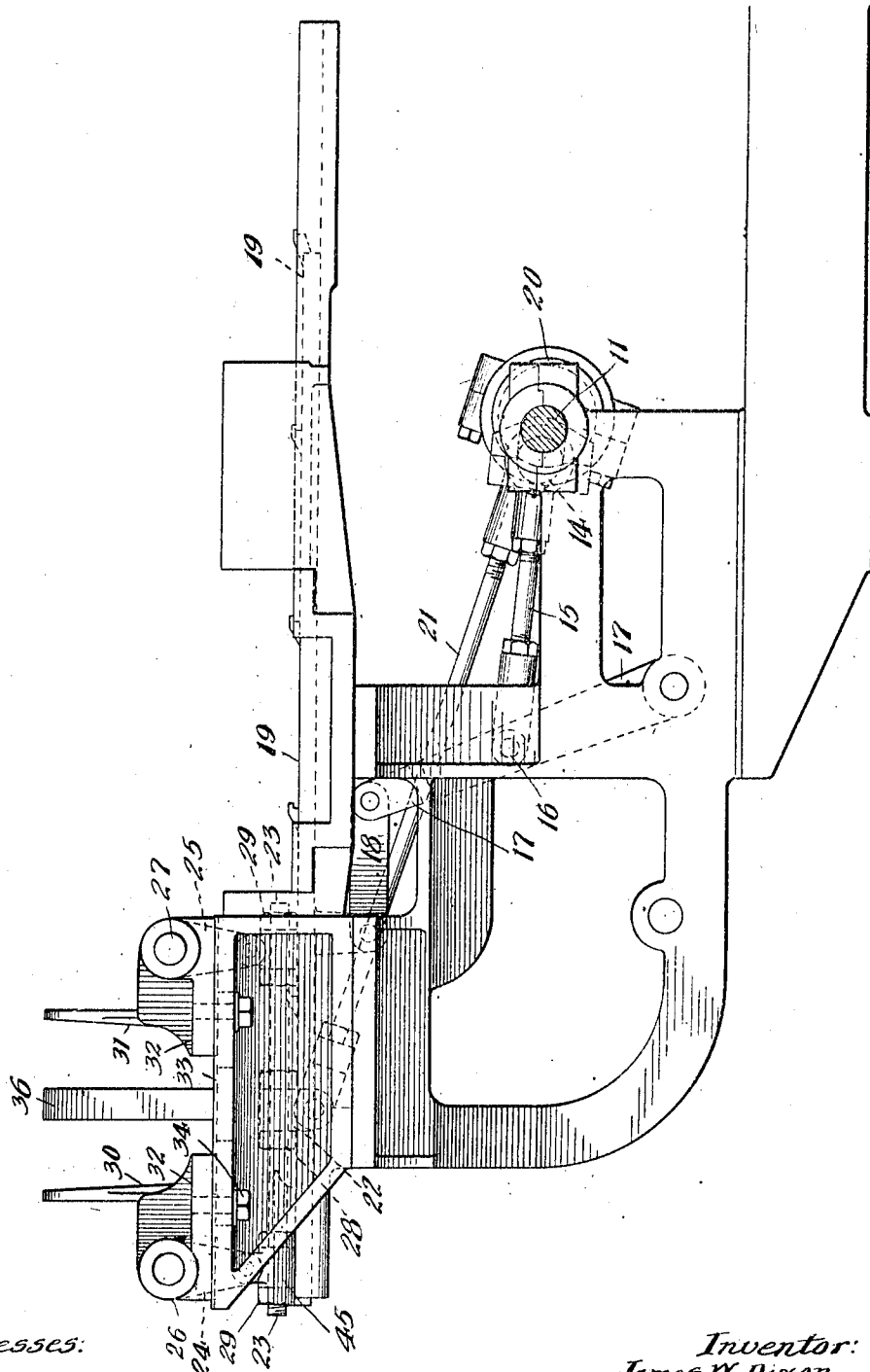


J. W. DIXON.
 FEED MECHANISM FOR CAN BODY BLANKS.
 APPLICATION FILED MAR. 29, 1911.

1,031,251.

Patented July 2, 1912.
 3 SHEETS-SHEET 1.

Fig. 1



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3 SHEETS-SHEET 2.

