

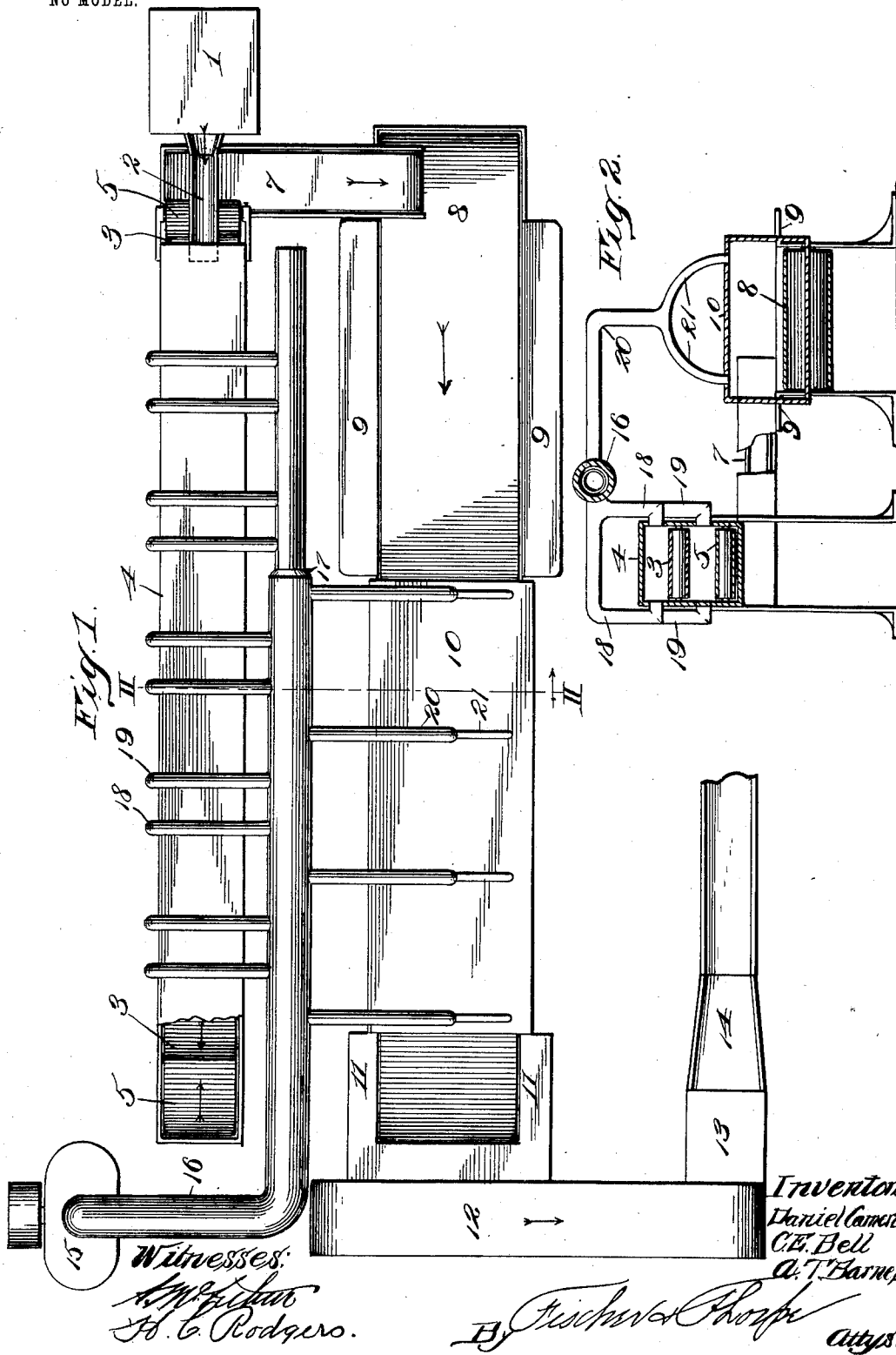
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D. CAMERON, C. E. BELL & A. T. BARNES.
PROCESS OF PREPARING CANS FOR SHIPMENT.

