

(No Model.)

2 Sheets—Sheet 1.

S. L. SALOMON.
LABELING MACHINE.

No. 435,615.

Patented Sept. 2, 1890.

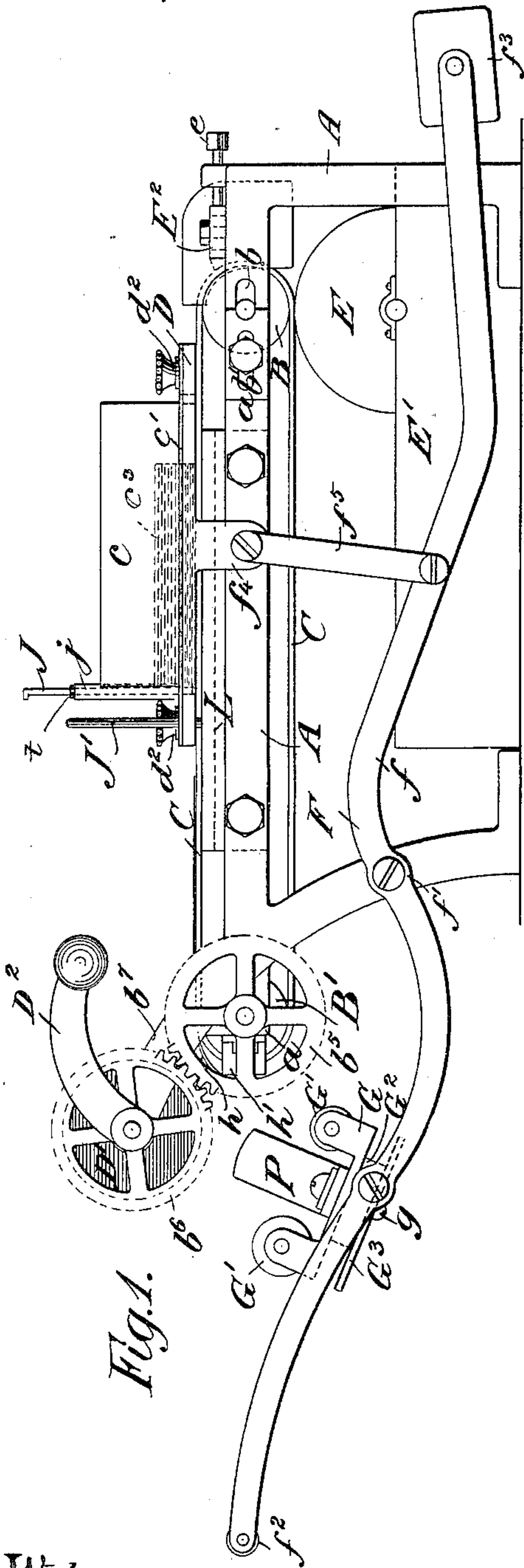


Fig. 1.

