(No Model.) 3 Sheets—Sheet 1.

F. X. SPITZNAGEL.

LABELING MACHINE.

No. 350,899. Patented Oct. 12, 1886.

Fig. 1.

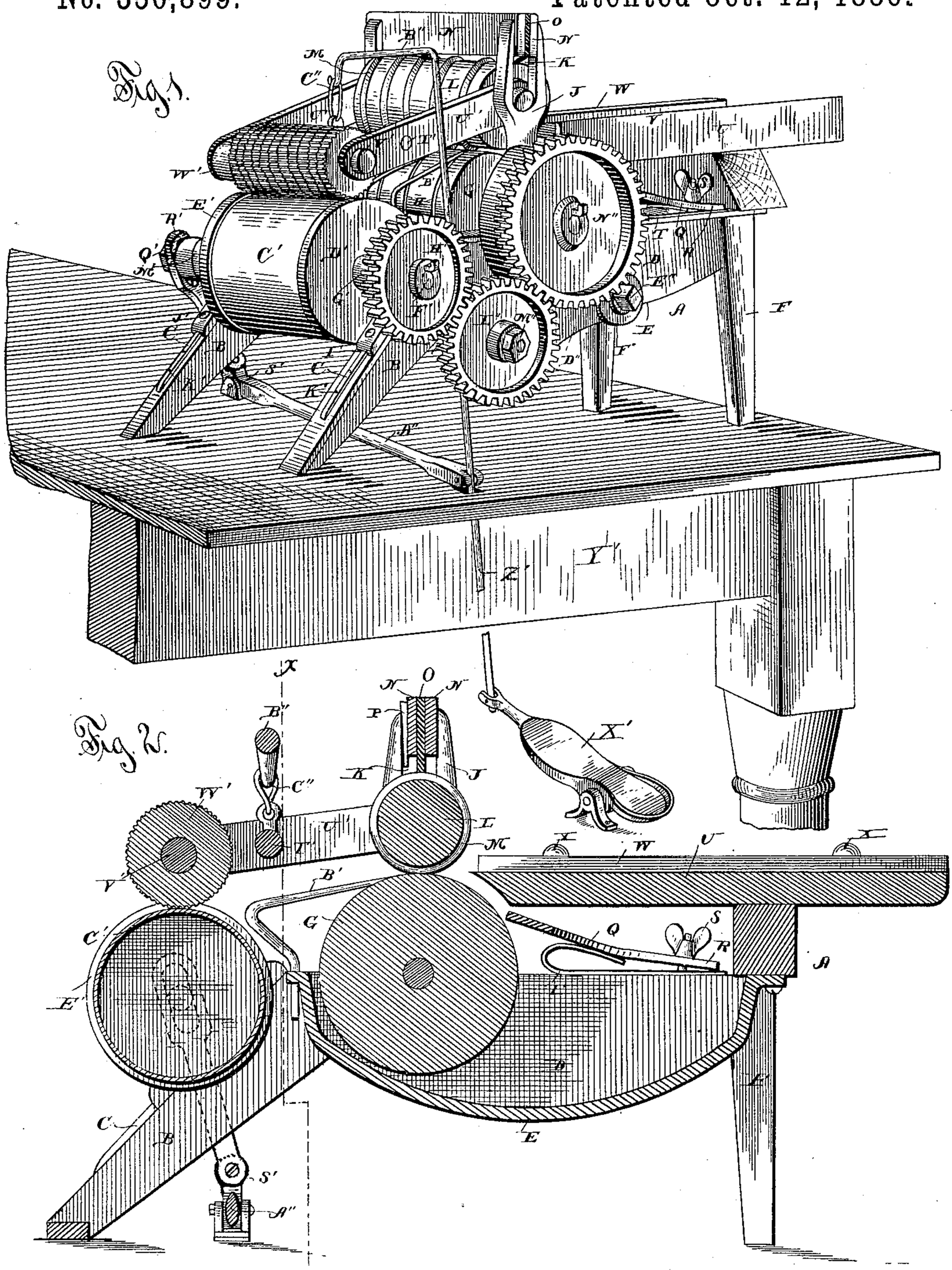

Fig. 2.

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Fig. 3.

