G. W. GWINN.

CONTAINER HANDLING DEVICE FOR TOBACCO PACKAGING MACHINES.

APPLICATION FILED MAY 18, 1920.

**1,364,990.** **Patented Jan. 11, 1921.**

3 SHEETS—SHEET 1.

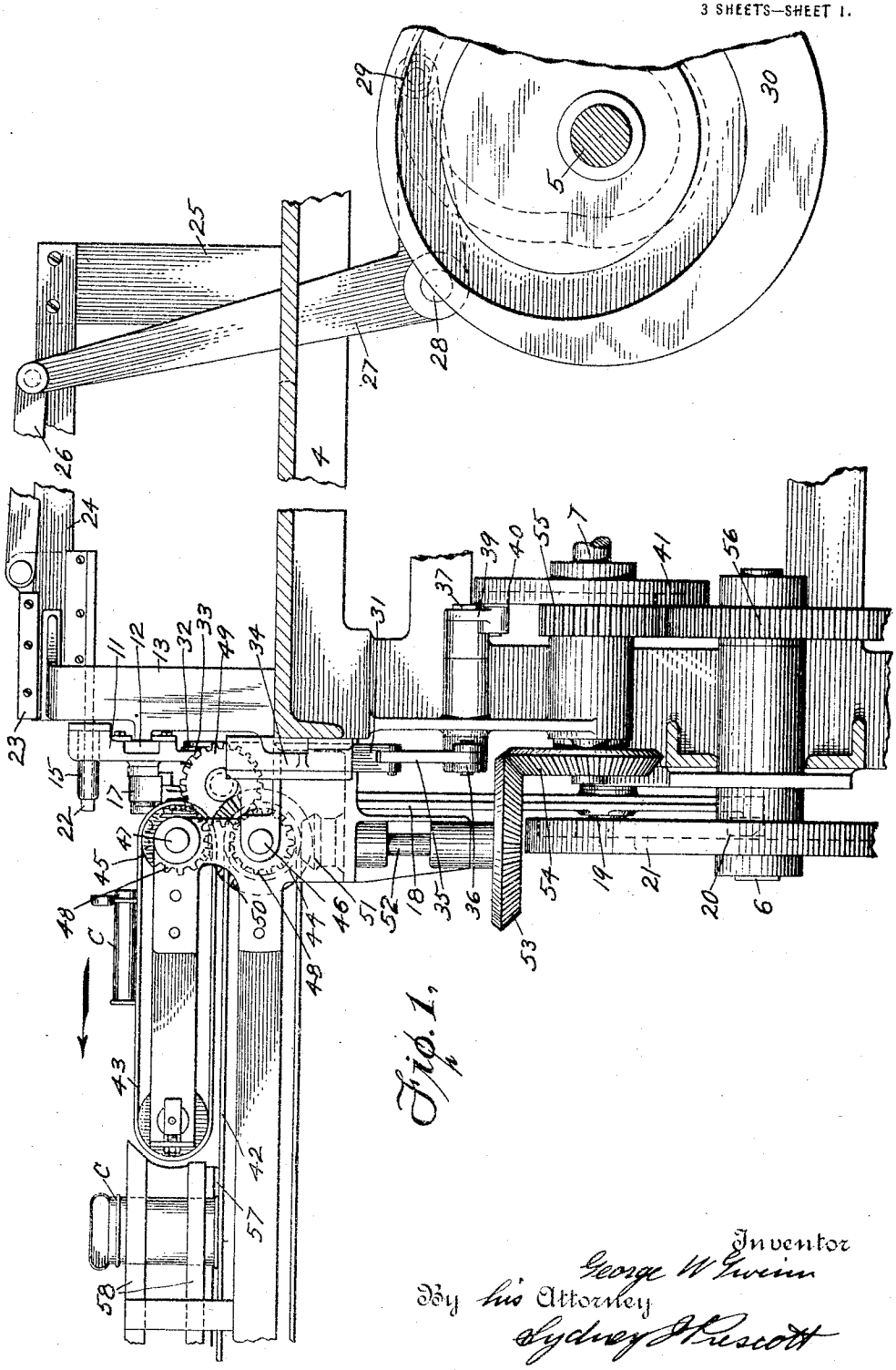



Fig. 1.