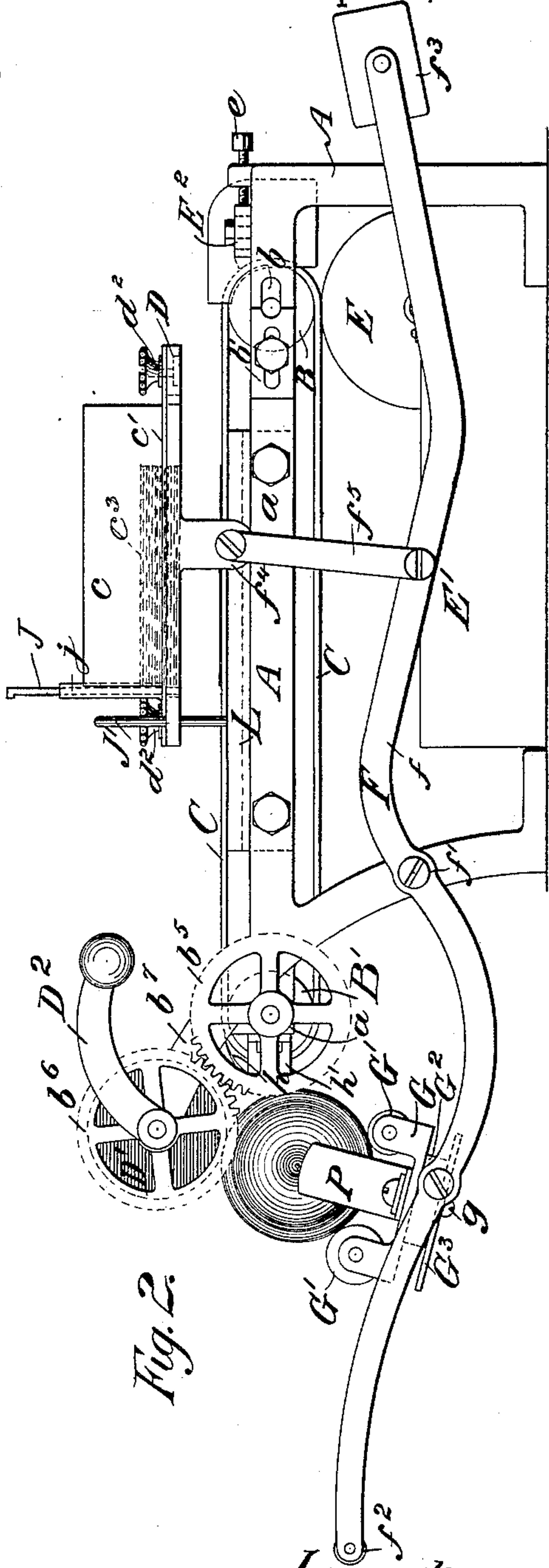


Fig. 2.

Witnesses:-
W. H. Haywood
O. Sundgren

Inventor:-
Sigmund P. Salomon
by his Attorneys
Brown & Griswold

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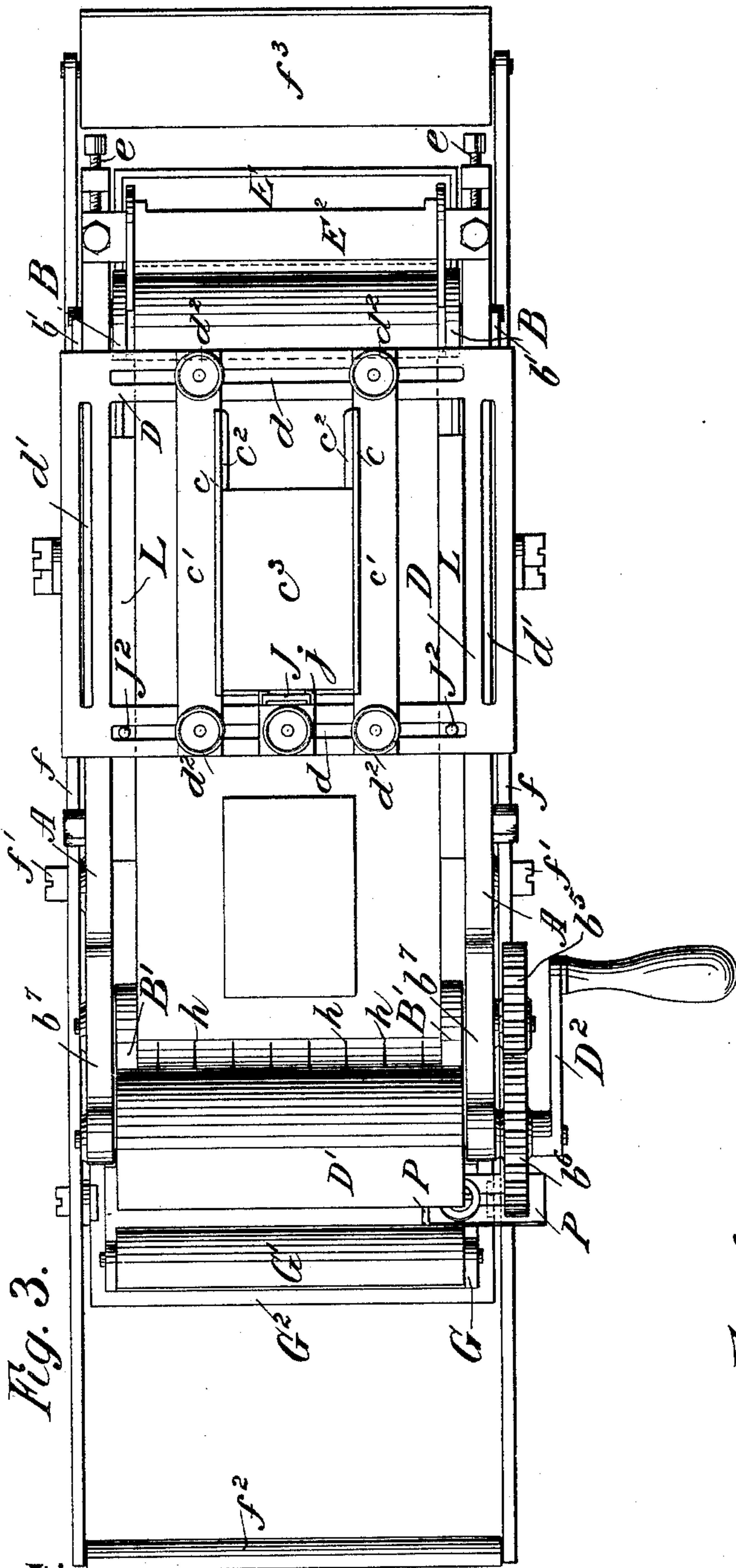


