

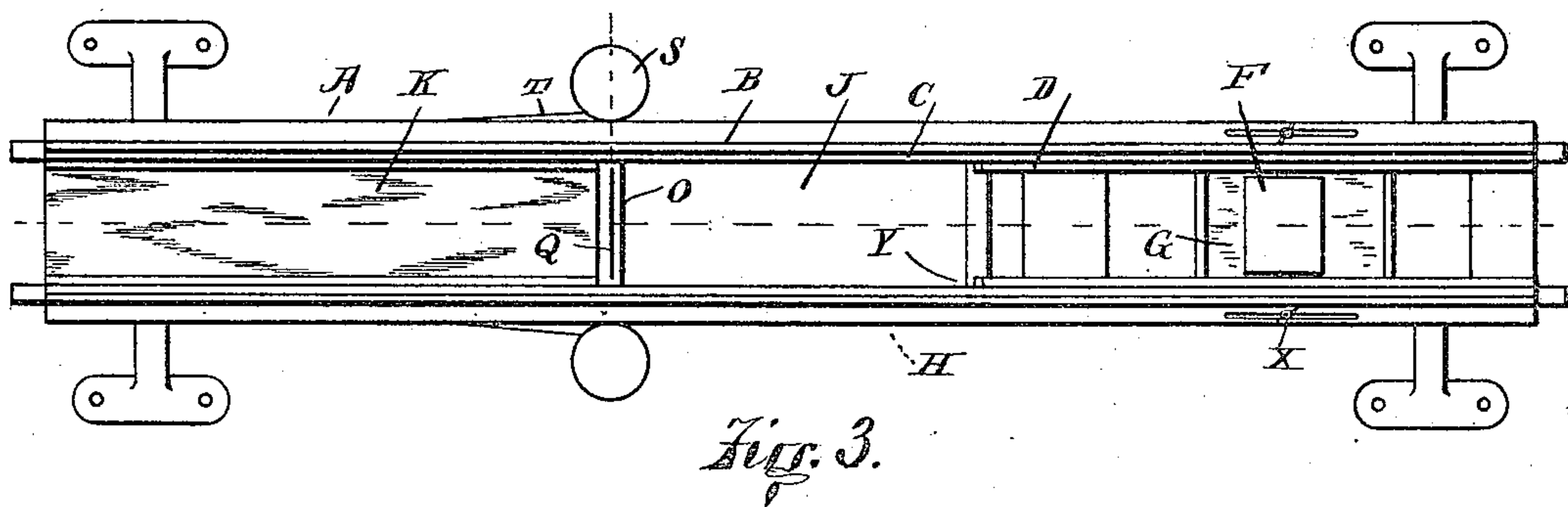
