

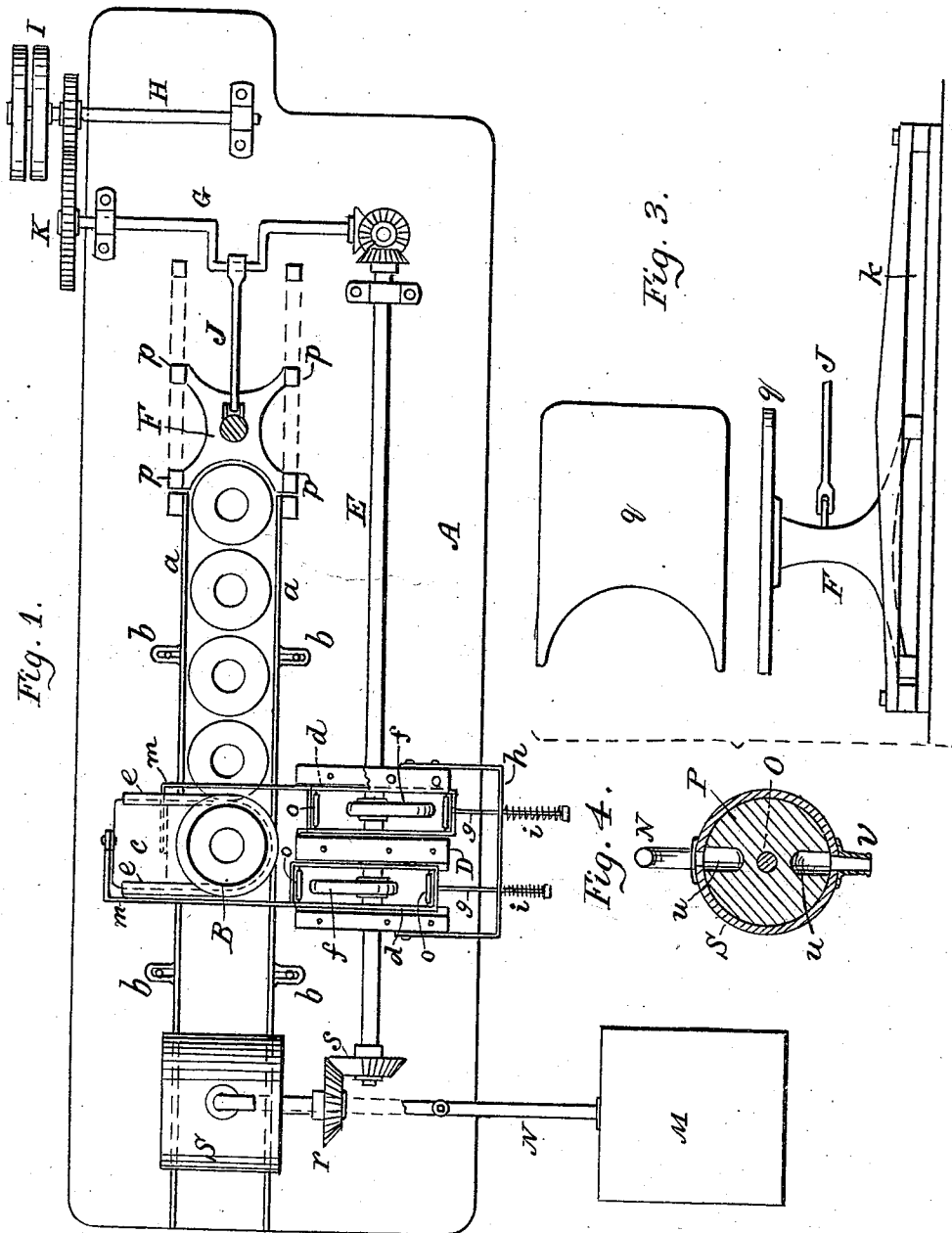
(No Model.)

2 Sheets—Sheet 1.

J. BAKER.
CAN FILLING MACHINE.

No. 503,030.

Patented Aug. 8, 1893.



