To all whom it may concern:

Be it known that I, MAX MEYER, a citizen of the United States, residing at Grand Rapids, county of Kent, State of Michigan, 5 have invented certain new and useful Improvements in Label-Making Machines, of which the following is a specification.

This invention relates to improvements in label making machines.

My improvements are especially designed by me for use in connection with the label cutting and folding mechanism disclosed in the patent to Michael Petrocchi, No. 1,511,489, dated January 9, 1917.

The main objects of my invention are:

First, to provide means for delivering and packing the labels.

Second, to provide means whereby labels are maintained in a packing trough or receptacle in upright parallel relation.

Further objects, and objects relating to structural details, will definitely appear from the detailed description to follow.

I accomplish the objects of my invention by the devices and means described in the following specification. The invention is clearly defined and pointed out in the claims.

A structure which is a preferred embodiment of my invention is clearly illustrated in the accompanying drawing, forming a part of this specification, in which:

Figure I is a detail vertical section of a label forming machine of the type disclosed in the said patent embodying my improvements.

In Fig. II is a detail section of the parts shown in Fig. I with the parts in another position.

Fig. III is an enlarged detail section showing the label packer or delivery member in its actuated or delivery position, the label retaining member or finger being in its retracted position.

Fig. IV is a similar detail section with the label packer shown in its initial position by dotted lines and the label retaining member in its actuated position.

Fig. V is an enlarged detail section on a line corresponding to line 5—5 of Fig. I, showing details of the label holder.

Fig. VI is an enlarged detail section on a line corresponding to line 6—6 of Fig. IV.

In the drawing similar reference characters refer to similar parts throughout the several views, and the sectional views are taken looking in the direction of the little arrows at the ends of the section lines.

Referring to the drawing, 1 designates the frame on which the movable parts are supported. The driving shaft 2 is journaled in the frame and provided with a cam member 3. A jaw carriage or support 4 is mounted in the way 5 for vertical reciprocatory movement. A label jaw 6 is mounted on this carriage 4 to coact with a second jaw 7. An ejector 8 is mounted upon the jaw 6 to reciprocate thereon. The ejector is shown in its ejecting position in Fig. I and in its retracted position in Fig. II. The carriage 4 is reciprocated by an arm 9 or lever 9 pivoted at 10 and provided with a roller 11 engaging a recess 12 in the carriage. The lever 9 is provided with a roller 13 engaging the cam groove 14 in the face of the cam member 3. The label ejector 8 is provided with spaced lugs 15 between which is disposed a roller 16 carried by the lever 17, which is pivoted on the carriage 4 at 18, as shown by dotted lines in Figs. I and II. This lever 17 is retracted by means of the carriage 4 which, on its upward movement, causes roller 20 on the lower end of the lever 17 to engage the cam 19. The ejector is actuated by means of the lever 21 pivoted at 22 so that it is engaged by the roller 23 carried by an arm 24 on the shaft 2. A spring 25 actuates this lever in the opposite direction. These parts are arranged to perform the function of the corresponding parts in said patent.

I mount a pair of coacting creasing and delivery rollers 26 and 27 in position to receive the labels ejected from the jaws. Curved guides 28 are provided to deflect the labels downwardly as they are discharged from the rollers to the packing trough or receptacle.

I mount a packer arm 29 on the rear end of the carriage actuating lever 9 so that the actuations of these parts are timed. The packer arm 29 is provided with a head 30 adapted when in its initial position to lie tangential to the lower roller 27 and to receive the labels and when the arm is actuated to carry them rearwardly in the packing trough, the packer being shown in its initial position in Fig. I, and in its actuated positions in Figs. II, III, IV and VI.

The packing trough or holder 31 is supported by brackets 32 so that its front end is
positioned at the rear of and somewhat below the lower roller. The packing trough is formed to provide a slot 33 at its front end in which the packer reciprocates. The trough preferably has a rear extension or part 34 adapted to receive a carton for the labels, that is, the carton may be telescoped therewith.

To retain the labels delivered by the packer arm I provide a reciprocating retaining member or finger 37 which is supported in a slideway 38 to reciprocate into the trough. The packer head has a groove 39 in its face adapted to receive this retaining finger when the packer head is in its delivery position. The upper end of the retaining finger is beveled at 40. The retaining finger is retracted by means of the dog 41, which is pivoted on the lower end of the packer arm at 42 so as to engage in the hole 43 in the retaining finger. The retracting dog 41 is released by means of the tappet 44 on the cam member 3. When the retaining finger is released it is returned to operative position by means of the spring 45.

This tappet is disposed so that the retaining finger is released before the packer is retracted and, owing to the fact that it slides in the groove 39 of the packer head, it returns to actuated position without disturbing the labels delivered.

The labels are supported in the trough or packing receptacle by means of a block 46, which is slidably disposed therein, the block being of such weight that it supports the labels under proper packing tension and at the same time is moved along in the packing holder as the labels are successively delivered.

The part 34 of the packing trough is designed, as stated, to receive a tubular package or carton for the labels, which is slipped over the packing holder 31 and over the labels packed therein, side by side, so that when it is withdrawn the labels may be pushed into it and the carton sealed.