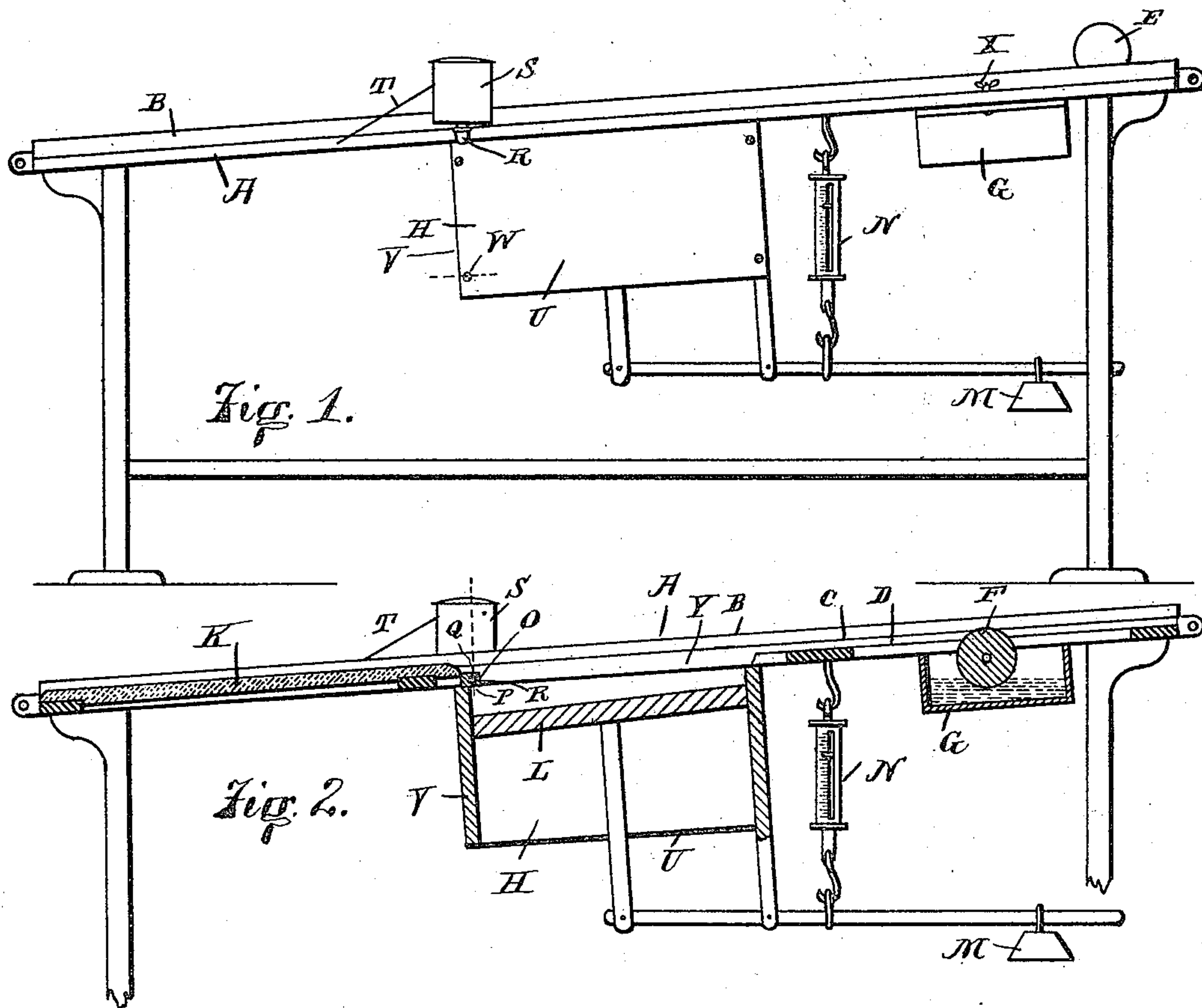
(No Model.)