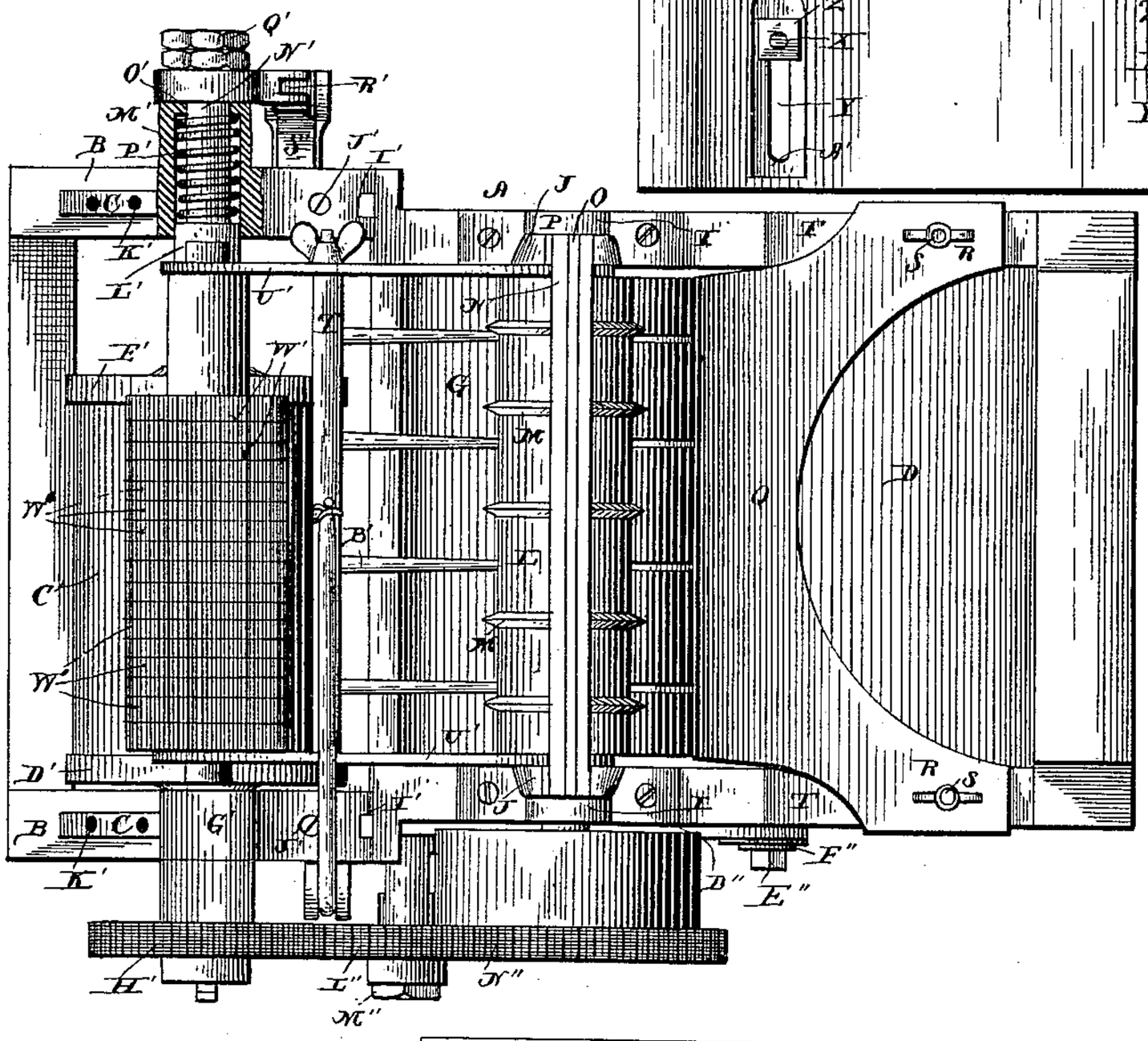


Fig. 3*.