Inventor
George W Gwinn
By his Attorney
Sydney J Prescott

G. W. GWINN.

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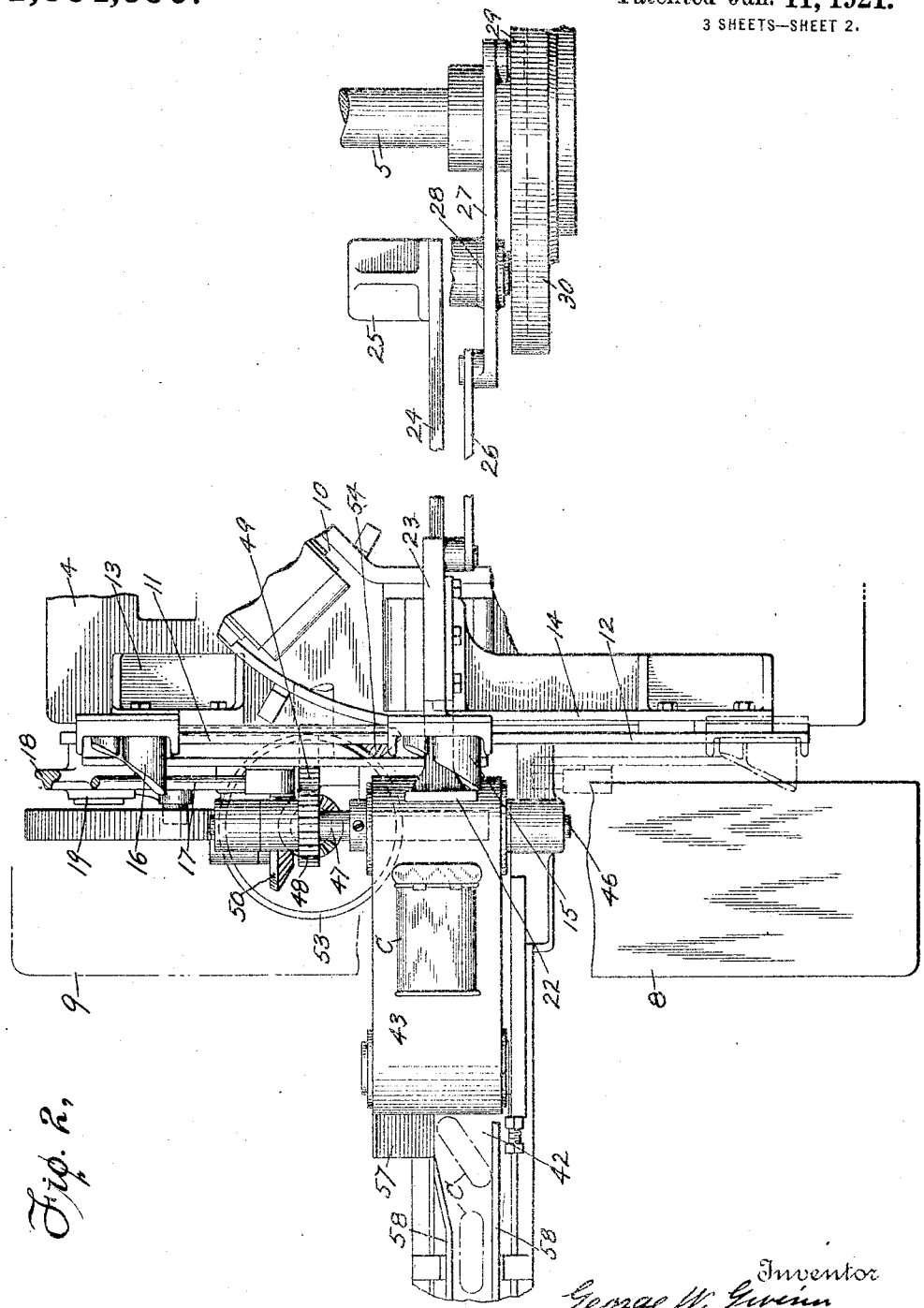



Fig. 2.