Fig. 3.

Witnesses:-
D. H. Haywood
O. Sundgren

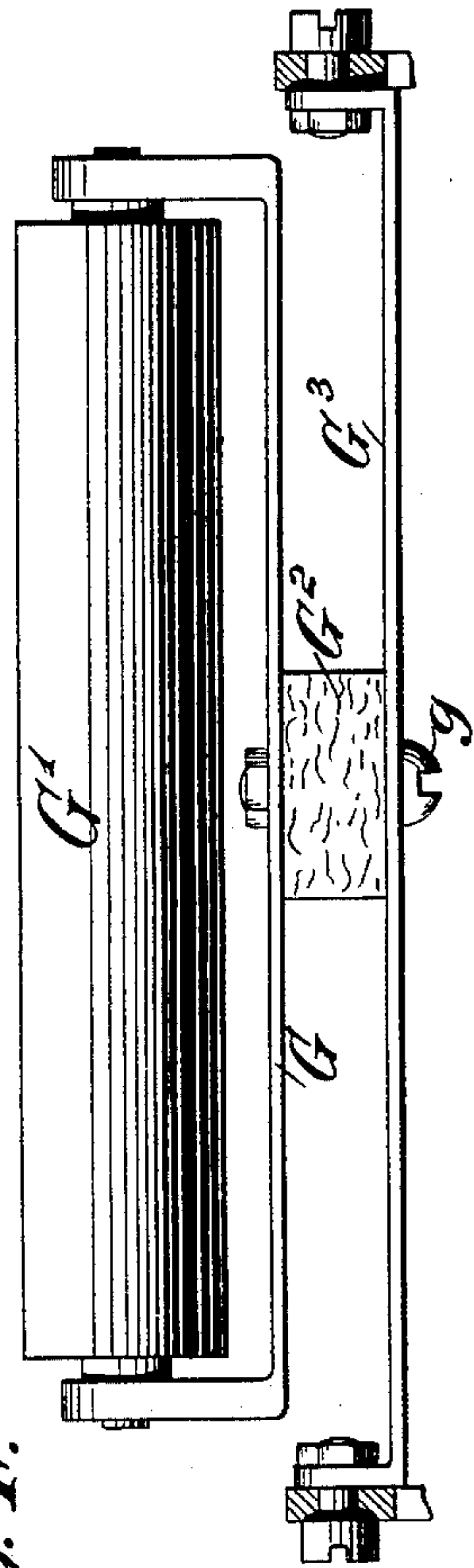


Fig. 4.

Inventor:-
Siegismund L. Salomon
by his Attorneys
Brown & Griswold

UNITED STATES PATENT OFFICE.

SIEGMUND L. SALOMON, OF NEW YORK, N. Y.

LABELING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 435,615, dated September 2, 1890.

Application filed June 29, 1889. Serial No. 316,048. (No model.)

To all whom it may concern:

Be it known that I, SIEGMUND L. SALOMON, of New York, in the county of New York and State of New York, have invented a certain new and useful Improvement in Labeling-Machines, of which the following is a specification.

My improvement relates to machines for automatically affixing labels to bottles and other cylindrical receptacles.

I will describe in detail a labeling-machine embodying my improvement, and then point out the novel features in claims.

In the accompanying drawings, Figure 1 is a side elevation of a labeling-machine embodying my improvement. Fig. 2 is a similar view, certain of the parts being shown in a different position from that in which they occupy in Fig. 1. Fig. 3 is a plan or top view of the same. Fig. 4 is a detail view, on an enlarged scale, of a certain support for a bottle which is employed.