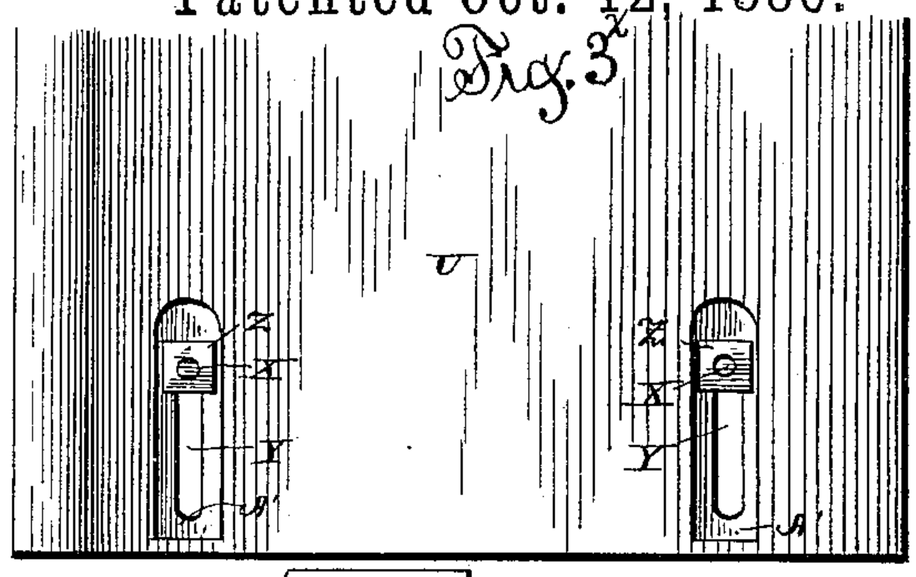
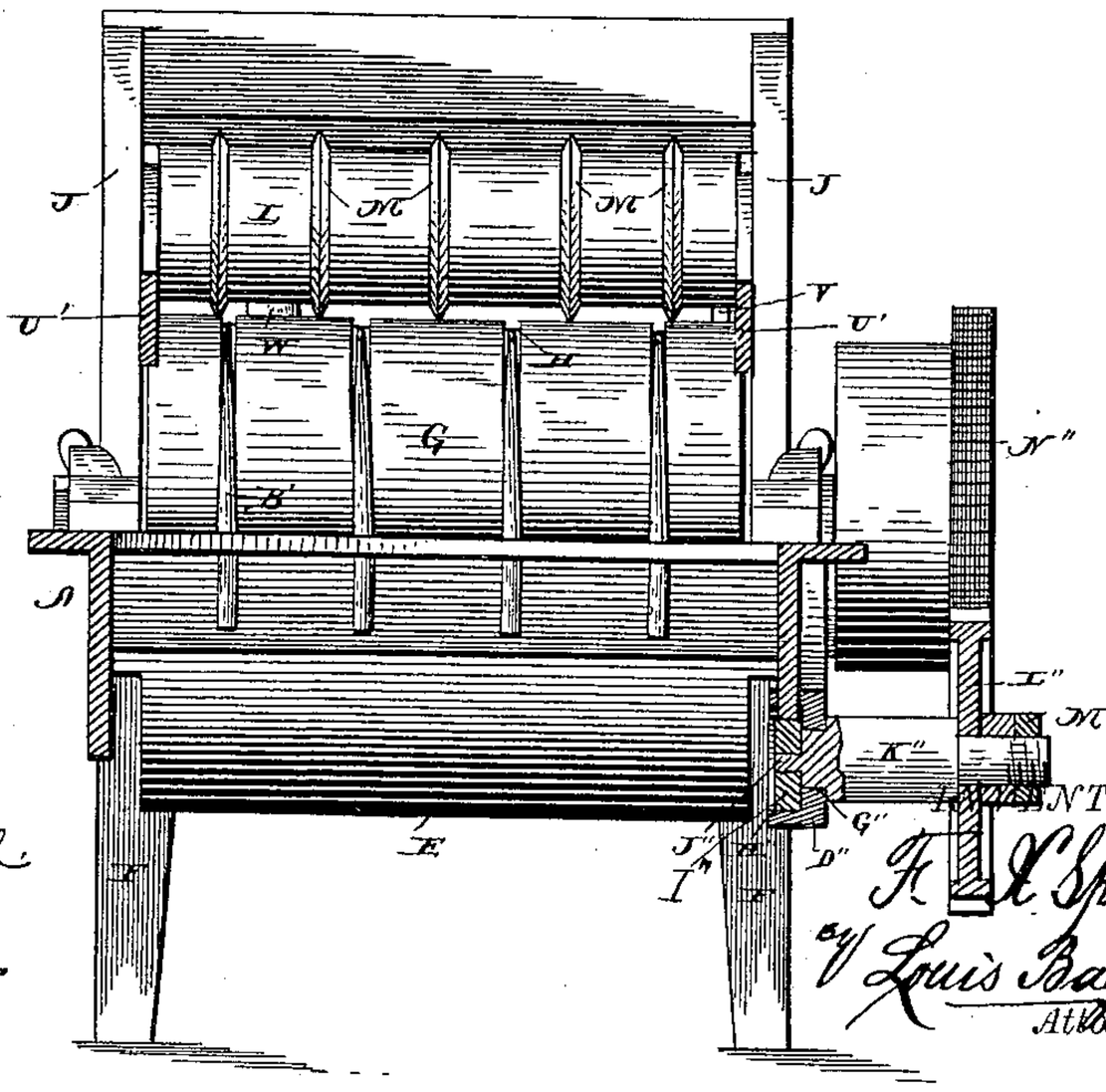


Fig. 4.