APPLICATION FILED SEPT. 23, 1902.

NO MODEL.



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UNITED STATES PATENT OFFICE.

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PROCESS OF PREPARING CANS FOR SHIPMENT.

SPECIFICATION forming part of Letters Patent No. 732,046, dated June 30, 1903.

Application filed September 23, 1902. Serial No. 124,499. (No specimens.)

To all whom it may concern:

Be it known that we, DANIEL CAMERON, CHARLES E. BELL, and ALBERT T. BARNES, citizens of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Processes of Preparing Cans for Shipment, of which the following is a specification.

Our invention relates to a process of preparing cans charged with food or other products for shipment.

Heretofore all meat-packing establishments and all others to the best of our knowledge and belief have lacquered their cans by hand and then let them stand until the lacquer became thoroughly dry. The operatives then applied the labels, first, however, where the cans were of that type having tongues at the side of the can, bending the tongues outwardly to puncture and project through the labels and immediately thereafter attached the usual opening-keys to the tongues and gave them a turn to make the connection secure. The cans were then stacked and left until the labels became thoroughly dry, after which they were boxed and conveyed to the shipping department. In practice the cans were usually lacquered one day, labeled the next, and on the third day transferred to the shipping department, it requiring several hours to dry the lacquer and several more to dry the labels. It will thus be seen that about forty-eight hours elapsed between the lacquering of the cans and their transfer to the shipping department.

Our objective is a process whereby the operation of painting and labeling a can shall be accomplished in a few minutes as distinguished from the old process, consuming hours, this result enabling the output of a plant to be multiplied many times and effecting a saving of approximately sixty dollars per every forty thousand cans.

Other objects of the invention will hereinafter appear, and in order that it may be fully understood reference is to be had to the accompanying drawings, which illustrate a type of mechanism which may be employed to carry the process into effect.

Figure 1 is a diagrammatic view, and Fig. 2 is a vertical cross-section taken on the line II II of Fig. 1.

In the said drawings, 1 represents a machine for automatically painting or lacquering the ends of the cans with great rapidity—such machine, for instance, as that disclosed in Patent No. 570,538, issued November 3, 1896, to A. J. Burns, or in our pending application for patent on can-painting machine, filed May 13, 1902, Serial No. 107,202.

2 is a chute to receive the cans discharged rapidly from the lacquering-machine and deposit them upon a traveling conveyer 3, extending longitudinally through a casing 4 and adapted at the opposite end of said casing from said chute to discharge the cans upon a similar conveyer 5, vertically below and preferably somewhat longer than conveyer 3, the conveyer 5 traveling in the opposite direction from the first or toward the lacquering-machine, so that the painted or lacquered cans shall twice traverse the length of the casing 4, for a purpose which hereinafter appears, these conveyers operating at equal speed through the medium of any suitable driving mechanism. (Not shown.) Contiguous to the lacquering-machine conveyer 5 discharges the cans with the lacquer dried thereon in a manner hereinafter explained upon a laterally-extending chute or traveling conveyer 7, this chute or conveyer delivering the cans upon the front end of an endless conveyer 8, said conveyer being flanked at each side for a portion of its length by ledges 9, whereon the cans are labeled and incased for a great portion of the remainder of its length by a casing 10, the projecting rear end of the conveyer being flanked by ledges 11, whereon the cans are packed in suitable boxes, (not shown,) after which the boxes are conveyed by a traveling conveyer 12 to a nailing-machine 13 of any suitable type, wherein the covers of the boxes are nailed in place, and from the nailing-machine the boxes are conveyed by a chute 14 or its equivalent to the shipping department.

