

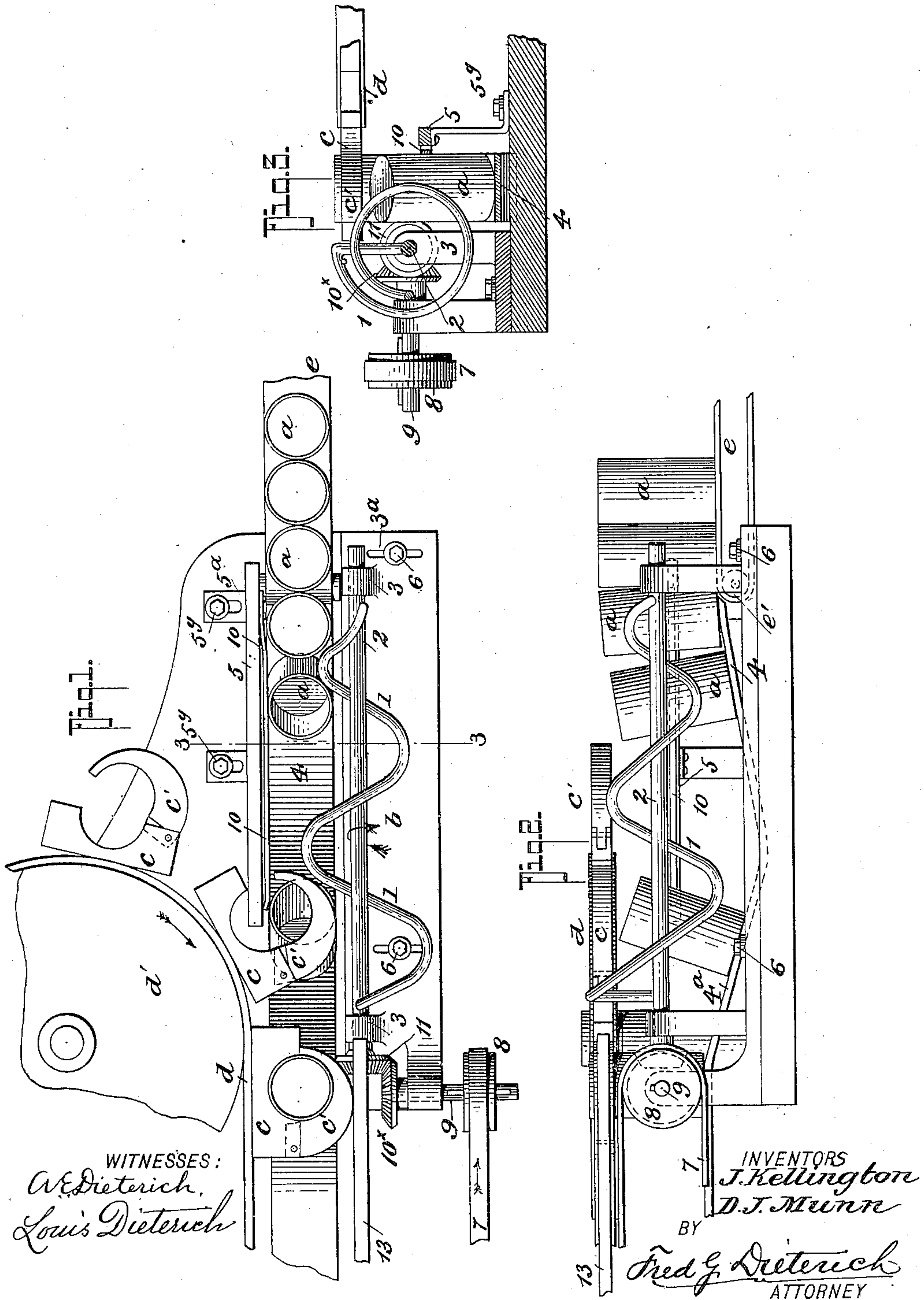
No. 652,677.

Patented June 26, 1900.