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F. X. SPITZNAGEL.

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Fig. 5.

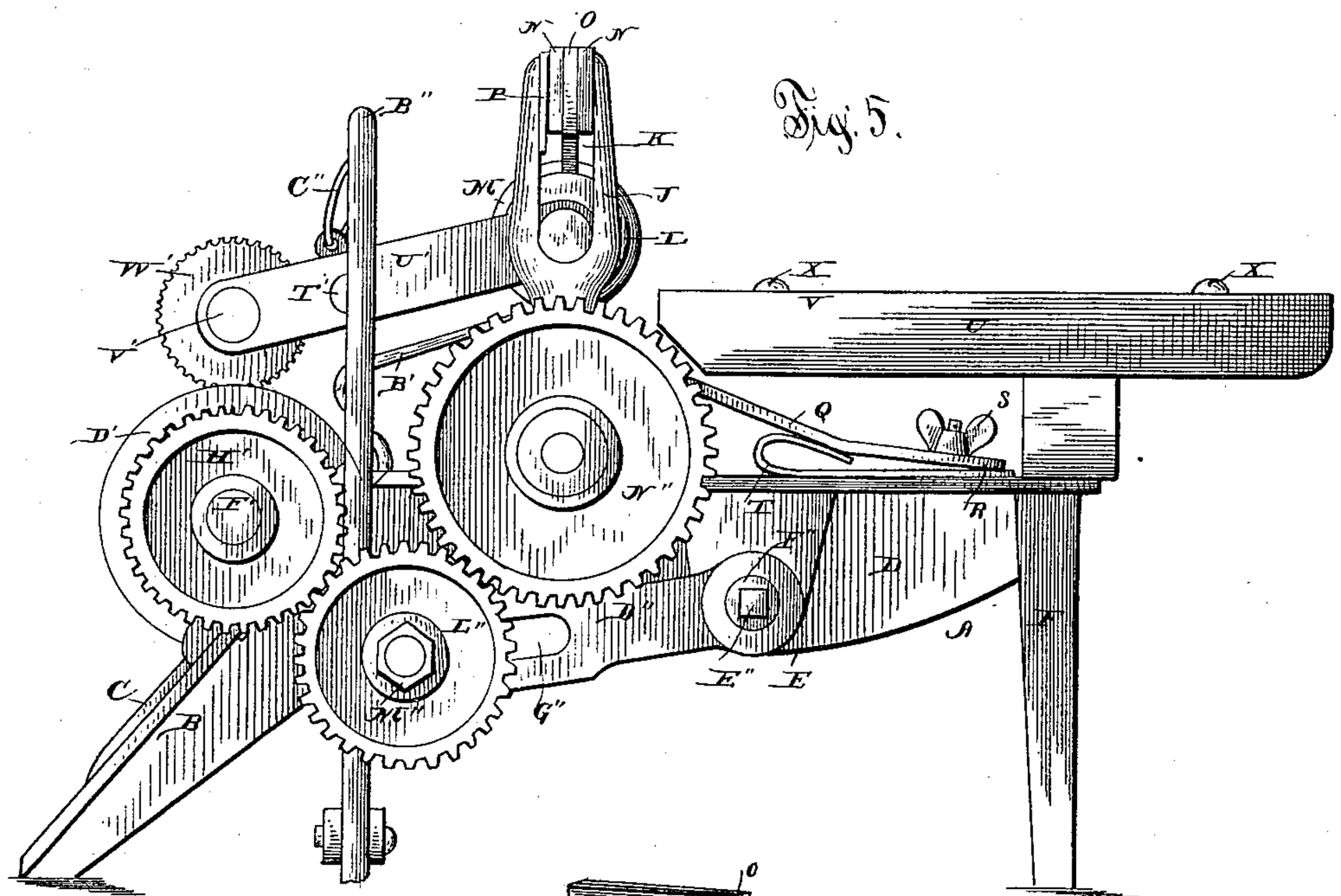
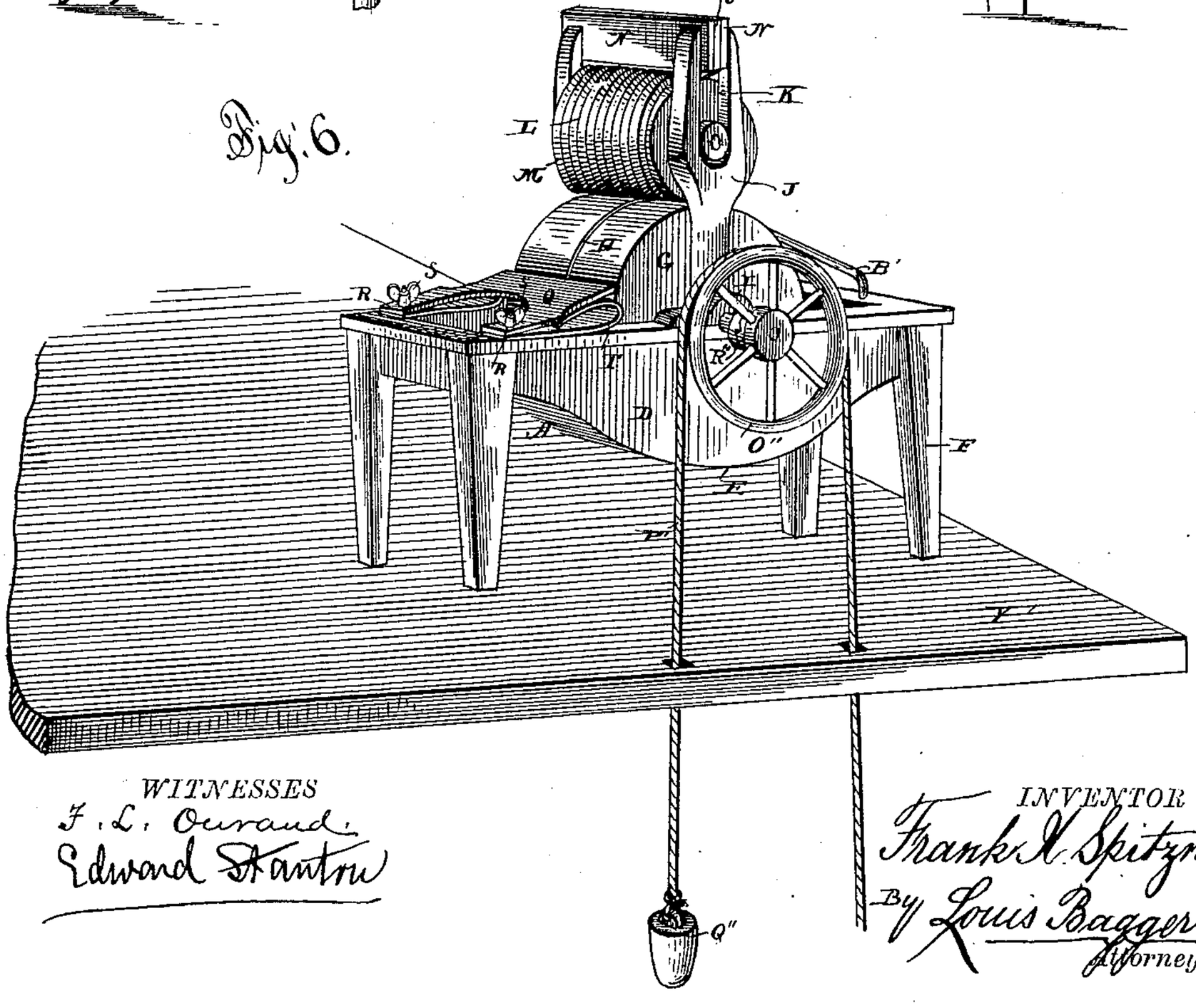


Fig. 6.



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UNITED STATES PATENT OFFICE.

FRANK XAVER SPITZNAGEL, OF BUFFALO, NEW YORK.

LABELING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 350,899, dated October 12, 1886.

Application filed April 6, 1886. Serial No. 197,974. (No model.)