At a suitable point a blower 15 of the type in common use is located, the discharge-pipe

16 from the blower extending parallel with and preferably in a higher plane than casings 4 and 10 and of diminished diameter, as at 17, forward of casing 10. Projecting from said pipe are a series of branch arms or tubes 18 19, which communicate with casing 4 at each side and respectively above and below conveyers 3 and 5, these branch arms or tubes subjecting the lacquered cans upon said conveyers to a blast of air which is sufficient to thoroughly dry the lacquer by the time the cans reach the front end of conveyer 5. In the machine which we have in actual use the cans are subjected to a blast for approximately twelve minutes. During the period of travel of the cans over conveyer 7 to conveyer 8 or immediately after they reach the latter operatives grasp the cans and bend the can-opening tongues outwardly if they are of that type having the opening-tongues at the side where the label is applied. The labelers standing by ledges 9 pick up the cans as they travel with conveyer 8 in the direction indicated by the arrow and affix the labels on the cans and the keys on the tongues in the usual manner, or said application of the labels may be performed automatically by a suitable machine. (Not shown.) Being labeled, the cans are again dropped upon the conveyer and as they pass through casing 10 are subjected to an air-blast entering the casing through branch arms or tubes 20 and branches 21 thereof of pipe 16, this blast effectually drying the labels by the time the cans emerge from the rear end of the casing, where they are picked up from the conveyer by operatives standing at ledges 11 and packed in suitable boxes, (not shown,) these boxes being immediately afterward disposed upon conveyer 12 and conveyed thereby to a nailing-machine 13, where the covers are nailed on, as hereinbefore stated, and from the nailing-machine the boxes pass over chute 14 or its equivalent to the shipping department. The total time elapsing between the lacquering of the cans and their discharge from the rear end of the label-drying casing is about twenty-five minutes, it being understood, of course, that we do not confine ourselves to the particular time in which the operation is at present performed nor, in fact, to the special machinery employed.

A plant having an output of approximately seventy thousand cans per day by the use of this process and the machinery employed in carrying it into effect is enabled to dispense with all of the operatives employed in lacquering the cans, about forty, and to dispense with about forty per cent. of the operatives originally employed in labeling, as a labeler standing at a ledge 9 and having simply to pick up the can, put on the label and key, and drop the can back upon the conveyer is enabled to equip approximately three

thousand cans a day, whereas she formerly 65 equipped about seventeen hundred.

From the foregoing it will be apparent that we have evolved a process whereby the lacquering and labeling of cans is greatly expedited and cheapened and effects, among other advantages incidental to this process, a saving of room, the machinery occupying only about one-third of the space formerly devoted to the reception of the tables at which the operatives stood for painting and labeling and stacking the freshly-painted and freshly-labeled cans. 70 75

Having thus described the invention, what we claim as new, and desire to secure by Letters Patent, is— 80

1. The process of preparing cans for shipment, the same consisting in first lacquering the cans, then conveying them upon a traveling conveyer through a drier, then labeling them, and then conveying them through a drier to dry the labels. 85

2. The process of preparing cans for shipment, the same consisting in first lacquering the cans, then conveying them upon a traveling conveyer through a drier, then labeling them and then conveying them through a drier to dry the labels, and then packing them in boxes and conveying the boxes over a traveling conveyer to a nailing-machine, then nailing the covers on the boxes and conveying the latter to the shipping department. 90 95

3. The process of preparing cans for shipment, the same consisting in first lacquering the cans, and then passing them upon a traveling conveyer through a casing, and subjecting them during such passage to an air-blast for drying the lacquer. 100

4. The process of preparing cans for shipment, the same consisting in first lacquering the cans, then passing them upon a traveling conveyer through a casing, and subjecting them during such passage to an air-blast to dry the lacquer, then labeling them, and then conducting the freshly-labeled cans through a drier for the purpose of drying the labels. 105 110

5. The process of preparing cans for shipment, the same consisting in first automatically lacquering the cans and delivering them upon an incased traveling conveyer, then subjecting them to an air-blast while passing through said casing for the purpose of drying the lacquer, and then conveying them after being labeled, through a second casing and subjecting them to an air-blast while in such passage for the purpose of drying the labels. 115 120

In testimony whereof we affix our signatures in the presence of two witnesses.

DANIEL CAMERON.
CHARLES E. BELL.
ALBERT T. BARNES.

Witnesses:

H. C. RODGERS,
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