2 Sheets—Sheet 1.

J. M. VAN METER.
CAN LABELING MACHINE.

No. 441,341.

Patented Nov. 25, 1890.



James M. Van Meter

Witnesses:

A. C. Rogers.
R. R. Ritar

Inventor

by James M. See

Attorney

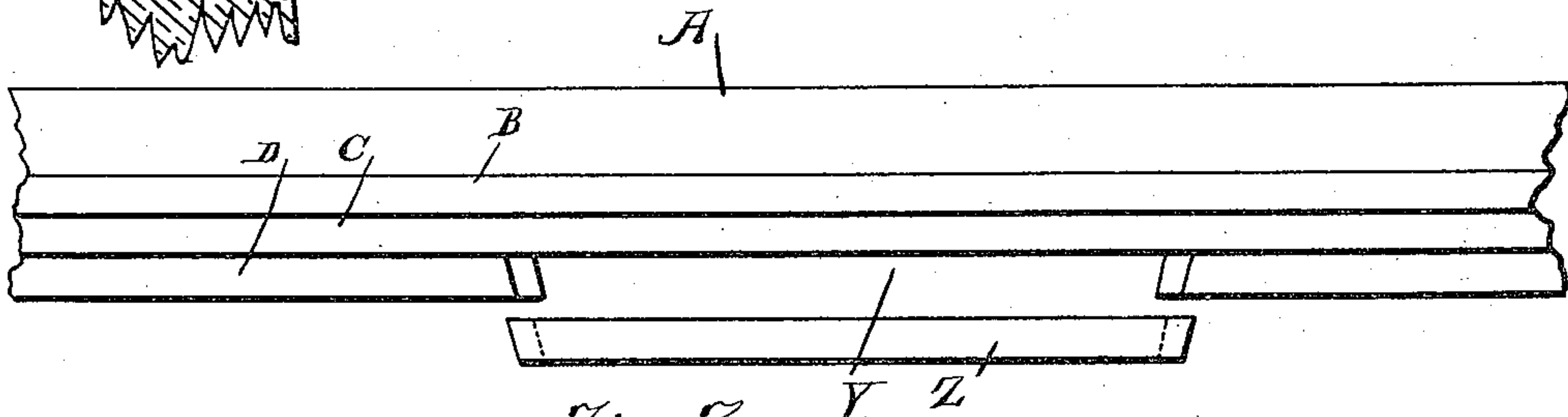
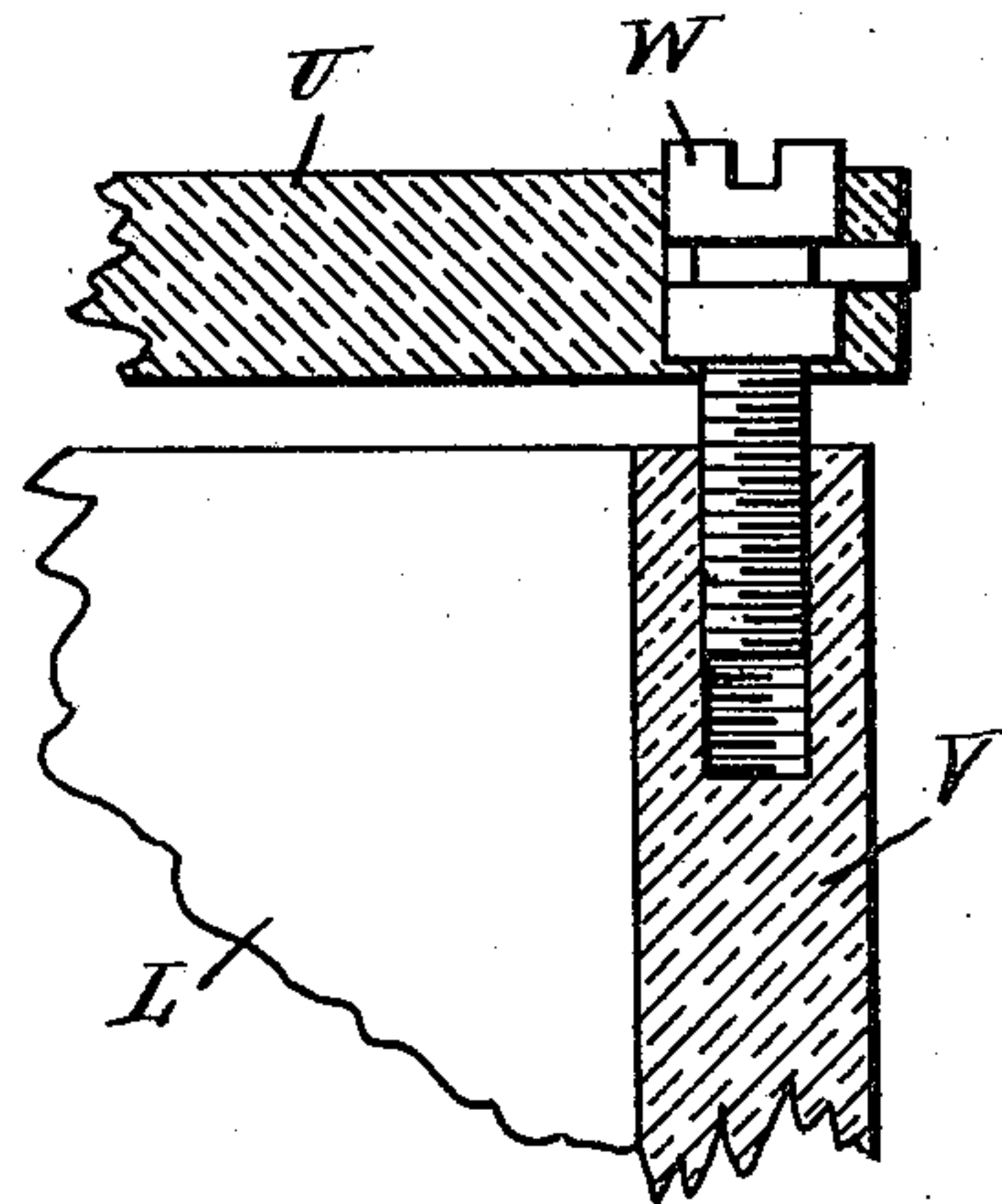