Inventor
George W. Gwinn
By his Attorney
Sydney Prescott

G. W. GWINN.

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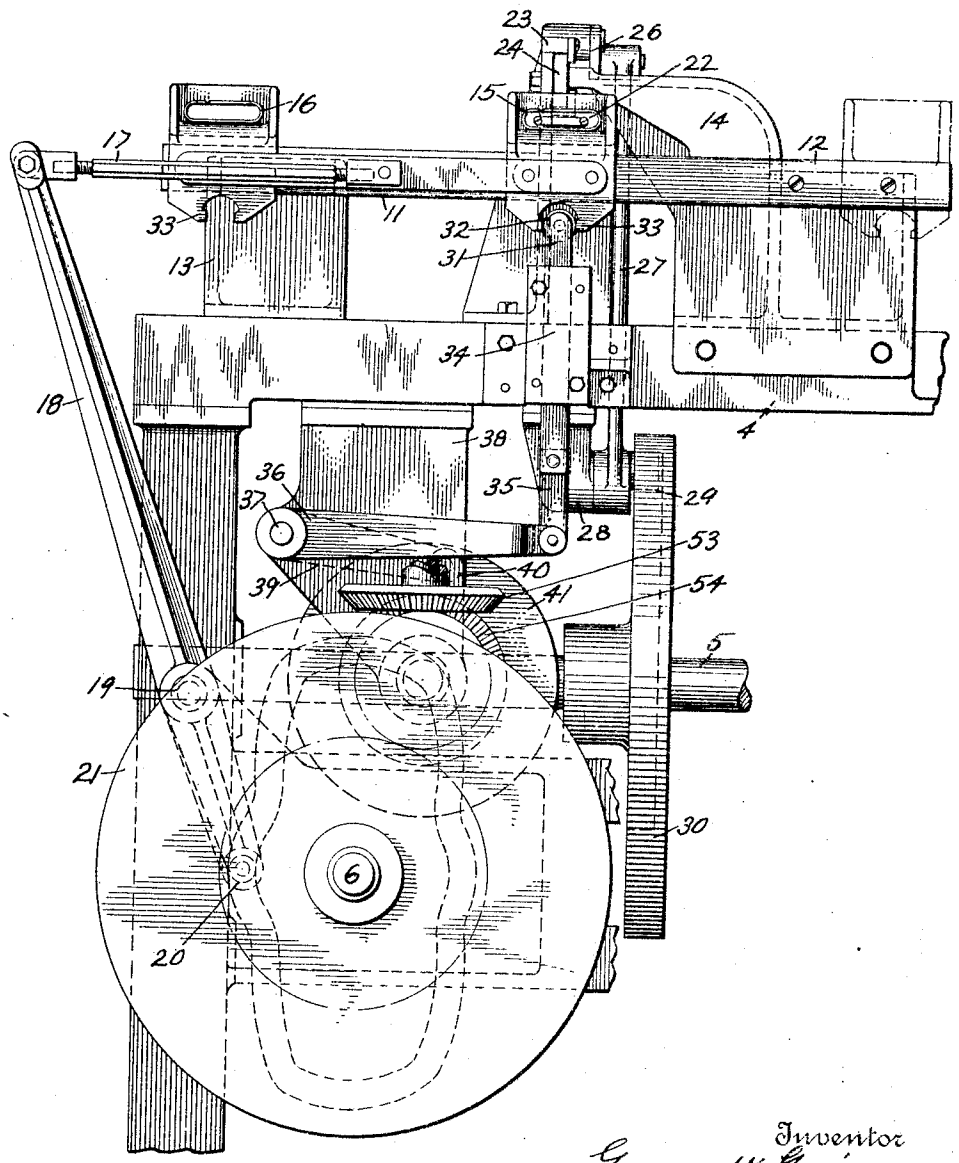
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3 SHEETS—SHEET 3.