To all whom it may concern:

Be it known that I, FRANK XAVER SPITZNAGEL, a citizen of the United States, and a resident of Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Labeling-Machines; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a perspective view of my improved machine for pasting labels upon cans or similar round objects. Fig. 2 is a longitudinal vertical sectional view of the same. Fig. 3 is a top view of the machine with the feed-board removed. Fig. 3^x shows the under side of one end of the feed-board. Fig. 4 is a vertical transverse section on line *x x*, Fig. 2. Fig. 5 is a side view of the machine; and Fig. 6 is a perspective view of a modification of the machine adapted only for pasting labels.

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

My invention has relation to machines for pasting labels upon cans, bottles, or similar cylindrical objects; and it consists in the improved construction and combination of parts of a machine which will paste the label, and thereupon place the pasted label upon the can, pressing it firmly against the same, and thus securing it upon it, as hereinafter more fully described and claimed.

In the accompanying drawings, the letter A indicates the frame, which is formed at its forward end with two inclined legs, B B, having longitudinal ribs C upon their forward faces, and which is supported at its rear portion, which is formed with a paste-receptacle, D, having a rounded bottom, E, upon legs F. A cylinder, G, having a number of grooves, H, in its surface, is journaled in bearings I I in the forward end of the frame, revolving in the paste-receptacle, and the bearings of the cylinder are provided with upwardly-projecting uprights J J, having vertical slots K in their upper ends, in which slots the ends of a roller, L, are journaled, the said roller having peripheral flanges or ribs M, which may bear against the grooved cylinder. The ends of two transverse bars, N N, clamping a flexible strip, O, between them, are clamped in the upper open ends of the slots by means of wedges P or similar means, and the strip bears against the surface of the ribbed roller, scraping any paste which may have been communicated to it off the roller. A U-shaped scraper, Q, has the rear ends of its arms R R secured to the sides of the frame by means of thumb-screws S, and bent springs T bear against the under sides of the arms, forcing them and the central portion of the scraper upward, and the central straight portion of the scraper bears against the grooved cylinder, and serves to remove any superfluous paste which may adhere to the cylinder, which revolves in the paste. A board or table, U, is supported at the rear end of the frame, and has its forward end projecting to near the grooved cylinder at the upper portion of the same, and this table is provided with a flange, V, at one side, while a flange, W, slides with screws X in transverse slots Y near the other edge, the lower ends of the screw fitting in nuts Z sliding in grooves A′, formed at the sides of the slot in the under side of the table. A number of fingers, B′, bear with their rear free ends in the grooves in the grooved cylinders, and secured with their forward downwardly-bent ends in the front end of the frame, and these fingers transfer the label from the grooved pasting-cylinder to the can C′, which is clamped between a flanged disk, D′, and a flanged and spring-cushioned disk, E′. The rigid disk is provided with a trunnion, F′, upon its outer face, which trunnion is journaled in a bearing, G′, and is provided with a pinion, H′, upon its outer end, and the bearing is formed with a longitudinal groove, I′, in its base, which groove fits and slides upon the rib upon the leg of the frame upon which it is secured, and the bearing may be secured adjustably upon the said leg by means of screws J′, fitting in a series of perforations, K′, in the leg, so that the bearing and consequently the disk may be moved upon the leg, bringing the can closer to or farther from the front end of the frame according to the diame-