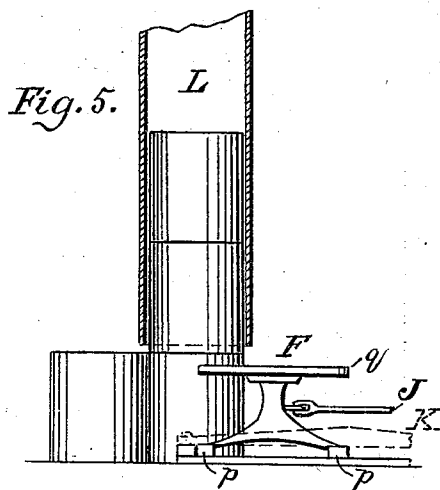
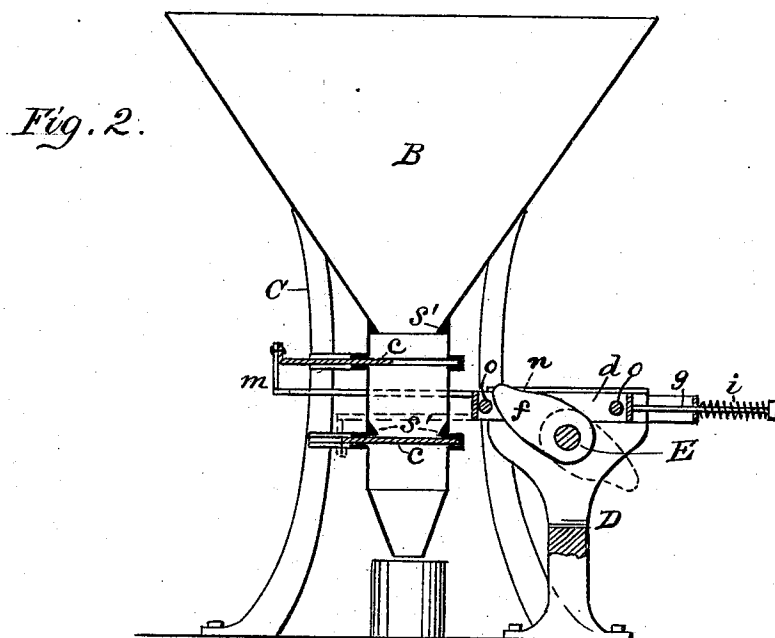
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2 Sheets—Sheet 2.

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CAN FILLING MACHINE.

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Witnesses :
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UNITED STATES PATENT OFFICE.

JOHN BAKER, OF MUSCATINE, IOWA.

CAN-FILLING MACHINE.

SPECIFICATION forming part of Letters Patent No. 503,030, dated August 8, 1893.

Application filed March 27, 1891. Serial No. 386,595. (No model.)

To all whom it may concern:

Be it known that I, JOHN BAKER, a citizen of the United States of America, residing at Muscatine, in the county of Muscatine and State of Iowa, have invented certain new and useful Improvements in Can-Filling Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to machines for canning fruit and vegetables and consists in certain improvements in the construction of the same, as hereinafter described and claimed, the object of the invention being to provide
15 an efficient machine for canning peas and small fruits. It is found in practice that the canning of such small vegetables and fruits is best effected by gravity, and on this principle the device is constructed.

20 In the accompanying drawings—Figure 1 represents a partly sectional plan view of a can-filling machine, provided with my improvements. Fig. 2 represents a vertical section of the hopper or funnel and other details.
25 Fig. 3 illustrates a follower or pushing device which moves the cans forward. Fig. 4 illustrates a rotary valve through which salted water is distributed to the cans. Fig. 5 illustrates a follower and other details.

30 A designates a table on which the machine is mounted, said table forming the bed of the apparatus.

B indicates a hopper or funnel which is supported in position above the table by frame
35 work C, the lower end of the funnel being a suitable distance from the bed to allow the cans to pass under it. The lower, tubular part of the funnel is provided with two slides *c*, located one above another, a suitable distance
40 apart, the space between them being sufficient to contain enough of the filling material to fill one can. The said slides are adapted to close the passage through the funnel, severally, and move alternately in guides
45 *e, e*, extending rearward from the funnel and made fast thereto. The parallel guides *a, a*, are adjustably secured to the bed and form a straight passage for the cans under the funnel B, each can being filled when it has moved
50 to a point directly under the funnel, as hereinafter set forth. The guides *a a* may be formed of angle-iron, or may be provided with

slotted feet *b* and adjustably secured by screws to the bed, at a greater or less distance apart according to the size of the cans to be filled. 55

D indicates a frame located in front of the funnel B. In the upper part of the frame D are loosely mounted two yokes, or rectangular, oblong frames *d*, each of which has a reciprocating movement in guides formed in
60 said frame D, said yokes moving alternately forward and backward as hereinafter stated.

A horizontal shaft E, mounted in bearings which are supported a suitable distance above the bed, extends along over the latter and under the yokes *d*. To the shaft E are secured
65 two cams *f*, each of which is in position to extend within and actuate one of the said yokes as the shaft is rotated. A rod, or spindle *g* extends forward from the front end of each yoke, through a fixed bar *h* which is connected
70 with the frame D. On the rods *g*, outside of bar *h* are placed the springs *i* which are adapted to draw the yokes forward after the latter are released from the cams. The cams
75 *f* are formed substantially as shown, being each provided with a concavity *n* which prevents the too sudden return movement of the yokes after the action of the cam. Each of the yokes is provided with a fixed bar or rod
80 *m* which extends rearward and is bent and connected with the outer end of one of the slides *c*. The cams *f* are so fixed to the shaft E, that, as the said shaft is rotated, the yokes
85 *d* are moved backward alternately by the cams; and, by the connection of rods *m* with the slides, the latter are alternately moved backward from the funnel and the passage from the hopper is thus opened. As each
90 yoke is released from the pressure of a cam, it is drawn forward and the slide connected with it is closed again by the action of a spring *i* which has been compressed by the backward movement of the yoke. Anti-friction rollers *o* are mounted in the extremities
95 of the yokes *d* for contact with the cams as the latter are rotated.

