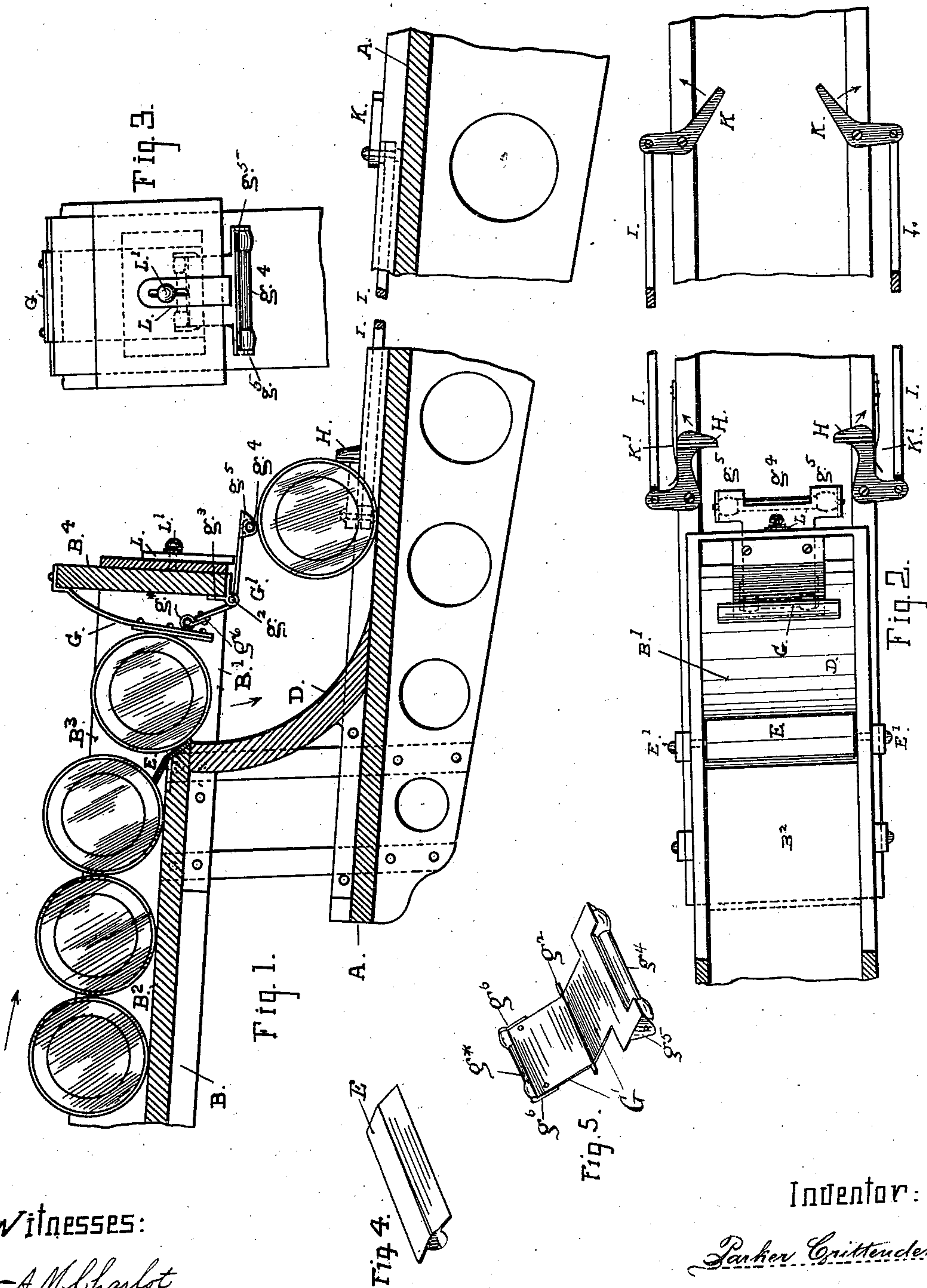


(No Model.)

P. CRITTENDEN.
CAN LABELING MACHINE.

No. 481,896.

Patented Aug. 30, 1892.



Witnesses:

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UNITED STATES PATENT OFFICE.

PARKER CRITTENDEN, OF SAN FRANCISCO, CALIFORNIA.

