next thereto, where it is held by a presser while wipers
20 sweep over the surface of the label and smooth it out evenly on the article to cause it to adhere thereto.

The primary objects of the invention are to produce a rapid and efficient machine of
25 such construction that it will apply the labels perfectly to bottles or other articles, whether of round or prismatic form, and can be readily adjusted for articles of different sizes and shapes, or to apply the labels in
30 different desired positions on the articles; also to so construct the machine that it can be manufactured at a moderate cost.

In the accompanying drawings, consisting of three sheets: Figure 1 is a central longitudinal sectional elevation of a labeling machine embodying the invention, showing one
35 position of the parts. Fig. 2 is a fragmentary similar view thereof, showing a different position of the parts. Fig. 3 is a transverse sectional elevation thereof in line 3—3, Fig. 1. Fig. 4 is a fragmentary transverse sectional elevation, on an enlarged scale, in line
40 4—4, Fig. 1, showing a different position of the parts. Fig. 5 is a plan view of the parts shown in Fig. 4. Fig. 6 is a transverse sectional elevation, on an enlarged scale, of the article support, gage and label carrier. Fig. 7 is a detail section of the presser operating device. Fig. 8 is a side elevation, on an
50 enlarged scale, of the label holder. Fig. 9 is an outside elevation of the presser device and one of the wipers.

Like letters of reference refer to like parts in the several figures.

55 A represents the main frame of the ma-

chine, which may be of any suitable construction, the frame shown consisting of a table supported by legs and having supporting brackets for various parts of the machine.

B, Figs. 1, 2 and 6, represents a bottle or
60 article rest or support which preferably consists of a trough-shaped seat adjustably secured to a horizontal rod *b* carried by a vertical post *b'* which in turn is adjustably secured in a socket on the table. By this con-
65 struction the seat can be adjusted horizontally and vertically to place articles of different sizes and shapes in proper position relative to the label applying devices to have the labels secured in any desired position
70 thereon.

C represents a gage plate which is adjustably secured to the horizontal rod of the article rest. The article is placed on the rest with one end against the gage which thus
75 facilitates the proper positioning of the articles on the rest. The gage has tapered upper and lower ends and serves to spread the arms of the label carrier, as will be hereinafter explained.

80 D, Figs. 1 and 8, represents a holder for a stack or pile of labels. The holder is preferably supported by the bracket *a* rising from the table, and consists of a back or base plate *d'* and headed studs or pins *d''*
85 adjustably secured in radiating slots in the base plate by thumb nuts *d'''* or other means, and a follower plate *d'''* having correspondingly arranged slots through which the studs
90 pass and which has guide rods *d''''* projecting therefrom through guide bearings *d'''''* in the base plate. Springs *d''''''* surrounding the guide rods *d''''* between the base and follower plates press the former plate forwardly or
95 away from the latter. A stack of labels is placed against the follower between the pins, which are properly adjusted according to the size and shape of the labels. The radial
100 slots in the base plate enable the adjustment of the pins to accommodate a great variety of sizes and shapes of labels. The stack of labels is clamped lightly between the heads of the pins and the follower and is thereby held intact with the topmost or foremost
105 label always in the same position against the heads of the studs. The labels are taken from the stack, one by one, by the label carrier. As the heads of the pins bear on the foremost label, a little force is required
110 to pull this from under the pin heads which

will hold back the other labels and thus prevent more than one label being taken from the stack at a time. Label holders of other suitable construction could be employed.