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

A designates the frame of the machine. B B' designate rollers journaled in said frame.

C designates an endless traveling apron which passes about the rollers B B'. This apron may be made of india-rubber or other suitable material. I have shown the roller B as journaled in slots *b*, extending longitudinally of portions *a* of the frame, and adjustable pieces *b'* upon the sides of the portions *a* of the frame, which adjustable pieces bear at one of their ends against the journals of the roller B. By moving these adjustable pieces as desired the roller B may be adjusted so as to tighten or slacken the traveling apron C. I have shown the apron C arranged horizontally. Above said apron is a receptacle for said labels. This receptacle comprises vertically-extending sides *c*, which sides are mounted upon or form parts of cross-bars *c'*. The portions *c* near their lower edges are provided with inwardly-extending projections *c²*, here shown as flanges, extending throughout the length of the portions *c*. Upon these projections and between the portions *c* is to be placed a pile of labels *c³*. It will be observed that this receptacle has an open bottom. The ends of the portions *c'* of the receptacle are adjustably secured to the frame

D, said frame, as here shown, being rectangular and substantially square. It is provided near its side edges with longitudinally-extending slots *d d'*. The slots *d* extend widthwise of the machine and the slots *d'* lengthwise thereto, the slots *d* being substantially at right angles to the slots *d'*.

Clamping-screws *d²*, which engage the ends of the portions *c'* of the receptacle and extend through the slots *d* or *d'*, as the case may be, operate to secure the receptacle in position on the frame. The two portions of the receptacle may thus be adjusted toward and from each other to accommodate labels of different widths and lengths. When the labels have their greatest extension in the direction of the width of the machine, the receptacle will preferably be arranged at right angles to the position shown in the drawings, or so that it will be engaged with the slots *d'*.

Movement is imparted to the traveling apron C in this instance by the rotation of the roller B'. Said roller has mounted upon one of its journals a gear-wheel *b⁵*, which gear-wheel meshes with another gear-wheel *b⁶*, which gear-wheel is mounted upon one of the journals of a roller D', which roller is journaled in fixed bearings in arms *b⁷* upon the main frame. Rotary motion is imparted to the gear-wheel *b⁶* by a crank D². When the crank D² is rotated, rotary motion will be imparted to the roller D', and the traveling apron will also be moved along.

Paste is distributed upon the outer surface of the traveling apron C. I have shown a convenient means for distributing paste upon said apron, consisting of a roller E, rotated in a paste-box E' beneath said apron. The roller E contacts with the apron.

Upon the frame A is mounted a scraper E², made adjustable by means of screws *e* toward and from the apron, and by which superfluous paste deposited upon the apron by the roller E may be removed. The apron in its travel passes beneath the label-receptacle, and as the bottom of said receptacle is open when said receptacle is down, or in the position shown in Fig. 1, the lowest label of the pile in the receptacle will contact with the apron and will be moved along by the latter from beneath the pile of labels. In Fig. 3 I have

shown a label upon the apron after it has thus been removed from the pile.

F designates a swinging arm or lever. This lever comprises two portions f , (shown more clearly in Fig. 3,) one extending upon each side of the machine in the direction of the length thereof. These portions f are fulcrumed upon the main frame A at points f' , which are opposite each other. Near one of their ends said portions f are joined together by a cross-bar f^2 , and I have shown them as joined together near their other ends by a weight f^3 . Upon the receptacle D are downwardly-extending lips or lugs f^4 outside the main frame A. Links f^5 connect said lips or lugs with the portions f of the rocking arm or lever F. If pressure be applied to the arm F near the end thereof having the cross-bar f^2 , so as to rock said end portion outwardly, the frame D and the label-receptacle will be raised up or moved away from the apron C. When such pressure is removed, the weight f^3 , if such be used, or otherwise the weight of the frame D and the receptacle, will operate to rock such arm into the other direction and bring the frame and receptacle back into the position shown in Fig. 1. I have shown the frame and receptacle as moved away from the apron in Fig. 2.