CAN-LABELING MACHINE.

SPECIFICATION forming part of Letters Patent No. 481,896, dated August 30, 1892.

Application filed October 30, 1891. Serial No. 410,313. (No model.)

To all whom it may concern:

Be it known that I, PARKER CRITTENDEN, a citizen of the United States, residing in the city and county of San Francisco, and State of California, have invented certain new and useful Improvements in Can-Labeling Machines, of which the following is a specification.

My invention relates to improvements in means or apparatus for feeding cylindrical cans—such as are used in canning fruits and vegetables—through label-fixing mechanism of labeling-machines.

The improvements comprised in my invention consist in the construction and combinations of parts hereinafter described, and pointed out in the claims.

The following description explains the nature of my said improvements and the manner in which I proceed to construct and apply the same for operation in a machine for labeling fruit and vegetable cans, reference being had to the accompanying drawings, that form part of this specification.

Figure 1 of the drawings represents in longitudinal section that portion or section in the can-runway of the machine where the cans passing through the pasting device receive a coating of paste before running through the label-fixing mechanism. The section is taken through the center of the runway, and a portion in the length of the runway is broken out to reduce the length of the figure. Fig. 2 is a plan or top view of Fig. 1. Fig. 3 is a front view taken from the right-hand side of Fig. 1 to show the parts on the front end of the upper section of the runway. Figs. 4 and 5 represent in perspective parts in detail.

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

In can-labeling machines of this class or description the label-fixing devices are arranged along an inclined runway or track having suitable pitch to give rolling motion and sufficient momentum to carry the cans by gravity through the pasting and label-fixing devices. These last-mentioned parts are not shown in the drawings and are not described for the reason that their construction and their combination with my improvements form no part of the present invention, and also that various kinds of pasting and label-fixing mech-

anisms can be employed in connection with my improvements.

A indicates the end and a portion of the runway at the head or higher end of the machine where the cans are fed down.

B is a section of inclined track set over the runway on a higher level, with its lower end directly over the runway.

B' is an opening in the track of suitable size to let one can through at a time.

Vertical space between the bottom of the runway and the bottom of the track above is provided for the can to roll forward after it has dropped through the outlet. From the back edge of the outlet to the bottom of the runway below a stationary apron D extends downward and forward in a curve under the opening.

The track B is a flat-bottom trough with stationary sides B³ of suitable width for the cans to set in lengthwise and roll freely along. Such degree of inclination is given to the bottom that a long line or row of cans placed in the trough will feed down regularly by their own gravity without producing too great pressure of the foremost can against the gate or stops that control the outlet. It will be obvious that the degree of inclination will depend somewhat on the length of the track, as a long line of filled and sealed cans will produce greater pressure of the foremost can against the stops than a short line will produce. The progress and the discharge of the cans from this upper level to the runway below are controlled by a pivoted stop or check E at the back edge of the opening B' and a gate G across the front part of the opening. These parts co-operate to separate the foremost can in the row from the pressure of those behind and hold it in position ready to be dropped upon the runway below.

The gate G is a yielding plate fixed by its upper end to the top of the head plate B⁴ at the front end of the trough, and from that point of attachment extending downward into and across the outlet. The plate G', pivoted at g² in bearings g³, constitutes a means whereby the gate is controlled by the cans and is made self-acting. From the pivot g² one limb or member of the plate G' extends backward to the gate, while the other member extends forward over the runway and sets at proper