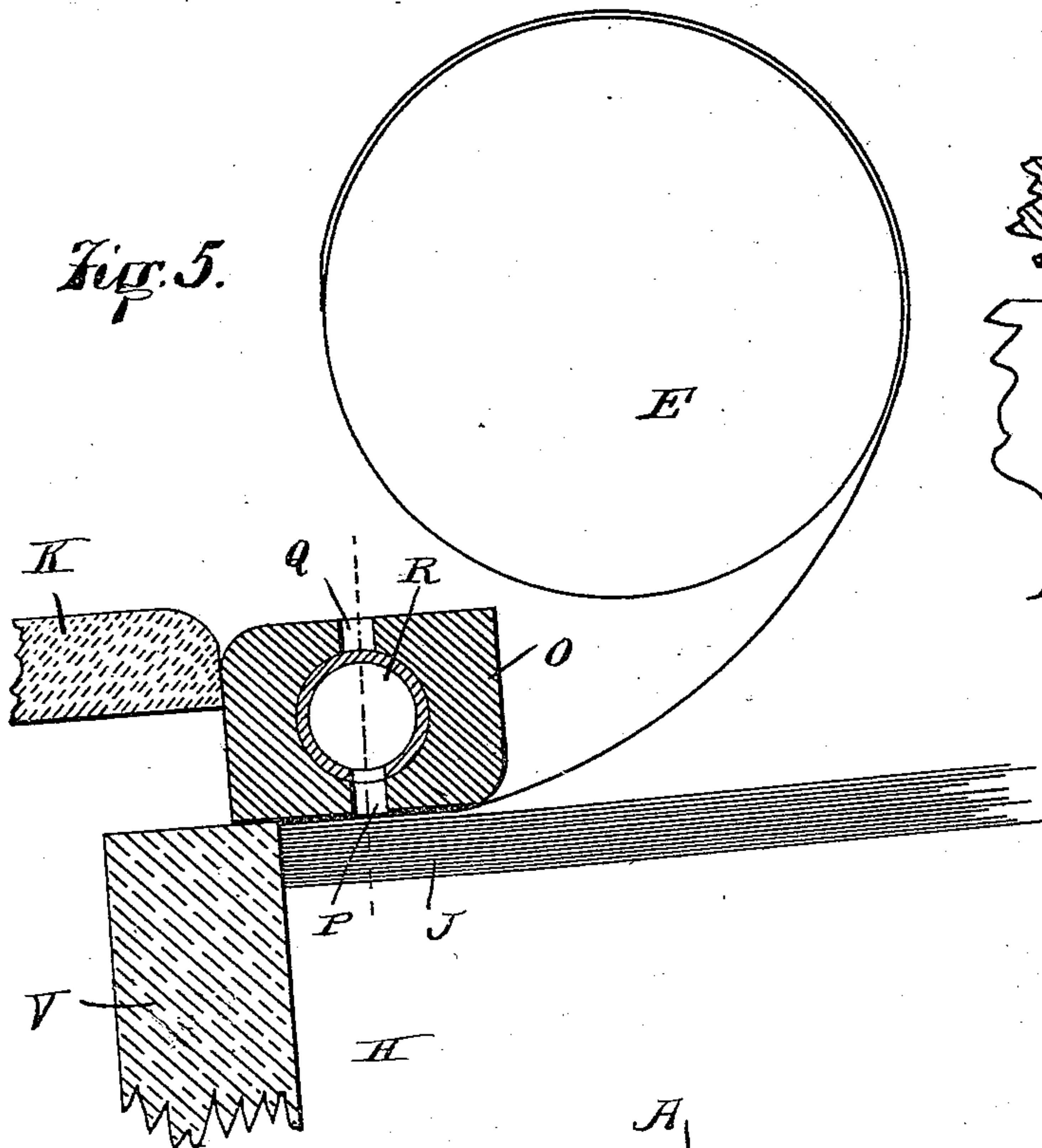
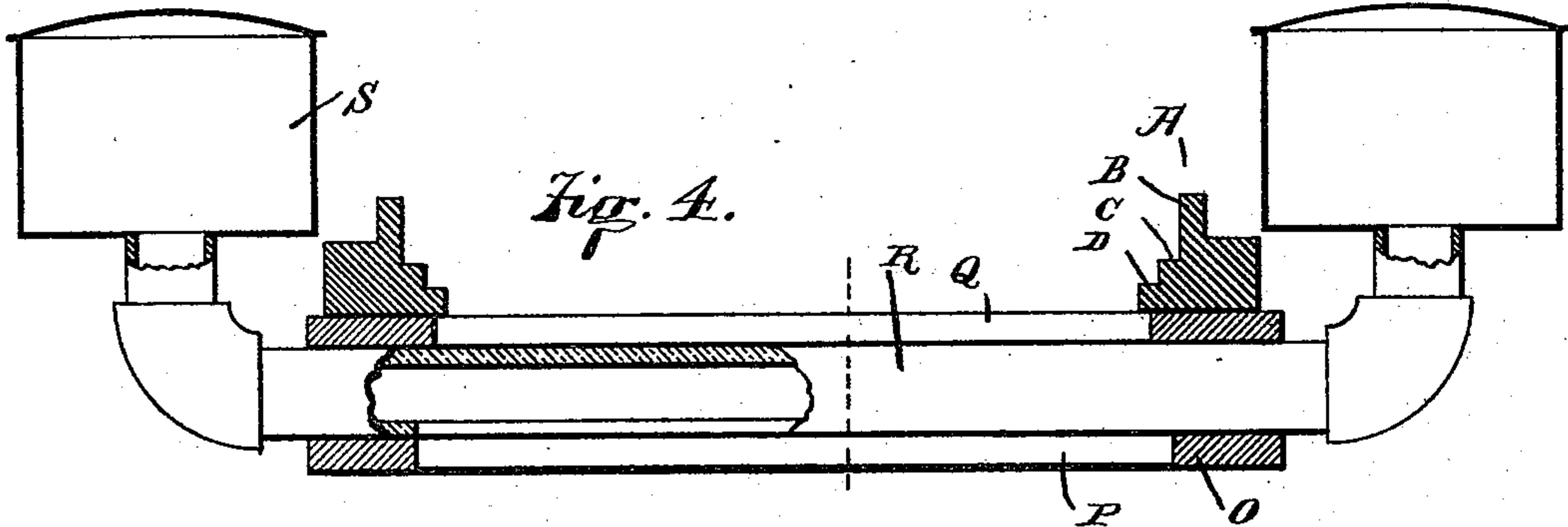
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2 Sheets—Sheet 2.