Fig. 3,




Inventor
George W. Gwinn
By his Attorney
Sydney B. Prescott

# UNITED STATES PATENT OFFICE.

GEORGE WILBUR GWINN, OF BROOKLYN, NEW YORK, ASSIGNOR TO AUTOMATIC PACKING & LABELING COMPANY, A CORPORATION OF NORTH CAROLINA.

## CONTAINER-HANDLING DEVICE FOR TOBACCO-PACKAGING MACHINES.

1,364,990. Specification of Letters Patent. Patented Jan. 11, 1921.

Application filed May 18, 1920. Serial No. 382,274.

*To all whom it may concern:*

Be it known that I, GEORGE W. GWINN, a citizen of the United States, residing at Brooklyn, county of Kings, and State of New York, have invented a new and useful Improvement in Container-Handling Devices for Tobacco-Packaging Machines, of which the following is a specification.

This invention relates to an improvement in container handling devices for tobacco packaging machines, and it has for its main object the production of a simplified mechanism whereby two feeding operators are enabled to supply the packaging machine with containers and whereby the loaded containers are forwarded and turned in transit into upright position ready for the insertion of coupons or the application of revenue stamps.

The invention consists in certain constructions and combinations which will be hereinafter fully described and then specifically pointed out in the claims hereunto appended.

In the accompanying drawings which form a part of this specification and in which like characters of reference indicate the same or like parts, Figure 1 is a side elevation, partly in section, of a device constructed in accordance with the invention, Fig. 2 is a plan view of the structure shown in Fig. 1, and Fig. 3 is a front elevation of the structure shown in Figs. 1 and 2, with the loaded container forwarding and turning mechanism omitted.

In carrying the invention into effect, there are provided two sources of container supply, a source of package supply, means for alternately transferring containers from the sources of container supply into juxtaposition with the source of package supply, and means for there successively loading packages into said containers. In the best constructions, there is also provided means for forwarding the loaded containers and for turning them in transit ready for further operations thereupon; the source of package supply is located midway between the sources of container supply; the forwarding means operates continuously; and the container transferring mechanism is cam controlled and operates intermittently. All of the above mentioned parts, means and mechanisms may be widely varied in construction within the scope of the claims. The particular device selected to illustrate the invention is but one of many possible concrete embodiments of the same and therefore the invention is not to be restricted to the precise details of the structure shown and described.

Referring to the drawings, 4 indicates the main frame of a tobacco packaging machine in which cam shafts 5, 6 and 7 are suitably journaled. This tobacco packaging machine is well known in the art and since its particular construction lies outside of the present invention and a detailed description thereof is not necessary to a full understanding of the present invention, it is omitted in the interest of brevity and clearness.

As hereinbefore stated, the device is provided with two sources of container supply. These sources of container supply, in the device selected to illustrate the invention, consist in two feed tables 8 and 9 suitably supported in close proximity to the packaging machine. Each of these tables is adapted to support a supply of containers which in the present instance are tin cans having hinged covers. The source of package supply hereinbefore referred to consists in an intermittently rotating turret 10 forming a part of the packaging machine and which is arranged to successively deliver packages at a point midway between the sources of container supply or feed tables 8 and 9.