J. KELLINGTON & D. J. MUNN.  
CAN FEEDING AND SPACING DEVICE.

(Application filed Nov. 6, 1899.)

(No Model.)





# UNITED STATES PATENT OFFICE.

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SAID KELLINGTON ASSIGNOR TO SAID MUNN AND ALEXANDER EWEN,  
OF SAME PLACE.

## CAN FEEDING AND SPACING DEVICE.

SPECIFICATION forming part of Letters Patent No. 652,677, dated June 26, 1900.

Application filed November 6, 1899. Serial No. 736,041. (No model.)

*To all whom it may concern:*

Be it known that we, JOHN KELLINGTON and DANIEL JAMES MUNN, citizens of the Dominion of Canada, residing at New Westminster, in the Province of British Columbia, Canada, have invented certain new and useful Improvements in Can Feeding and Spacing Devices, of which the following is a specification.

Our invention relates to an improved mechanism for feeding and spacing cans to a can-capping machine having an endless band with jaws or chucks fixed thereon for receiving and holding such cans while their respective caps or tops are fitted thereon; and the object of our invention is to provide a simple and economical device for first spacing the cans, for moving them along in a vertical position, and finally delivering one to each set of can-clamping jaws as the said jaws pass a certain point.

While our invention is adapted for use with can-capping machines embodying a can gripping and capping mechanism having the general character above described, it is, however, more especially adapted for use with the form of can-capping machine disclosed in Patent No. 636,205, patented October 31, 1899, and issued to us.

This invention comprehends certain details of construction and combination of parts, all of which will be first described and then particularly pointed out in the appended claims, reference being had to the accompanying drawings, in which—

Figure 1 is a plan view of our improvement, illustrating so much of the can-capping machine as is necessary to make clear the operation of our invention. Fig. 2 is a side elevation of the mechanism shown in Fig. 1. Fig. 3 is a cross-section on the line 3 3 of Fig. 1.

In its practical construction our invention embodies a spirally-bent member 1, secured at each end to a shaft 2, which is mounted in pedestal bearings 3, suitably fixed to the bed of the machine to which our improvement is applied. The curves of the spirally-bent member 1 are gradually increased in diameter toward the inner or discharge end into

a cone form, the said curves, however, having a uniform pitch, as shown, so that the cans (indicated by the letter *a*) will be received at the small end of the spiral and pushed forward as it (the spiral) is rotated in the direction indicated by the arrow *b*.

4 indicates a plate that forms a slideway, and the said slideway is fixedly held on an inclined plane toward the machine to which the cans are being fed, as best shown in Fig. 2.

5 indicates a guide-bar supported by brackets 5<sup>a</sup> upon the side of the slideway opposite the spiral. The purpose of this guide-bar is to keep the cans in a straight line while passing over the plate 4, and to facilitate such operation the said bar, at a point opposite the smaller diameter or entry end of the screw-feed, is supplemented by a spring-piece 10, which is fixedly connected to the bar at one end and free at the other, as clearly shown in Fig. 1, said piece 10 serving in the event of a can riding the screw to prevent the said can from being damaged, as it (the spring-piece) will yield until such time as a further rotation of the feed-screw shall have caused the can to drop into its proper position between the spiral threads.

The spiral conveyer 1 may be adjusted inward or outward in its relation to the can-path, to engage cans of various sizes, by loosening the bolts 6, that pass through the slots 3<sup>a</sup>, and adjusting the frame carrying the pedestal-bearings to the desired position. The guide-bar 5 may be similarly adjusted for the same purpose by loosening the said screws 5<sup>v</sup>, that engage with the slots of the bearings 5<sup>a</sup>.

Our feeding device in practice is driven by suitable mechanism, preferably a belt 7, which takes around a pulley 8, fixedly held upon a shaft 9, mounted in a bearing integral with the frame that supports the bearings 3. Upon the end of the shaft 9 is mounted a gear-wheel 10<sup>x</sup>, that engages a like wheel 11 upon the screw-shaft 2.