ter of the can. The trunnion L′ of the other disk fits into a bearing, M′, and has a reduced outer end, N′, which passes through a perforation, O′, in the outer end of the bearing, the said perforation being smaller in diameter than the bearing, and the shoulder formed by the outer portion of the trunnion being reduced bears against a coiled spring, P′, the outer end of which bears against the perforated end of the bearing. The outer portion of the reduced end of the trunnion is screw-threaded, and is provided with nuts Q′, which secure the upper end of an upwardly-bent arm, R′, of an elbow-lever, S′, upon the screw-threaded end of the trunnion outside of the bearing. Two arms, U′ U′, are pivoted at their rear ends upon the trunnions of the ribbed roller, and have a cross-piece, T′, connecting their forward ends, and the said forward ends are connected furthermore by means of a shaft, V′, turning in bearings in the said ends and having a number of corrugated roller-sections, W′, secured removably upon it, the roller thus formed by the corrugated sections bearing against the upper side of the can and serving to press the label upon the same. The corrugations of said roller provide for pressing the label to the can without forcing the paste along ahead of the roller and out upon the surface of said label at the place of lapping; they also greatly lessen the chances of the label's adhering to said roller instead of to the can. A treadle, X′, is pivoted upon the floor or below the table Y′ upon which the machine is supported, and a rod, Z′, is pivoted at its lower end to the end of the treadle and near its upper end to the end of the transverse arm A″ of the elbow-lever, which is pivoted upon the table at its elbow, and has the arm A″ extending transversely under the machine. The upper end, B″, of this rod is bent inward over the swinging arms supporting the corrugated roller, and a link, C″, is pivoted to the inner end of the bent end of the rod and to the middle of the rod connecting the swinging arms, so that by depressing the heel portion of the treadle the rod will be forced upward and the end of the transverse arm of the elbow-lever tilted upward, tilting the upwardly-projecting arm outward, drawing the trunnion and disk outward against the spring, and releasing the can, while the swinging frame for the corrugated roller will be raised, bringing the roller out of contact with the can. An arm, D″, is secured pivotally upon a bolt, E″, projecting laterally from the frame of the machine near the rear end, and is held in its adjusted position by means of a clamping-nut, F″, upon the outer end of the bolt, which nut may hold the arm in any position upon the bolt, and the forward end of this arm has a longitudinal slot, G″, formed with grooves H″ at the sides of the slot upon the inner side of the arm, in which grooves or ways a nut, I″, may slide, having the inner reduced and screw-threaded end, J″, of a stud, K″, fitting into it. A pinion, L″, is journaled upon this stud, being retained upon the same by means of a nut, M″, and meshes with the pinion upon the rigid trunnion of the clamping-disk and with a cog-wheel, N″, upon the trunnion or shaft of the pasting-roller. The bearing for the spring-cushioned clamping-disk is adjustable upon the inclined ribbed leg in the same manner as the bearing for the rigid trunnion, and consequently the bearings may be moved upward or downward upon the legs, according to the diameter of the cans to be labeled, being moved upward for cans of smaller diameter and being moved downward for cans of a larger diameter.

To provide for the adjustment of the spring-cushioned clamping-disk, the upwardly-projecting arm of the elbow-lever is slotted at its upper end and provided near its lower end with a knuckle-joint, (see Figs. 1, 2, and 3,) and for the purpose of allowing the intermediate pinion to mesh with the pinion upon the trunnion and with the pinion or cog-wheel upon the paste-roller the said intermediate pinion may be adjusted with its stud and nut in the slot of the arm, and the arm may be adjusted at an angle which will bring the intermediate pinion between the pinion and the cog-wheel.

In Fig. 6 is shown a modification, in which the clamping apparatus for the can and the corrugated roller are done away with, the device being only for the purpose of pasting labels without fastening them.

The shaft of the paste-roller is provided with a grooved pulley, which is provided with a clutch, R″, which will revolve the shaft in one direction, while it will allow the pulley O″ to revolve freely upon the shaft in the opposite direction, and a cord, P″, passes over the grooved pulley, having a weight, Q″, at one end, and having the other end secured to the toe end of a treadle. It will then be seen that when the toe end of the treadle is depressed the cord will raise the weight and will revolve the pulley and the paste-roller, and when the treadle is released the weight will tighten the cord and revolve the pulley backward without revolving the paste-roller.

The paste-roller in the first-described construction may be revolved by any suitable means, and it will be seen that cans may be placed between the clamping-disks and labels fed from the table upon the paste-roller, when they will be pasted and secured upon the can.

When the machine is used for bottles, the disk having the spring-cushioned trunnion is of a suitable shape which will fit the mouth and neck of a bottle, and the sections of the corrugated roller are removed or placed upon the shaft, according to the width of the label, the roller being made the same length as the width of the label.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. In a machine for pasting labels, the com-

bination of a paste-receptacle formed with bearings upon its edges having uprights formed with longitudinal slots open at the upper ends, a pasting-roller journaled in the bearings, a roller having peripheral ribs upon its face, and having its trunnions journaled and sliding in the slots, and two clamping plates or bars having a flexible scraping-strip between them, and secured with their ends in the open ends of the slots by means of wedges, as and for the purpose shown and set forth.