Fig 2

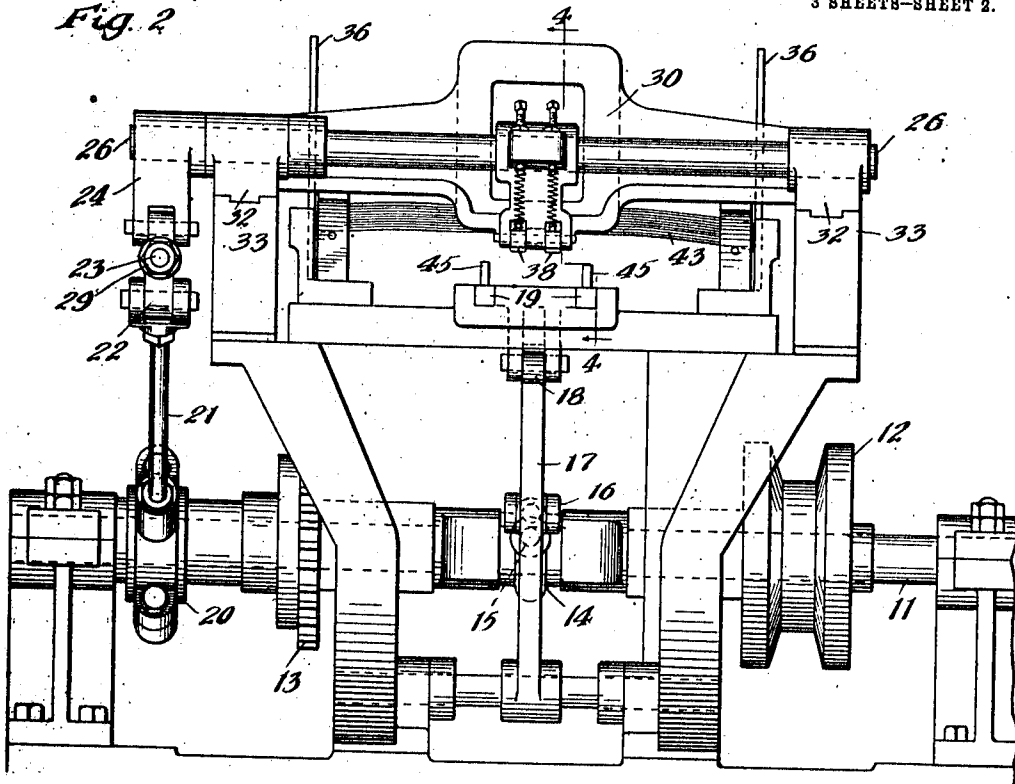
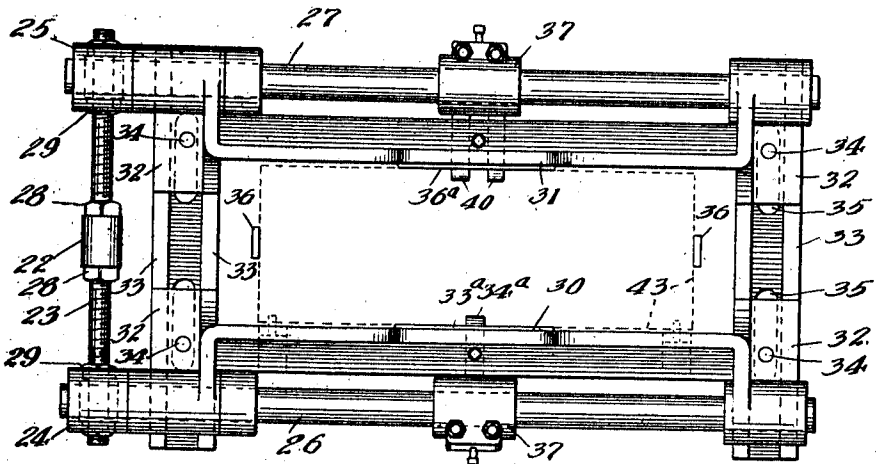


Fig. 3



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3 SHEETS--SHEET 3.