In practice the speed of the shaft 2 is so regulated that the can will come to a predetermined point to be engaged by the jaws of the can-conveyer.

In the drawings the can-feeding mechanism



consists generally of an endless band  $d$ , that passes around a band-wheel  $d'$ , and the said band carries a series of jaws  $c$ , having a pivotal member  $c'$ , that swings to an open position as it approaches the point at which the can is intended to engage therewith and is made to close after the can has engaged it by contact with a fixed stop 13, as shown in Fig. 1.

It should be stated, however, that the mechanism for clamping and conveying the cans may be modified, as the said construction thereof forms no part of this invention, it being fully disclosed in our Patent No. 636,205, before referred to.

In operation the cans are conveyed to the slideway 4 upon a traveling band  $e$ , that passes over a pulley  $e'$  and stops at a point approximately in line with the outer end of the spiral feed of the cans as they are fed inward by the band  $e'$  and shoved onto the slideway 4, and by reason of the inclination of said slideway the tendency of the said cans is to move downwardly toward the machine, it being understood that such movement of the cans is positively effected by reason of the engagement therewith of the smaller end of the spiral-feed member, which by reason of its gradually-increasing curve or diameter forces the can forward until it reaches the upward incline 4<sup>a</sup> of the slideway 4, by reason of which the said cans, as they are further pulled toward the machine, are caused to engage with the clamping-jaws of the can-conveyer, which jaws, as they close thereon, grip the cans and convey them forward to the capping mechanism. (Not shown.)

Having now described our invention, what we claim as new, and desire to be protected in by Letters Patent, is—

1. In a device for spacing and delivering can-bodies to a machine for applying the covers thereto, in combination with a slideway on an inclined plane, a fixed guide-bar on one side of such slideway, and a revoluble shaft 2 on the other, a spirally-wound conveyer 1 fixed at each end to such shaft and such spiral being in the form of a cone, enlarging toward the discharge end, and means for turning the shaft at a uniform speed, as specified.

2. In combination with a machine for applying the covers to cans, a slideway for can-bodies consisting of an inclined plate 4, a fixed guide on one side thereof, a spiral member in the form of a cone on the other side of the slideway, and means for rotating the spiral

member at a uniform speed, as and for the purposes set forth.

3. In a device for the purposes set forth, a slideway for the support and passage of cans in a perpendicular position, a fixed guide on one side of the slideway, a spiral conveyer on the other side of the slideway, such spiral conveyer being in the form of a cone with its base at the discharge end and means for turning the same at a speed to correspond with the speed of the machine to which it is attached.

4. An apparatus for feeding cans along in a vertical position and depositing one at a time to the desired point at regular intervals, consisting of a fixed guide to engage the can-peripheries on one side and a spirally-coiled conveyer arranged in the form of a cone to engage said peripheries of the cans on the other, and means for turning the conveyer at a uniform speed, substantially as specified.

5. In a machine for spacing and delivering can-bodies; and applying the covers thereto; the combination with means for clamping the cans and conveying them to the capping mechanism; of a spacing and delivery mechanism comprising a slideway extending in the direction of the plane of movement of the can-clamping devices; a spiral conveyer adapted to carry the cans along the guideway toward the clamping mechanism, and means for feeding the cans to the entrant end of the spiral conveyer, as specified.

6. The combination with a means for applying the covers to cans; a slideway for the can-bodies; the fixed guide on one side thereof and a spiral member in the form of a cone upon the other side of the slideway, the base of the conical spiral member being at the discharge end; and means for feeding the cans to the apex or entrant end of the spiral, substantially as shown and described.

7. In combination with a machine for applying the covers to cans; a slideway for the can-body; a fixed guide on one side thereof; a spiral member in the form of a cone on the other side of the slideway; means for rotating the spiral member at a uniform speed, and a yielding member at the entrant end of the fixed guideway opposing the spiral, substantially as shown and for the purpose described.

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Witnesses:

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