F indicates a follower or pushing device, which is placed at one end of the way formed by the guides *a*, and serves to move the cans
100 forward in a row between the guides and directly under the hopper or funnel B. The follower is provided with feet *p* which extend into and fit loosely in the slotted guides *k*

which are fixed to the bed, one being at each side of the follower. The slotted guides, being closed at their extremities, limit the movement of the follower F, but are long enough to allow the follower to make the required movement to place one can in position under the funnel B.

The follower F is provided with a stand, the top-plate *q* of which is made concave at its front end so that it partially incloses the can when moved against it. Reciprocating movement is imparted to the follower from a crank-shaft G, by a pitman J, connected therewith as shown.

On one end of a horizontal shaft H are mounted two belt-wheels or pulleys I, one of which is fast on said shaft, the other being an idler, so that belting on one of the wheels may be shifted to the other for the purpose of driving the machine or throwing it out of gear as desired, motion being imparted from the shaft H, through a train of gearing K, to the crank-shaft G.

L indicates a conductor through which the empty cans may be conducted from an upper room to the can-way formed by the guides *a*. This conductor is made square in section and is supported in a vertical position over a point in the can-way in front of the follower F. The cans, being cylindrical in form, pass readily down through the square conductor and they can impinge or move against its inner surface only at four points, being kept in position one above another. The lower end of the conductor L is a suitable distance above the can-way to allow the lowest can to be pushed forward by the follower. As the latter is moved forward by the crank-shaft, the lowest can is pushed forward, and the next can above rests on the top-plate *q* of the stand, but is let down to the can-way as the follower is drawn backward by the crank-shaft. The next forward movement of the follower presses both cans forward and a third can rests on the stand *q*, and so on, the cans in the conductor being successively let down to the way and moved forward therein a distance equal to the width of a can at each forward movement of the follower.

M indicates a tank to contain salted liquid for the cans after the latter have been filled. The said tank is suitably elevated in position and is connected by a pipe N with the casing S of a cylindrical, rotary valve P which fits in said casing, the valve being mounted on a shaft O, on one end of which is a beveled gear-wheel *r* which connects with a mutilated, beveled gear-wheel *s* on one end of the shaft E, from which rotary motion is imparted to the valve shaft O. About one-

half of the gear wheel S being without teeth, the rotary motion of the valve is intermittent, to allow a deposit of salt liquid in each of the cans as they move along under the valve. The cylindrical valve is provided with two cups *u*, formed therein at opposite points, and as the valve is rotated, one cup is being filled with liquid from the pipe N, which connects with the valve casing at the top, while the other cup is discharging its contents into a can below through a spout *v*.

As will be seen, the filling of the cans is effected entirely by the action of the gravitation, and the peas or small fruit, cast into the hopper, fall, in a certain quantity, into each can. The slides *c* are so spaced in the funnel as to hold between them the proper quantity to fill one can, and as the lower slide is opened, the upper slide being closed, such quantity is released and falls into the can below. To facilitate the fall of the peas through the funnel, inclined, annular ridges *s'* are formed at intervals on the inside which tend to keep the peas from the funnel casing.

I claim—

1. In a can-filling machine, the combination with a hopper, provided with a downward, tubular passage, of two slides placed one above another and constructed to severally open and close said passage, two horizontal, rectangular yokes, and guides in which said yokes have sliding movements, each yoke being connected, at one end, with one of said slides by a rod and provided with a retracting spring at its opposite end, a rotative shaft extending under said yokes, two cams secured to said shaft, each cam being in position to act within and against one of said yokes, and mechanism for driving said shaft, substantially as and for the purposes described.

2. The combination with a hopper, provided with a downward, tubular passage, of two slides *c*, constructed to close said passage, a frame D, provided with guides, two yokes *d*, having movement in said guides and provided with rollers *o*, each of the said yokes being connected at one end by a rod *m* with one of said slides, and provided at its opposite end with a rod *g* and a retracting spring, a rotative shaft, extending under said yokes, and two cams *f* on said shaft, each of said cams being in position to act within one of said yokes, substantially as set forth and described.

In testimony whereof I have affixed my signature in presence of two witnesses.

JOHN BAKER.

Witnesses:

N. BUSSY, Jr.,
JNO. POEHLS.