I have illustrated and described my improvements in an embodiment which I have found practical in use. I have not attempted to illustrate or describe certain modifications and variations in structural details which I contemplate, as I believe the disclosure made will enable those skilled in the art to which my invention relates to embody or adapt the same as may be desired.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. A structure of the class described, the combination of a driving cam, label delivery means comprising an actuating lever actuated by said cam and label delivery rollers, the delivery of the labels to said rollers being timed by said actuating lever and cam, a packing trough disposed at the rear of and adjacent to said rollers and comprising side members, a bottom slotted at its front end and a rear extension with which a carton for the labels may be telescoped, a packer arm provided with a head and mounted on said packer arm, an actuating lever to reciprocate in said slot and between the side members of said trough and so that when in initial position it lies tangentially of the lower roller, a guide for deflecting the labels delivered from said rollers to said trough at the rear of said packer head, a retaining finger mounted to reciprocate through the bottom of said packing trough, said packer head being grooved on its face to receive said retaining finger when the parts are in their actuated position, an actuating spring for said retaining finger, a retracting dog for said retaining finger pivotally mounted on said packer arm so that said retaining finger is retracted when said packer arm is actuated to deliver a label, a spring for engaging said dog with said retaining finger, a tappet on said cam for releasing said dog, and a label supporting block slidable in said packing trough.

2. In a structure of the class described, the combination of a driving cam, label delivery means comprising an actuating lever actuated by said cam and label delivery rollers, the delivery of the labels to said rollers being timed by said actuating lever and cam, a packing trough disposed at the rear of and adjacent to said rollers and comprising side members, a bottom slotted at its front end, a packer arm provided with a head and mounted on said actuating lever to reciprocate in said slot and between the side members of said trough and so that when in initial position it lies tangentially of the lower roller, a guide for deflecting the labels delivered from said rollers to said trough at the rear of said packer head, a retaining finger mounted to reciprocate through the bottom of said packing trough, said packer head being grooved on its face to receive said retaining finger when the parts are in their actuated position, an actuating spring for said retaining finger, a retracting dog for said retaining finger pivotally mounted on said packer arm so that said retaining finger is retracted when said packer arm is actuated to deliver a label, a spring for engaging said dog with said retaining finger, a tappet on said cam for releasing said dog, and a label supporting block slidable in said packing trough.

3. In a structure of the class described, the combination of a driving cam, label delivery means comprising an actuating lever actuated by said cam and label delivery rollers, the delivery of the labels to said rollers being timed by said actuating lever and cam, a packing trough disposed at the rear of and adjacent to said rollers and comprising side members, a bottom slotted at its front end and a rear extension with
which a carton for the labels may be telescoped, a packer arm provided with a head and mounted on said actuating lever to reciprocate in said slot and between the side members of said trough and so that when in initial position the labels are delivered at the rear thereof, a retaining finger mounted to reciprocate through the bottom of said packing trough, said packer head being grooved on its face to receive said retaining finger when the parts are in their actuated position, an actuating spring for said retaining finger, a retracting dog for said retaining finger pivotally mounted on said packer arm so that said retaining finger is retracted when said packer arm is actuated to deliver a label, a spring for engaging said dog with said retaining finger, and a tappet on said cam for releasing said dog.

4. In a structure of the class described, the combination of a driving cam, label delivery means comprising an actuating lever actuated by said cam, the delivery of the labels being timed by said actuating lever and cam, a packing trough slotted at its front end, a packer mounted on said actuating lever to reciprocate in the trough slot, means for delivering the labels to the rear of said packer when it is in its initial position, a retaining finger mounted to reciprocate into said packing trough, an actuating spring for said retaining finger, a retracting dog for said retaining finger pivotally mounted on said packer arm so that said retaining finger is retracted when the packer is actuated to deliver a label, a spring for engaging said dog with said retaining finger, and a tappet on said cam for releasing said dog.

5. In a structure of the class described, the combination of a driving cam, label delivery means comprising an actuating lever actuated by said cam, the delivery of the labels being timed by said actuating lever and cam, a packing trough slotted at its front end, a packer mounted on said actuating lever to reciprocate in the trough slot, means for delivering the labels to the rear of said packer when it is in its initial position, a retaining finger mounted to reciprocate into said packing trough, an actuating spring for said retaining finger, a retracting dog for said retaining finger pivotally mounted on said packer arm so that said retaining finger is retracted when the packer is actuated to deliver a label, a spring for engaging said dog with said retaining finger, and a tappet on said cam for releasing said dog.

6. In a structure of the class described, the combination of a driving cam, label delivery means comprising an actuating lever actuated by said cam, the delivery of the labels being timed by said actuating lever and cam, a packing trough slotted at its front end, a packer mounted on said actuating lever to reciprocate in the trough slot, means for delivering the labels to the rear of said packer when it is in its initial position, a retaining finger mounted to reciprocate into said packing trough, an actuating spring for said retaining finger, a retracting dog for said retaining finger pivotally mounted on said packer arm so that said retaining finger is retracted when the packer is actuated to deliver a label, a spring for engaging said dog with said retaining finger, and a tappet on said cam for releasing said dog.

7. In a structure of the class described, the combination of a driving cam, label delivery means comprising an actuating lever, actuated by said cam, the delivery of the labels being timed by said actuating lever and cam, a packing trough slotted at its front end, a packer mounted on said actuating lever to reciprocate in the trough slot, means for delivering the labels to the rear of said packer when it is in its initial position, a retaining finger mounted to reciprocate into said packing trough, a packer being grooved on its face to receive said retaining finger when the parts are in their actuated position, an actuating spring for said retaining finger, a retracting dog for said retaining finger pivotally mounted on said packer arm so that said retaining finger is retracted when the packer is actuated to deliver a label, a spring for engaging said dog with said retaining finger, and a tappet on said cam for releasing said dog.

In witness whereof, I have hereunto set my hand and seal in the presence of two witnesses.

MAX MEYER

Witnesses:

PAUL LEAKE,
P. H. GORHAM, JR.