E represents the label carrier, or device for carrying the labels from the label holder to the article. The carrier is pivoted conveniently on a shaft *e* connecting the sides of the label holder bracket *d* to swing back and forth from a position below the article support, as shown in Fig. 2, up against the stack of labels in the holder. The carrier is bifurcated or has two arms adapted to pass on opposite sides of the article and its support in its swinging movements. Paste is applied to the upper faces of the carrier arms while the carrier is held in its lowest position, shown in Fig. 2, and the carrier is then swung up to press the pasted faces of its arms against the first label in the stack and returned, bringing with it a label which adheres thereto. As the carrier arms move down on opposite sides of the article they place the label thereon, where it is held by a presser device while the carrier continues down to the pasting position. The carrier arms are preferably secured to a connecting piece *e'* by clamping screws passing through slots in the connecting piece, or in any other suitable manner, enabling the arms to be adjusted toward and from each other as required for labels of different widths. The arms are also jointed at *e''* and their outer sections are connected by a spring *e'''* which normally holds the outer sections of the arms parallel at a distance apart less than the width of the article to be labeled, and with their inner ends against adjustable screws or stops *e''''* on the inner sections of the arms. When the carrier moves down past the article on the support the outer sections of the arms engage the upper tapered end of the gage plate C, as shown in Fig. 6, and are thereby spread apart far enough to pass on opposite sides of the article. This construction enables the arms to engage and carry a label of less width than the article and to properly place the same on the article also, as at this time the label is held by the presser on the article, the carrier arms wipe across the under face of the label and evenly spread the paste thereon. When the arms reach the lower tapered end of the gage the outer sections are again drawn back to the original parallel relation by the spring *e'''*, ready to receive the paste.

The carrier is oscillated by suitable mechanism, which, in the machine illustrated, is constructed as follows: F represents a horizontal cam shaft journaled in suitable bearings on the main frame and provided with a cam *f* for operating the carrier. The cam shaft can be driven continuously

or intermittently by gear wheels *f'* *f''* from a power-operated drive shaft G, or by any other usual means. A lever H pivoted on the bracket *h* depending from the table is provided at one end with an antifriction roller which is held on the periphery of the cam by a spring *h'* connected to the lever and to the frame, and this lever is connected by a rod or link *h''* to a leg *h'''* on the label carrier. The cam is properly shaped to swing the carrier up against the stack of labels, then lower it past the article to the pasting position, shown in Fig. 2, and hold it there temporarily while the paste is applied to its arms, which movements are repeated for each label. The carrier could be similarly operated by any other suitable mechanism.

Any usual or suitable means can be employed for applying paste to the carrier arms, the following means being shown: I, Figs. 2 and 3, represents a paste pot in which rotates a paste supply roller *i* journaled on the pot and driven by a belt *i'* connecting pulleys on one of the journals of the paste supply roller and on the drive shaft. A spreading roller *i''* is journaled in the outer sections of telescoping arms *i'''* secured to a rock shaft *i''''* journaled in the bearing bracket *i'''''*. A downward pressure is exerted on the spreading roller by springs *i''''''*, Fig. 4, in the hollow inner sections of the arms *i'''* acting on the outer sections of the arms. A leg *i''''''* on the rock shaft is connected to one end of a rod *i''''''''* provided at its other end with an antifriction roller which is pressed against a cam K on the cam shaft F by a suitable spring *k*. The rod *i''''''''* is supported by a link *k'* pivoted thereto and to the table. The cam K is formed and arranged to swing the spreading roller from a position in contact with the supply roller, where it receives the paste over the arms of the label carrier when the latter is held stationary in its lowest position. The springs *i''''''* acting on the spreading roller hold it down on the supply roller and allow a sufficient extension of the arms carrying the spreading roller to permit the roller to roll along the top faces of the label carrier arms, when the spreading roller is advanced so that the paste is spread evenly on the carrier arms.

L L represent the wipers or brushes for sweeping over the surface of the label while it is held by the presser on the article to smooth it out and cause it to adhere thereto. The wipers preferably consist of pieces of rubber, felt, or other suitable material secured in clamps on the outer ends of rods *l* secured to horizontal rock shafts *l'* arranged at opposite sides of and parallel with the article support and journaled in the bearing brackets *l''*. The wiper rods are preferably adjustably secured by set screws, or otherwise, in sockets on clamp sleeves *l'''* which