I employ a support for the bottle or other cylindrical receptacle, which support is in turn supported by the rocking arm F. This bottle-support comprises a frame G, in which frame are mounted two rollers G' . These rollers are "idler-rollers." The frame G about midway its length is supported upon an elastic cushion G^2 , preferably of india-rubber, which cushion is arranged between the frame G and a cross-bar or stretcher G^3 , which cross-bar or stretcher is secured near its ends to the portions f of the rocking arm F. A bolt g passes about centrally through the cushion G^2 , and also through the frame G, and cross-bar G^3 secures the parts together. It will be readily seen that the frame G and the rollers G' mounted therein may by means of its support upon the elastic cushion yield in any desired direction. Bottles or other cylindrical receptacles to be labeled are placed upon the rollers G' , the arm F having first been rocked to admit of the insertion of the bottle or other receptacle. When the pressure exerted to rock the arm is removed, the said arm will be rocked in the other direction, and the bottle or other receptacle will be swung up so that it contacts with the roller D' , and is therefore gripped between said roller and the rollers G' . Owing to the ability of the rollers G' to yield in various directions, a surface substantially parallel with the surface of the roller D' will be presented to the said roller, irrespective of inequalities which may exist in the surface of the bottle or other receptacle. If, now, the crank D^2 be rotated, the label adhering to the apron will be moved along with the apron until it reaches a take-off device consisting, as here shown, of a number

of curved fingers h , the ends of which are in contact with the apron. These fingers are mounted upon a support h' , extending widthwise of the machine and secured to the portions a of the frame. When the label reaches the fingers h , the latter pass between it and the apron, and a continued movement of the apron moves the label along over said fingers until the label is gripped between the roller D' and the bottle or other receptacle. It is of course understood that during this operation not only is the roller D' rotating, but rotation is also being imparted to the bottle by its frictional contact with said roller. The label, therefore, is carried along between the roller D' and the rotating bottle and is caused to adhere to the bottle, being compressed thereon by the roller D' . After the label has been pasted upon the bottle the portion of the arm upon which the bottle is arranged is rocked downwardly, the bottle removed and a new bottle inserted. During this motion also the label-receptacle has been moved upwardly, leaving the lower label adhering to the apron. The distance between the label-receptacle and the roller D' is such that after the operation has been started there will always be a fresh label in position to be taken off from the apron when each new bottle is inserted, while the diameter of the gear-wheels b^5 b^6 is such that a single rotation of the crank D^2 serves to place the label on the bottle and to move the apron a sufficient distance to bring a fresh label into position for removal.

J designates a gage, which gage extends vertically, and is loosely guided in a guide j upon the frame D. Surrounding this gage near its upper end is an adjustable stop t , which stop in this case consists of a band of india-rubber. During the up and down movements of the frame D this gage will be moved vertically, and when brought downwardly by the movement of said frame it will extend at the end of the pile of labels which is nearer the roller D' , and operates to prevent the removal of more than one of the labels from the bottom of the pile at a time. It does not extend quite into contact with the traveling apron; but there is space enough between it and the apron to admit of the passage of the label. I have shown also upwardly-extending guide-rods J' , mounted on the portions a of the frame, which guide-rods in this instance extend through one of the slots d of the frame D. They operate to guide the said frame in its up and down movements and to always return it to the same position.

Beneath the label-receptacle is arranged a rigid bed L. This bed may be made of wood, and is secured at its sides to the portions a of the frame. The apron C travels between this bed and the label-receptacle, and said apron will by preference be in contact with the bed. Said bed affords a support for the pile of labels when brought down upon the apron and insures a level surface upon which the lower label will rest.

Upon the cross-bar G³, I have shown an adjustable stop P, against which the end of the bottle or other receptacle is placed when about to be labeled. By adjusting this stop provision is afforded for the accommodation of bottles or receptacles of different lengths.

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

1. In a bottle-labeling machine, the combination, with an endless traveling apron to which paste is applied, of a receptacle for labels having an open bottom, a rocking arm operating to move said receptacle toward and from said apron to successively deposit labels on said apron, idler-rollers moved by said arm, and a fixed roller between which and the roll-

ers first named a bottle to be labeled is gripped and which when rotated will cause the rotation of the bottle to receive a label from the traveling apron, substantially as specified.

2. In a bottle-labeling machine, the combination, with a fixed rotary roller, of a yielding support for a bottle, comprising rollers between which and said fixed roller the bottle is gripped and rotated, and a swinging arm upon which said yielding support is mounted, substantially as specified.

SIEGMUND L. SALOMON.

Witnesses:

JOS. H. DEERY,
FREDK. HAYNES.