The device is further provided with means for alternately transferring containers from the sources of container supply into juxtaposition with the source of package supply. As shown, this means includes a reciprocating carriage 11 mounted on a stationary bar 12 supported by brackets 13 and 14 rising from the main frame 4. The carriage 11 carries two split hollow spouts 15 and 16 of a type well known in the art, the purpose of these spouts being to transfer containers slipped over them from the feed tables into juxtaposition with the turret 10 and there support them while packages are being inserted or loaded into said containers. Pivoted to the carriage 11 is a link 17 which is also pivoted to a cam lever 18 fulcrumed at 19 to the main frame 4. This cam lever carries a bowl 20 operating in a suitable cam groove in a cam disk 21.

By an inspection of Figs. 2 and 3, it will be readily seen that when the spout 16 is in position to receive a container from the feed table 9, the spout 15 is at the loading position in juxtaposition with the turret 10.

While the parts are in this position, an operator working at the feed table 9 slips a container over the spout 16. The cam 21 then causes the carriage to move to the right until the spout 16 is in loading position in front of the turret 10. When this position is reached, the spout 15 will be in position over the feed table 8 where another operator slips a container over it. A further movement of the cam 21 will bring the parts back to their original position. The containers are thus alternately transferred from the two feed tables or sources of container supply into juxtaposition with the turret or source of package supply so that they may be there loaded.

While either of the spouts carrying a container is at rest in front of the turret, a package is pushed from the turret through the spout into the container by a plunger or ram 22. This plunger is mounted on a slide 23 which reciprocates on a stationary bar 24 partly supported by the bracket 14 and partly by another bracket 25 rising from the frame 4. Pivoted to the slide 23 is a link 26 which is also pivoted to a cam lever 27 fulcrumed at 28 on a stud carried by the frame. This cam lever carries a bowl 29 tracking in a suitable cam groove formed in a cam disk 30 mounted on the cam shaft 5 before referred to. It will of course be understood that the cam 30 is timed to produce a loading movement of the plunger 22 while each of the spouts 15 and 16 is at rest and in position for loading the container it carries.

For the purpose of accurately positioning each spout in loading position when through wear the carriage operating mechanism may have a little lost motion, and for securely holding the carriage in loading position, there is provided a locking device which includes a sliding bar 31 carrying a bowl 32 engaging a fork 33 carried by the carriage under each spout. This locking bar slides in suitable ways 34 bolted to the main frame and is connected to one end of a link 35. The other end of this link is connected with an arm 36 mounted on a short shaft 37 journaled in a bracket 38 depending from the main frame. The other end of this short shaft carries an arm 39 provided with a bowl 40 tracking in a cam groove formed in a cam disk 41 fast on the shaft 7 before referred to. This cam is timed to cause the bowl 32 to engage the fork 33 which lies in front of the turret at the end of one of the reciprocating movements of the carriage 11, and to remain in engagement therewith until a package is loaded into a container.

After the containers are loaded, it is desirable that they be forwarded out of the way of oncoming containers and packages and carried to a point where coupons may be inserted therein or revenue stamps affixed thereto, and that they be turned into upright position in transit, and mechanism for doing this is provided. As shown, this mechanism includes two superposed continuously operative belts 42 and 43, the upper belt 43 being wider and shorter than the lower belt 42. These belts respectively run over driving pulleys 44 and 45 fast on shafts 46 and 47. Each of these shafts carries a spur gear 48 in mesh with an intermediate idle gear 49. The shaft 46 also carries a bevel gear 50 which is driven by a bevel pinion 51 fast on a vertical shaft 52. This shaft is journaled in suitable bearings carried by the main frame and carries at its lower end a bevel gear 53 driven by another bevel gear 54 fast on the shaft 7 before referred to. The shaft 7 also carries a spur gear 55 meshing with and driving a spur gear 56 fast on the shaft 6.