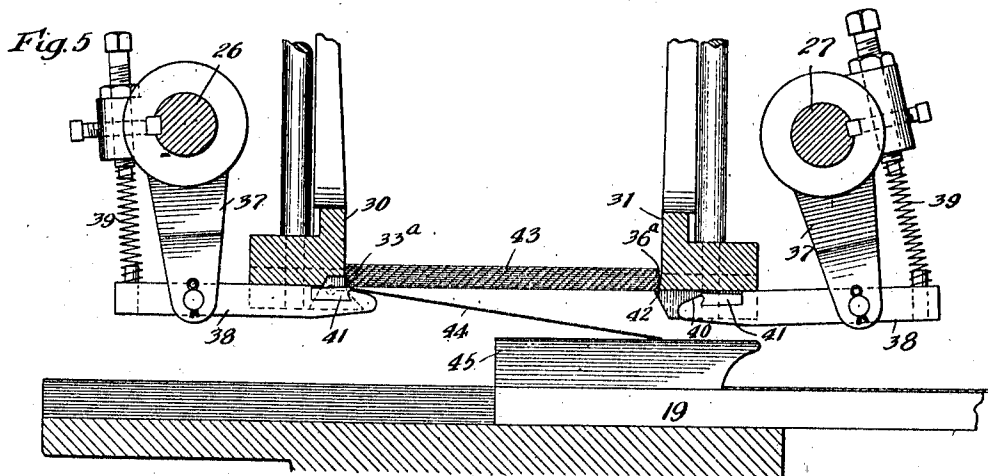
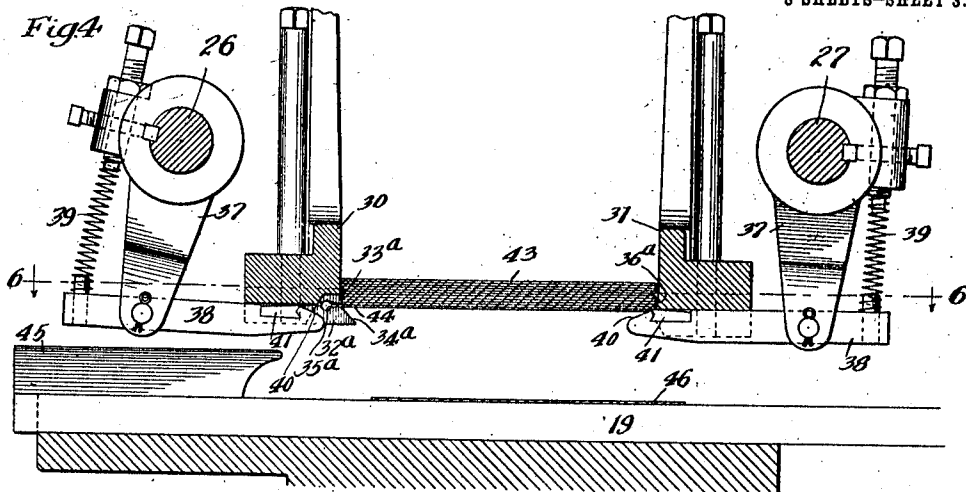
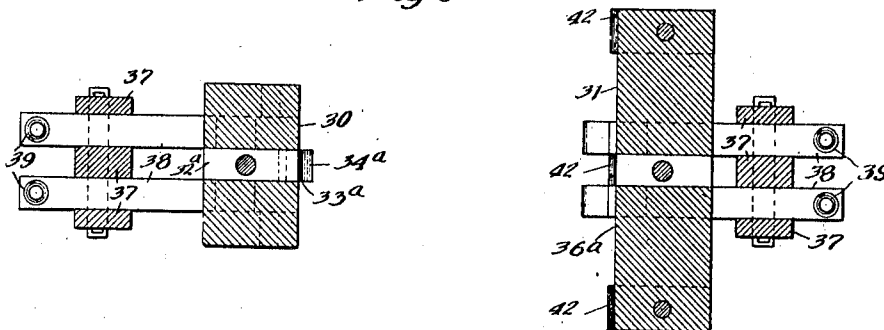


Fig. 6



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UNITED STATES PATENT OFFICE.

JAMES W. DIXON, OF CHICAGO, ILLINOIS, ASSIGNOR TO AMERICAN CAN COMPANY,
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FEED MECHANISM FOR CAN-BODY BLANKS.

1,031,251.

Specification of Letters Patent.

Patented July 2, 1912.

Application filed March 29, 1911. Serial No. 617,721.

To all whom it may concern:

Be it known that I, JAMES W. DIXON, a citizen of the United States, residing in Austin, Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Feed Mechanism for Can-Body Blanks, of which the following is a specification.

This invention relates to an improvement in feed mechanism for can-body-blanks; its object is to provide a means for discharging such blanks with certainty and regularity and without clogging, from a pile of the same in a hopper; and it consists, generally stated, in providing an open bottom sheet hopper with movable supports for the edges of the lower sheet, which movable supports free first one edge of the sheet and then the other causing the sheet to drop down on a carrier one edge at a time.

In the accompanying drawing which forms a part of this specification, Figure 1 is a side elevation of the improved can-body-blank feeder; Fig. 2 an end elevation of the same; Fig. 3 a plan view of the blank hopper; Fig. 4 a sectional view on the line 4—4 of Fig. 2; Fig. 5 a similar sectional view showing the same parts in a different position; Fig. 6 a horizontal section taken on the line 6—6 of Fig. 4.