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A. C. Rogers.
L. Ribar

Fig. 7.

James M. Van Meter Inventor
by *James W. See* Attorney

UNITED STATES PATENT OFFICE.

JAMES M. VAN METER, OF CAMBRIDGE CITY, INDIANA, ASSIGNOR OF ONE-HALF TO WM. I. LANGFORD, OF SAME PLACE.

CAN-LABELING MACHINE.

SPECIFICATION forming part of Letters Patent No. 441,341, dated November 25, 1890.

Application filed May 19, 1890. Serial No. 352,368. (No model.)

To all whom it may concern:

Be it known that I, JAMES M. VAN METER, of Cambridge City, Wayne county, Indiana, have invented certain new and useful Improvements in Can-Labeling Machines, of which the following is a specification.

This invention pertains to that class of machines designed for applying circumferential labels to cylindrical articles, such as fruit-cans and the like.

My improvements will be readily understood from the following description, taken in connection with the accompanying drawings, in which—

Figure 1 is a side elevation of a labeling-machine exemplifying my improvements; Fig. 2, a vertical longitudinal section of the same; Fig. 3, a plan of the same; Fig. 4, a transverse section of the same in the plane of the axis of the paste-valve; Fig. 5, a vertical longitudinal section of that immediate portion of the machine contiguous to the paste-valve, this view showing a can E in the act of rolling over the paste-valve; Fig. 6, a horizontal section through one corner of the label-box, showing the arrangement for adjusting the sides of the box; and Fig. 7, a plan of one of the guide-rails at that portion just over the label-box. Figs. 4, 5, 6, and 7 are upon an enlarged scale.

It is preferable in extensive labeling operations to have a special machine adapted for each different size of can, and this plan may be followed with my machine; but I have also designed the machine to adapt it to different sizes of cans, and it is in this form that I illustrate the machine; and in order that this feature may be more readily referred to I will have occasion to speak of two-pound cans and three-pound cans, and it is to be understood that three-pound cans are somewhat longer and larger in diameter than two-pound cans.

In the drawings, A indicates an inclined guideway down which the cans are to roll, this guideway taking the form of a frame supported on legs at a convenient height; B, two upwardly-projecting ledges along this guideway, the distance between these ledges being such as to neatly but freely fit endwise

upon a can—say a three-pound can; C, the track on which the three-pound can rolls, the same being formed by a narrow ledge projecting inwardly from each of the ledges B; D, a second track, on which the two-pound cans are to roll, this track being formed by narrow ledges projecting inwardly from but lower than the track C, as clearly seen in Fig. 4; E, a can in the act of rolling down the track from the head of the machine, which is the highest toward the foot; F, a roller disposed across and under the track near the head of the machine, the periphery of this roller projecting a trifle above the track, the surface of the roller being formed, preferably, of some soft material, as felt; G, a paste-reservoir disposed below the paste-roller F, and furnishing the bearings for this roller, which is free to revolve in its bearings, this paste-reservoir being secured to the frame, so that the roller may be adjusted a short distance farther up and down the track; H, a label-box secured below the track at a point farther down than the paste-roller, this box being open at its top and having horizontal dimensions adapted to receive the labels to be dealt with; J in Fig. 5, the pile of labels lying in this box and exposing their backs upwardly at the track; K, a cushion arranged as the floor of the track beyond the label-box, this cushion having its upper surface formed of yielding material, as soft padding or brush material, the surface extending above the tracks sufficiently to insure that the can will bear upon the cushion; L, a vertically-movable label rest disposed within the label-box under the pile of labels and adapted to support the pile, this label-rest being somewhat inclined, so that that end of the labels nearest the head of the machine will be pressed higher with reference to the slope of the track than the other end of the labels; M, a balance-weight arranged to exert an upward pressure on the label-rest, the illustration showing this weight as acting on the label-rest through the medium of a lever, along which the weight can be adjusted, so as to alter the upward pressure which the weight exerts upon the pile of labels; N, a spring

(illustrated as an ordinary spring-scale) attached to the frame and to the weight-lever, so as to offer spring resistance to the descent of the weight; O, a paste-valve consisting of a bar disposed across the track just over the foot end of the label-box in such position that the foot end of the labels will press upwardly against the lower surface of the bar, this bar being provided with a longitudinal cylindrical bore; P, Fig. 5, a longitudinal slot in this bar, leading from the under surface of the bar up into the cylindrical bore therein, the length of this slot being less than that of the bar and equal to very near the width of the labels designed for three-pound cans; Q, a similar slot in the top of the bar, the length of this second slot, however, being a trifle less than the width of labels designed for two-pound cans; R, a pipe extending through the bore of the paste-valve and fitting neatly therein, this pipe having a single longitudinal slot of less length than the length of the bar in which the pipe fits; S, a paste-can mounted upon and communicating with vertical extensions at each end of the pipe R, the position of the slot in the pipe R being such that it will coincide with the slot P in the paste-valve when the paste-cans S are vertical; T, brace-rods pivoted to the frame and hooked into apertures in the cans, these brace-rods serving to hold the paste-cans in vertical position when desired; U, the side pieces of the label-box H, these side pieces being arranged for adjustment to and from each other to suit the different widths of labels; V, the end pieces of the label-box; W, (see Fig. 6,) screws engaging the side pieces and end pieces of the label-box and serving as a means by which the side pieces can be adjusted sidewise, these screws screwing into the end pieces and engaging the side pieces by means of peripheral grooves engaging pins in the side pieces, as clearly seen in Fig. 6; X, screws securing the paste-reservoir G to the frame through the medium of slots, whereby the paste-reservoir and paste-roller may be adjusted along the frame a short distance; Y, a gap in each of the tracks D where the tracks extend over the label-box, and Z, Fig. 7, a patch for filling this gap when it is desired to use the narrow or two-pound track.