are adjustable lengthwise on the rock shafts. The rock shafts are rocked by suitable mechanism to swing the wipers inwardly and downwardly. The following mechanism is shown for this purpose: Rock arms m secured to the wiper rock shafts are connected by links m' to levers m^2 fulcrumed to the depending brackets m^3 on the table and carrying antifriction rollers which are held against cams M on the cam shaft F by suitable springs m^4 arranged between said levers m^2 and the table. The cams M are arranged and shaped to cause the wipers to follow the label carrier downwardly and sweep over the label and commence their return or upward movement in advance of the label carrier, the wipers being held up in the position shown in Fig. 3, while the label carrier is pressed against the stack of labels and again swung forwardly between the wipers. Other mechanism could be employed for operating wipers arranged as described. The wiper rods being adjustable as to length and also lengthwise on the rock shafts, and the article rest being, as described, adjustable both vertically and horizontally, the machine can be adjusted for applying the labels in different desired positions on articles differing materially in size. The adjustability of these parts also adapts the machine for labeling bottles and articles of square or other prismatic form, for by adjusting the article support to hold the article below the horizontal plane of the wiper rock-shafts, the wipers will swing in such arcs that their ends will first strike the label on the flat top of the article inwardly from its edges and will sweep laterally outward over the flat top and then down the sides of the article so as to perfectly smooth out the label on the article. If the wipers reciprocated vertically or swung from a center below the level of the article, they would first strike the corners of the article and would be bent up so as only to sweep downwardly on the sides of the article, which would defeat the proper pasting of a label on a flat horizontal surface. With the horizontal wiper rock-shafts parallel with the article, it is also possible to secure a plurality of wipers or brushes thereon for applying a plurality of labels on different parts of the article.

In the construction described, the label carrier, paste-spreading roller and wipers are all pivotally mounted and connected to levers which are actuated by cams. These parts can be made and assembled much cheaper than sliding or reciprocating parts, so that the cost of manufacturing the machine is greatly reduced.

The presser shown for holding the label on the article while the carrier arms are disengaged therefrom and the wipers are in action is constructed as follows, see Figs. 1, 2, 4, 5 and 9: N and N' represent presser arms

mounted to swing freely on one of the wiper rock shafts beside the wiper rod. The arms normally stand at an angle to each other, one in advance and one in rear of the wiper when the latter is at rest. The rear arm preferably has a hub n loose on the wiper rock shaft, and the other arm has a hub loose on said hub n of the rear arm. The arms have guide openings at the outer ends through which slides a presser rod n' curved concentrically with the rock shaft and provided at its end nearest to the article support with a foot n^2 suitably shaped to engage and hold the label on the article. A coil spring n^3 surrounding the presser rod between the arms N N' forces the arms apart respectively against the presser foot n^2 and a collar or stop n^4 on the presser rod. The advance presser arm N is located to one side of the path of the wiper so that the latter can pass by it, and it has a lateral extension at its outer end to locate its guide opening opposite that of the rear arm and hold the presser rod about centrally over the wiper so that it will engage the label centrally. A rock arm O fixed to the wiper rock shaft at one end of the hub for the rear presser carries at its outer end a horizontally-sliding latch or pin p arranged to engage the rear or outer side of a projection p' on the hub of the rear presser arm toward which it is pressed by a suitable spring p^2 surrounding the latch pin, see Fig. 7. The end of the latch pin which engages the projection p' is beveled on its rearwardly or outwardly facing side. A spring p^3 connecting a projection p^4 on the hub of the rear presser arm and the table, serves to retract the presser and hold a stop projection p^5 on the hub of the rear arm against a fixed stop p^6 on the adjacent bearing bracket for the wiper shaft or other suitable stationary part of the machine. The latch pin has a head at its other end adapted, when it is rocked toward the article, to enter a wedge-shaped fork Q fixed to the adjacent bearing for the wiper shaft. When the wiper shaft is rocked to carry the wiper inwardly to perform its function, the rock arm O through the latch pin will move the rear presser arm N' also and this, through the spring n^3 , will move the advance presser arm and presser rod until the presser foot engages the label on the article. The advance arm and presser rod will then come to rest but the rear arm will continue its movement, compressing the spring n^3 and holding the presser foot firmly on the label until the wiper has swept past the article. The head of the latch will then enter the wedge fork which will draw the latch pin away from the projection p' and free the rear presser arm which will be retracted by its spring p^3 and will return the presser rod and advance presser until the presser is arrested by the engagement of its stop projection p^5 with the fixed stop p^6 . The presser

is thus moved to engage the label in advance of the wipers and is retracted quickly so as not to interfere with the return movement of the wiper. When the wiper shaft returns, the beveled face of the latch pin will engage the rear arm of the presser and will snap in rear thereof ready for the next advance movement of the presser.