In the said drawing 11 is the main shaft. This happens in the instance from which the illustration was taken to be an auxiliary shaft of a can-body-maker and it may carry the wing cam 12 of said body-maker. On this shaft is a power receiving sprocket wheel 13.

The presence and location of the above mentioned wing cam and sprocket wheel may serve to indicate to those familiar with this art, the possible relation of the improved feeding mechanism to a certain type of body maker.

On the power shaft 11 is a crank, 14, whose rod, 15, is pivotally connected at 16 to a rock arm, 17, the free end of which rock-arm is connected by a pivoted link, 18, to the usual horizontal reciprocal can-body-blank feed-mechanism, 19, (detailed description of which horizontal feed is unnecessary for a full comprehension of this invention) and the function of which feed mechanism is to carry the sheets horizontally away from the hopper, and deliver them to the can-body-making machine.

Upon the same shaft 11 is a second eccentric 20, whose rod, 21, is pivotally attached to a head, 22, mounted on a screw-threaded connecting rod 23, which screw-threaded rod is adjustably connected to the hanging rock arms 24, 25, attached respectively to the rock shafts 26, 27. The connecting rod 23 being screw-threaded the attachment of the eccentric rod 21 to said connecting rod is easily adjusted to any position by nuts 28, 28, on said screw threaded rod and the attachments of said screw-threaded rod to the rock-arms 24 and 25 are similarly adjustable by the nuts 29, 29. The function of the rock shafts 24, 25, will be presently explained.

The blank-hopper consists of upright sides 30 and 31, each supported on a base 32, resting in turn upon frame 33, of the machine, and made adjustable thereon by bolts 34, 34, and slots 35, 35, and upright end-guides 36, 36, at each end of the hopper, to keep the blanks centered. The upright side wall, 30, at its lower edge is provided with a projection 32^a, having the inclined continuation, 33^a, of the side wall for centering the sheets and the further incline 34^a, for supporting one edge temporarily after the other edge has left the hopper. And said projection 32^a is furnished with a slot 35^a of dimensions to receive the edge of a single sheet in the operation of discharging the same from the hopper. The upright side 31 has at its lower edge an incline 36^a, for engaging the other edge of the sheet and centering the sheet by coöperation with the oppositely inclined edge 33^a.

Upon each of the shafts 26, 27 is a bifurcated depending rock arm, 37, to the lower end of each of which are pivoted two fingers, 38, the outer end of each finger being depressed by a spring, 39, and the inner end held up by said spring against the bottom of the hopper. The said inner end in case of each of said fingers is made with an inclined nose, 40, and provided with an insert or block 41, projecting above the inclined nose the thickness of a sheet of tin.

On the wall, 31, and at the lower edge of the same are three narrow shelves, 42, for the edge of the lowermost sheet in the hopper to rest upon, and which shelves are a sheet-thickness below the bottom of the hopper. The pile of sheets, 43, is shown in the hopper, the lowermost sheet, 44, resting

with one of its edges upon the shelves 42, and having the other edge resting upon the projection, 32^a, in line with the slot, 35^a, and below the hopper bottom. In this condition
 5 the simultaneous movement of the fingers 38 into the position shown at Fig. 4 causes the block, 41, to push the other edge of the lowermost sheet into the slot, 35^a. Following this, when the rock shafts, 26, 27, move
 10 the fingers in the other direction, the lowermost sheet, 44 is pushed out of the slot, 35^a, and falls into the position indicated at Fig. 5, one edge resting on the horizontal carrier, 19, and the other edge having been pushed
 15 out of the slot by block, 41, at that side and held up by the rounded nose of the fingers. In addition to the usual spring dogs upon the horizontal carrier, unnecessary to describe, is the pair of rigid dogs, 45, upon
 20 which the lower edge of the sheet 44 rests when it first falls down. The reciprocation of the carrier, 19, is sufficient in extent to bring the dogs, 45, beneath the hopper to receive the sheet in the manner above indicated, and then moves in the reverse direction
 25 far enough to permit the sheet, with its upper end held against the block, 41, to slide on the dogs and fall down upon the bed of the horizontal carrier, 19, as indicated at 46.
 30 The operation as will be understood is such that only one sheet at a time can pass from the hopper, and such that the delivery of this single sheet is certain and all clogging of the delivery due to the bur on the edge
 35 of the sheets is prevented.