A pile of labels is to be placed back up in the label-box and upon the label-rest, the foot end of the labels bearing against the end wall at the foot of the label-box, the position of or presence of the other end wall of the label-box being immaterial. The foot end of the pile of labels will come under the paste-valve O. The paste-cans S, occupying their vertical position, will deliver paste through the slot P to the foot end of the top label; but the upward pressure of the labels will prevent escape of paste. The weight M is adjusted to produce a proper upward pressure of the pile of labels, which pressure will keep the foot of the pile snugly up against the

paste-valve O, and the head end of the upper label will, by reason of the slope of the label-rest, project above the track. When the pile of labels is put in the label-box, the weight M is adjusted to suit that pile; but as the pile of labels lessens by consumption its gravity becomes less, and consequently the weight M would require readjustment. The spring N is intended to compensate for the varying gravity of the pile of labels. As the gravity of the labels lessens, the spring becomes more extended and therefore more powerful in resisting the action of the weight. The weight M therefore acts against two resistances, represented by the gravity of the labels and the tension of the spring, the sum of which two resistances will be practically constant.

A can placed upon the track at the head of the machine will roll down that track. As it passes over the paste-roller F it will receive a lengthwise dab of paste. As the can proceeds along the track it will reach the head end of the top label of the pile of labels, and the dab of paste on the can will pick up the end of this label, and as the can continues rolling the label will become wrapped around the can, as indicated in Fig. 5, the foot end of the label being lightly clamped by the paste-valve; but the rolling can jerks the label free from this clamping, and the end of the label thus pulled loose will have received a streak of paste from the slot in the paste-valve. The can as it rolls on down the track will have the final end of the label pasted neatly down on the end already pasted to the can and the entire label will be pressed smoothly home by the action of the cushion. As the label is withdrawn from under the paste-valve O the paste-valve delivers paste to the next label of the pile.

The paste-roller F gets a little rotation as the can rolls over it, and thus supplies itself with paste from the paste-reservoir, in which it dips. The dab of paste which this roller puts on the can must come in just the right position to engage the head end of the label. Therefore the roller F must be accurately located with reference to the head ends of the labels. The distance should equal the circumference of the can. In using the machine the cans roll down the machine in continuous series. The action is entirely automatic, the attendant needing only to start the cans. The frame will preferably form an intermediate portion in extended tracks leading from the storage-point of unlabeled cans to the storage-point of labeled cans. In Fig. 1 I illustrate at each end of the guideway eyes designed for the attachment of such extended tracks.

When the machine is not in use, the paste-cans S should be tipped forward, thus rotating the pipe R in the paste-valve and cutting off the supply of paste.

Three-pound cans roll down the tracks C, and as the labels are almost as wide as the

cans are long the tracks D over the labels would prevent the labels from coming up. Therefore the narrow tracks are suppressed by means of the gaps Y. The sides of the label-box will be adjusted to correspond with the width of the three-pound labels, and the length of the slot P is suited to those labels.

When two-pound cans are to be labeled, the cans will roll on the tracks D, and the patches Z will be inserted, so as to complete those tracks over the label-box, and the sides of the label-box will be adjusted to suit the two-pound labels, and the paste-valve O will be turned over, so as to present the shorter slot Q downwardly, the slot P in such case presenting itself idly upward.

In case it is not desired that a single machine shall be adapted for working on cans of various sizes, then of course the adjustment of the paste-roller F will not be called for, nor will the sides of the label-box require to be adjustable, nor will the double-gage tracks of the guideway be called for, nor will the paste-valve require to be reversible or need more than one delivery-slot.