height above the bottom to come in contact with and be pressed upward by the can rolling forward under it from the opening B'. On the sides of the runway are set two stops H H, projecting in the path of the can just beyond the outer end of the controlling-plate G' and at such point that when the can rests against the stops the end of the plate above rests on and is held up by the can. On this end of the plate is a roller g^4 , journaled in lugs g^5 to bear against the can, and in practice the position of the stops H in relation to this end of the plate is such that the point of contact and pressure of the roller g^4 shall lie just back of the crown or highest part of the can-body when the can rests against the stops. As this end of the plate G' is held with some degree of pressure upon the can by the pressure which the rear end of the plate receives from the gate G, it is found necessary to place the point of contact of the roller g^4 , as before described, just back of the highest point on the can, in order to allow the can to start on the run downward as quickly as the stops H are drawn back. A roller g^* , journaled in lugs g^6 on the opposite end of the plate, gives rolling contact instead of a rubbing contact with the back face of the gate. This end of the plate G' sets at an angle with the front end. These parts above described—the stops H, the gate G and its controlling-plate, and the check E—operate conjointly to separate the two foremost or leading cans from the long line or row of cans on the feeding-trough, so that they are free to move through and act on the mechanism of the apparatus below by virtue of their own individual weight and momentum and not be effected by the weight and pressure of the cans in the row above. This enables me to secure a regular and uniform operation of the pasting and label-fixing apparatus and produce better work. The stops H are connected by rods I I to a set of tripping dogs or levers K K, placed on the runway at some considerable distance below the stops, with their ends projecting in the path of the rolling cans. The apparatus that applies paste to the body of the can in these machines is placed over that portion of the runway which lies between the stops H and the trips K, and proper length of time for this operation to take place as the cans roll down the incline after leaving the stops H is obtained by placing these tripping-dogs a sufficient distance beyond or on the other side of the pasting apparatus. The headway or distance between one can and the next one following is also regulated by this means, as a can after passing the stops must make the complete run and pass the tripping-dogs K before the next can is released. The stops H when drawn back by the dogs release the can held back by the stops, and are returned in position to catch the next can by springs K'. The can thus set free at each movement of the stops is followed by the next can held by the gate G in the outlet B',

while the foremost can of the row on the upper track runs down over the check E and drops into the opening against the gate. The check is a narrow plate pivoted at the ends E' in the sides of the trough, and on these points it is free to rock, the portion in front of the line of the pivots being bent downwardly at an angle with the portion behind the pivots to set against the beveled edge of the opening B'. When that portion is pressed down against the edge of the outlet by the weight of the can resting in the outlet, the rear portion of the check-plate is elevated slightly above the bottom of the trough, and in that position it forms a stop to check and hold back the foremost can of the row just back of the outlet, while a can remains suspended in the outlet. The weight of the can resting on the front portion of the plate holds up the rear portion; but as soon as the suspended can is free the pressure of the foremost can against the check-plate depresses this rear end and the can rolls over it until, passing over the line of the pivots, the can bears down upon the front plate and throws up the rear end in front of the next can. The trough to which these parts are applied can be made of any desired length, as the number of cans which they will control is practically unlimited. An adjustable stop, consisting of a slotted slide L, set over the plate G' and held by a thumb-screw L', serves to regulate the upward throw of the plate G. This stop is useful in adjusting the mechanism for operation with cans of different diameters where cans of different sizes are to be run through the machine. In all cases it is necessary that the roller g^4 should bear over the top or crown of the can-body and just beyond the center or highest point to prevent the cans from sticking or being held by the pressure of the plate G.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. An inclined track or runway for feeding cylindrical cans and packages by gravity to labeling-machines or other apparatus, consisting of two inclined troughs or tracks arranged on different levels, one over the other, the upper track having an outlet at the lower end to discharge the cans singly upon the lower track, a gate or yielding part adapted to hold a can in said outlet, a lever or part controlling said gate and being itself controlled by a can on the lower track, releasable stops on the lower track adapted to hold the can thereon, tripping-stops in the path of the rolling cans on the lower track, connected with the holding-stops and located at a distance below the same, and a stop or check behind the outlet in the upper track, controlled by the can suspended in the said outlet and adapted to hold back the can until the suspended can is released, combined for operation as set forth.

2. The combination, with an inclined trough or track for rolling cans, having an outlet for

discharging the cans at the lower end, of a yielding gate or stop to hold a can suspended in said outlet and a check at the back of said outlet, which is held in position to stop the next can in the trough from dropping into the outlet by the can suspended in the outlet and is adapted to yield and release the can behind it as the suspended can is discharged through the outlet, substantially as described.

3. The combination of the two inclined tracks or runways A B, one above the other,

the upper one having an outlet in the bottom, the yielding gate G, pivoted lever G', stops H and K on the lower track, and the yielding check at the back of the outlet, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand and seal.

PARKER CRITTENDEN. [L. S.]

Witnesses:

ROBERTA LEE TERRY,
M. O'BRIEN.