It will be understood by those skilled in this art that the slot 35^a may be omitted if desired since the sheets are usually flexible enough to readily bend sufficiently to permit the movement of the fingers in their dis-
 40 engagement.

Having described the invention claim is made as follows:

1. The feed for can-body blanks comprising in combination a bottomless hopper, movable supporting fingers for two edges of the blank, and means for moving said fingers to free and drop one edge of the blank at a time on a carrier, and said carrier made
 50 to reciprocate and provided with rigid dogs to receive the first edge of the dropping blank, substantially as specified.

2. The feed for can-body blanks comprising in combination a bottomless hopper having the lower edges of its side walls inwardly inclined to center the blanks, a fixed blank support at one edge slightly below the hopper bottom and opening to a slot to permit lateral movement of the blank toward
 60 this side, a similar fixed blank support at the other side, movable supporting fingers for the edges of the blank at both sides, and means for moving said fingers to free and drop one edge of the blank at a time on a
 65 carrier, substantially as specified.

3. The feed for can-body blanks comprising in combination a bottomless hopper having the lower edges of its side walls inwardly inclined to center the blanks, a fixed blank support at one edge slightly below the hopper bottom and opening to a slot to permit lateral movement of the blank toward this side, a similar fixed blank support at the other side, movable supporting fingers for the edges of the blank at both sides, and means for moving said fingers to free and drop one edge of the blank at a time on the carrier, and said carrier made to reciprocate and provided with rigid dogs to receive the first edge of the dropping blank, substantially as specified.

4. A device of the class described, comprising a stack holder, a pair of separating fingers located adjacent opposite sides of the holder and adapted to engage a blank, said fingers being reciprocal substantially in unison and adapted to engage first one side of the blank and then the opposite side to separate the end blank from the rest of the stack.

5. A device of the class described adapted to separate blanks from a stack comprising a stack holder, a pair of separating fingers reciprocal across the edges of the stack holder at the end thereof, each finger being provided with a cutting-out projection thereon adapted to engage an edge of the end blank of the stack and move the same relatively to the remaining blanks in the stack, and mechanism for reciprocating said
 100 fingers.

6. A blank separating and feeding mechanism comprising a stack holder having retaining members at one end thereof adapted to engage the end blank of the stack, separating fingers located on opposite edges of the stack holder, said fingers being adapted to engage opposite edges of the end blank, alternately, and reciprocate the same first in one direction and then in the opposite direction, substantially as specified.

7. In a device of the class described, in combination, a stack holder provided with retaining members at one end thereof, one of said retaining members being provided with a slot located in the same plane as that in which the end blank of the stack is positioned, and reciprocating fingers located adjacent opposite sides of the stack holder, one of said fingers being adapted to engage one edge of the end blank of the stack and push it into said slot and the other finger being adapted to engage an opposite edge of the end blank and push the blank in the opposite direction.

8. In a device of the class described, in combination, a vertically disposed stack holder having supporting ledges at the bottom thereof for the blanks, separating fingers disposed on opposite sides of the stack
 125 130

holder adjacent the bottom, each of said fingers being provided with a cutting-out projection adapted to engage one blank at a time, and mechanism for moving said fingers in unison.

9. In a device of the class described, in combination, a vertically arranged stack holder having retaining members at the bottom of the stack adapted to support the blanks and reciprocating separating fingers, said fingers being pivotally mounted and located at the bottom of the stack holder and adapted to engage first one edge of the bottom blank and then the opposite edge of the same.

10. In a device of the class described, in combination, a stack holder having retaining members for the stack at one end thereof, one of said members being provided with a slot, said slot being located in the same plane as that in which the end blank of the stack is disposed, and devices for engaging first one edge of the end blank to push it into said slot and then to engage the opposite edge of the blank to push the same out of the slot.

11. In a device of the class described, in combination, a stack holder having retaining

members for the stack at one end thereof, one of said members being provided with a slot, said slot being located in the same plane as that in which the end blank of the stack is disposed, and devices for engaging first one edge of the end blank to push it into said slot and then to engage the opposite edge of the blank to push the same out of the slot, said devices comprising pivotally mounted reciprocating separating fingers.

12. In a device of the class described, in combination, a vertically arranged stack holder having supporting ledges at the bottom thereof located on opposite sides of the holder, separating fingers located adjacent the supporting members, said separating fingers being each reciprocal back and forth across the edge of the stack holder and being each pivotally mounted and resiliently controlled, said fingers being each furthermore provided with a cutting-out projection on its upper face adapted to engage the lowermost blank of the stack, and mechanism for reciprocating said fingers in unison.

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