I claim as my invention—

1. In a labeling-machine, the combination, substantially as set forth, of a guideway along which a can may roll, a label-box disposed intermediate of the length of said guideway and below the same, a label-rest arranged as a vertically-movable bottom to said label-box, means for pressing said label-rest upward, a paste-valve having the form of a slotted bar disposed across said track over one end of said label-rest and arranged to clamp down on and deliver paste upon one end of the labels, a paste-reservoir at a point in said guideway before the label-box, means, as a roller, for delivering paste from said reservoir to a can rolling thereover, and a smoothing device, as a cushion, at said guideway beyond the label-box.

2. In a labeling-machine, the combination, substantially as set forth, of a guideway, a label-box intermediate of the length thereof, a vertically-movable bottom for said label-box, forming a label-rest, means for pressing said label-rest upwardly, a slotted paste-valve across said guideway over one end of said label-rest and arranged to clamp down on and deliver paste to one end of the label, a rubbing device at a point in the guideway beyond the label-box, a paste-reservoir at a point in the guideway before the label-box, a roller disposed across the guideway at said paste-reservoir and arranged to deliver paste to a can rolling thereover, and means for adjusting said paste-roller along said guideway to and from said label-box.

3. In a labeling-machine, the combination, substantially as set forth, of a guideway along which a can may roll and provided with two gages of track in separate vertical planes adapted for two different lengths of cans,

and devices for applying labels to cans as they roll over said guideway.

4. In a labeling-machine, the combination, substantially as set forth, of a label-rest, a bar disposed across one end of said label-rest and provided with a cylindrical bore and with a downwardly-open slot closed by labels on said label-rest, a slotted pipe fitting the bore of said bar and adapted to turn therein, and a reservoir of paste connected with said pipe.

5. In a labeling-machine, the combination, substantially as set forth, of a vertically-movable label-rest, a bar disposed across over one end of said label-rest and having a cylindrical bore and two oppositely-disposed slots of different lengths, a slotted pipe fitting said bore and adapted to turn therein, and a paste-reservoir connected with said slotted pipe.

6. In a labeling-machine, the combination, substantially as set forth, with a guideway and devices along said guideway for dabbing paste on a can and smoothing the label on the can, of a label-box disposed between said dabbing and smoothing devices, a combined paste-valve and clamp-bar disposed rigidly over one end of said label-box, a vertically-movable label-rest in said label-box, a balance-weight arranged to press said label-rest, and a pile of labels supported by it upward, so the top label will be always against said paste-valve, and a spring arranged as a resistance to the gravity of said balance-weight with a force increasing as the label-rest ascends.

7. In a labeling-machine, the combination, substantially as set forth, with a guideway provided with two gages of track in separate vertical planes and devices arranged along the same for dabbing paste on a can and smoothing the label on the can, of a label-box between said dabbing and smoothing devices, a vertically-movable label-rest in said label-box, and means, as screws, for adjusting the sides of said label-box to and from each other.

8. In a labeling-machine, the combination, substantially as set forth, of a guideway along which a can may roll, devices arranged along the same for dabbing paste on a can and smoothing the label on a can, a label-box between said dabbing and smoothing devices, a paste-valve having the form of a slotted hollow clamp-bar disposed across said guideway at one end of said label-box, a paste-reservoir connected with the hollow of the paste-valve, a label-rest forming a vertically-movable bottom for said label-box and having that one of its ends nearest said paste-valve farther below the guideway than its other end, and means for pressing said label-rest upwardly.

9. In a labeling-machine, the combination, substantially as set forth, of a guideway, means, as a roller, for dabbing paste on a can

rolling thereover, a rubbing device, as a cushion, for smoothing the label on the can, a label-box disposed between said dabbing and rubbing devices, a clamp-bar disposed across
5 said guideway at one end of said label-box, a label-rest arranged as a vertically-movable bottom to said label-box and adapted to clamp one end of the pile of labels under said bar, and means for applying paste to the clamped end of the top label of the pile. 10

JAMES M. VAN METER.

Witnesses:

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