When the plunger 22 pushes a package into a container on one of the spouts and then in continuing its movement pushes the loaded container off the spout, the loaded container falls upon the upper belt 43 as clearly indicated in the drawings. The belt 43 carries it forward, lying on its side. When the container reaches the end of the upper belt it falls to the belt 42, tilting as it falls. Slightly above the surface of the lower belt at this point is a stationary shelf 57 arranged to temporarily arrest one edge of a container as it falls from the upper to the lower belt and thus permit the lower belt to swing the container and then pull it off the shelf and carry it forward between guide rails 58. In Fig. 1, a container is shown on the upper belt as it is forwarded thereby, and another is shown on the lower belt after it has been turned as desired; while in Fig. 2, a container is shown on the upper belt and indicated in two positions on the lower belt to show how the turning is effected.

In view of the foregoing, a detailed description of the operation of the mechanism is deemed unnecessary and therefore it is omitted in the interest of brevity.

What is claimed is:

1. In a tobacco packaging machine, the combination with two sources of container supply, of a source of package supply, means for alternately transferring containers from said sources of container supply into juxtaposition with said source of package supply, and means for there successively loading packages into said containers.

2. In a tobacco packaging machine, the combination with two container feed tables, of a source of package supply, means for alternately transferring containers from said feed tables into juxtaposition with said source of package supply, and means for there successively loading packages into said containers.

3. In a tobacco packaging machine, the

combination with two container feed tables, of an intermittently rotating turret forming a source of package supply, means for alternately transferring containers from said feed tables into juxtaposition with said turret, and means for there successively loading packages into said containers.

4. In a tobacco packaging machine, the combination with two container feed tables, of an intermittently rotating turret forming a source of package supply located midway between said feed tables, means for alternately transferring containers from said feed tables into juxtaposition with said turret, and means for there successively loading packages into said containers.

5. In a tobacco packaging machine, the combination with two container feed tables, of an intermittently rotating turret forming a source of package supply located midway between said feed tables, a carriage provided with a pair of container holding spouts, means for moving said carriage to alternately transfer containers from said feed tables into juxtaposition with said turret, and means for there successively loading packages into said containers.

6. In a tobacco packaging machine, the combination with two container feed tables, of an intermittently rotating turret forming a source of package supply located midway between said feed tables, a cam actuated reciprocating carriage provided with a pair of container holding spouts for alternately transferring containers from said feed tables into juxtaposition with said turret, and means for there successively loading packages into said containers.

7. In a tobacco packaging machine, the combination with two sources of container supply, of a source of package supply, means for alternately transferring containers from said sources of container supply into juxtaposition with said source of package supply, means for there successively loading packages into said containers, and means for locking the transferring means in registry with the loading means.

8. In a tobacco packaging machine, the combination with two sources of container supply, of a source of package supply, means for alternately transferring containers from said sources of container supply into juxtaposition with said source of package supply, means for there successively loading packages into said containers, and a cam actuated reciprocating bar for locking the transferring means in registry with the loading means.

9. In a tobacco packaging machine, the combination with two sources of container supply, of a source of package supply, means for alternately transferring containers from said sources of container supply into juxtaposition with said source of package supply, means for there successively loading packages into said containers, and means receiving the loaded containers and turning them into upright position.

10. In a tobacco packaging machine, the combination with two sources of container supply, of a source of package supply, means for alternately transferring containers from said sources of container supply into juxtaposition with said source of package supply, means for there successively loading packages into said containers, and means receiving the loaded containers and turning them into upright position including two superposed continuously operative belts the upper belt being shorter and wider than the lower belt, a stationary shelf adjacent the lower belt and adapted to temporarily arrest the movement of one edge of each container falling from the upper belt to the lower, and container guide rails located above the lower belt.

11. In a tobacco packaging machine, the combination with means for loading packages into containers, of means receiving the loaded containers and turning them into upright position including two superposed continuously operative belts the upper belt being shorter and wider than the lower, a stationary shelf adjacent the lower belt and adapted to temporarily arrest the movement of one edge of each container falling from the upper belt to the lower, and container guide rails located above the lower belt.

In testimony whereof, I have signed my name to this specification.

GEORGE WILBUR GWINN.