The operation of the machine is as follows:

- 10 Assuming the parts to be in the position shown in Figs. 1 and 3, paste having been applied to the label carrier arms and the latter pressed against the stack of labels, and a bottle or article placed on the article support, the label carrier is then lowered by the means described, thereby pulling a label from the stack and placing it against the upper side of the article. The presser and wipers are moved toward the article, the former engaging the label in advance of the wipers. The carrier continues its downward movement, disengaging the label which is held on the article by the presser, and the wipers sweep down over the label causing it to adhere firmly to the article. The label carrier is held stationary below the article while the paste-spreading roller is advanced to apply the paste thereto and retracted by its described operating mechanism. During this time the presser is retracted as described and the article is removed from the support. The wipers and label carrier then commence their upward movement and before they return, another article is placed on the support to receive the next label. The machine can be operated intermittently so as to come to rest after each article is labeled, or continuously at such speed as to enable the articles to be placed on and removed from the support.

We claim as our invention:

1. The combination of an article support, a label holder, an oscillating label carrier, means for applying paste thereto, means for holding the label on the article, oscillating wipers pivoted to swing toward and from the article on said support about axes in relatively fixed location at opposite sides of the article support and parallel with the article, substantially as set forth.
2. The combination of an article support, a label holder opposite to the same, a label carrier which oscillates between said label holder and the article, means for applying paste to said label carrier, oscillating wipers pivoted to swing toward and from the article on said support about axes located at opposite sides of said article support, and a device for holding the label on the article which swings about the same axis as one of said wipers, substantially as set forth.
3. The combination of an article support, a label holder opposite to the same, a label carrier which oscillates between said label holder and the article support, means for ap-

plying paste to said label carrier, oscillating wipers pivoted to swing toward and from the article on said support about axes located at opposite sides of said article support, a presser for holding the label on the article which swings in the same direction as one of said wipers, and means for operating said presser to engage the label in advance of said wipers and return in advance of the return of said wipers, substantially as set forth.

4. The combination of an article support which is adjustable vertically, a label holder, an oscillating label carrier, means for applying paste thereto, means for holding the label on the article, oscillating wipers pivoted to swing toward and from the article about relatively fixed axes located at opposite sides of the article support, said wipers being adjustable toward and from their axes, substantially as set forth.

5. The combination of an article support which is adjustable horizontally and vertically, a label holder, an oscillating label carrier, means for applying paste thereto, and means for holding the label on the article, of rock shafts journaled at opposite sides of said article support parallel with the plane of movement of said label carrier, wipers secured to said rock shafts and adjustable lengthwise thereof, said wipers being also adjustable toward and from said rock shafts, substantially as set forth.

6. The combination of an article support, a label holder opposite to the same, a label carrier which oscillates between said label holder and the article on said support in substantially the longitudinal plane of the article and has spaced arms constructed to spread apart in a direction crosswise of the article, means for spreading said arms, means for applying paste to said arms, and means for applying the labels to the article, substantially as set forth.

7. The combination of an article support, a label holder opposite to the same, a label carrier which oscillates between said label holder and the article and has spaced arms with pivoted sections, a wedge plate for engaging and spreading said pivoted arm sections apart, means for applying paste to said arms, and means for applying the labels to the article, substantially as set forth.

8. The combination of an article support, a label holder, means for carrying the label from the holder to the article, a pivoted wiper, a presser, and mechanism for swinging said presser with said wiper to engage the label and returning the presser in advance of the wiper, substantially as set forth.

9. The combination of an article support, a label holder, means for carrying the label from the holder to the article, a movable wiper, a presser having a yielding presser foot, a releasable latch device movable with said wiper and arranged to engage said

presser to move it with said wiper, means for operating said latch device to free the presser, and means for retracting the presser in advance of said wiper, substantially as set forth.

5 10. The combination with the label-carrying and applying devices, of a label holder comprising a base plate, headed pins adjustable toward and from each other on said base plate, a follower having slots through which
10 said pins pass, said slots allowing the adjustment of said pins on the base plate, and one

or more springs for pressing said follower toward the headed ends of said pins for gripping the labels between the follower and said pin heads.

• Witness our hands, this 29th day of December, 1906. 15

FREDERICK H. HOUSE.
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Witnesses:

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