2. In a machine for pasting labels, the combination of a paste-receptacle having bearings in its sides, a pasting-roller journaled in the bearings and having its lower portion immersed in the paste and formed with peripheral grooves in its face, a scraper having its edge projecting near the edge of the roller and having springs and screws for adjusting it, a feed-table having its end projecting toward the upper portion of the pasting-roller, a roller journaled with its trunnions in movable bearings above the roller and having peripheral ribs upon its face, a scraper secured above this roller, and spring-fingers placed in an inclined position toward the roller, with their ends bearing in the grooves at the upper side of the roller, as and for the purpose shown and set forth.

3. In a machine for pasting labels, the combination, with a peripherally-grooved pasting-roller and spring-fingers bearing with their ends in the grooves of the roller standing in an inclined position toward the roller, of disks for clamping the article to be labeled having their trunnions parallel with the pasting-roller, and a roller journaled in movable bearings above the upper portions of the said disks parallel with the trunnions of the disks, as and for the purpose shown and set forth.

4. In a machine for pasting labels, the combination, with a peripherally-grooved pasting-roller and spring-fingers bearing with their ends in the grooves of the roller and standing in an inclined position toward the roller, of a disk having its trunnion journaled in a bearing at one side of the machine-frame, and having the said trunnion parallel with the pasting-roller, a bearing at the opposite side of the frame and concentric with the bearing for the trunnion of the disk and formed with an outwardly-projecting sleeve having a narrow aperture at its outer end, a disk concentric with the other disk and having a trunnion formed with a reduced outer portion and journaled in the bearing having the reduced portion projecting out through the aperture at the end of the sleeve, a spring interposed between the shoulder of the trunnion and the end of the sleeve, a roller journaled in movable bearings above the disks, and a lever secured to the outer end of the reduced portion of the trunnion and connected to a suitable treadle, as and for the purpose shown and set forth.

5. In a machine for pasting labels, the combination, with a pair of clamping-disks for holding the article to be labeled, of a shaft journaled at its ends in movable bearings, and a number of corrugated roller-sections secured upon the shaft, as and for the purpose shown and set forth.

6. In a machine for pasting labels, the combination of a frame having a paste-receptacle and formed with two forwardly-inclined legs having longitudinal ribs upon their forward faces, a paste-roller journaled in bearings in the sides of the paste-receptacle and formed with a cog-wheel at the end of one of its trunnions, bearings parallel to the bearings of the roller and having their longitudinally-grooved bases secured adjustably upon the ribbed legs by means of screws, disks for clamping the article to be labeled and having their trunnions journaled in the bearings, and having a cog-wheel upon the trunnion at the side at which the pasting-roller has its cog-wheel, an arm secured at its rear end upon a nutted clamping-bolt rocking adjustably upon the same and having a longitudinal slot in its forward end, and a shouldered stud secured adjustably with its inner reduced and screw-threaded nutted end in the slot and provided with a pinion upon its outer end meshing with the cog-wheels, as and for the purpose shown and set forth.

7. In a machine for pasting labels, the combination of a pasting-roller having peripheral grooves, spring-fingers having their ends engaging the grooves in the roller and placed obliquely toward the roller, a disk having an outwardly-projecting trunnion journaled in a bearing parallel to the pasting-roller, a disk opposite the other disk and concentric with the same and having its trunnion formed with an outer reduced portion bearing with its shoulder against a spring in its bearing and having the reduced end projecting outside of the bearing, a pair of arms pivoted at their rear ends above the bearings of the pasting-roller and having a rod connecting their outer portions, a roller journaled with its trunnions in bearings in the outer ends of the arms, an elbow-lever pivoted at its elbow under the shouldered trunnion and having its upwardly-projecting arm secured with its upper end to the outer end of the shouldered trunnion and having its horizontal arm projecting transversely under the machine, a rod having the end of the horizontal arm pivoted to it and having its upper end bent inward and connected to the cross-rod connecting the pivoted roller-bearing arms, and a treadle having its end pivoted to the lower end of the rod, as and for the purpose shown and set forth.

8. In a machine for pasting labels, the combination of a frame having a pasting-roller journaled in it, and having spring-fingers for conveying the labels forward from the roller and formed with forwardly-inclined legs having longitudinal ribs upon the forward sides, and a series of screw-threaded perforations each, bearings having their bases longitudinally

grooved and having screws fitting in the screw-threaded perforations, and disks for holding the articles to be labeled, having outwardly-projecting trunnions journaled in the bearings parallel to the trunnions of the pasting-roller, as and for the purpose shown and set forth.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

FRANK XAVER SPITZNAGEL.

Witnesses:
ERNEST HODDICK,
ALFRED ROBERT GEORGES.