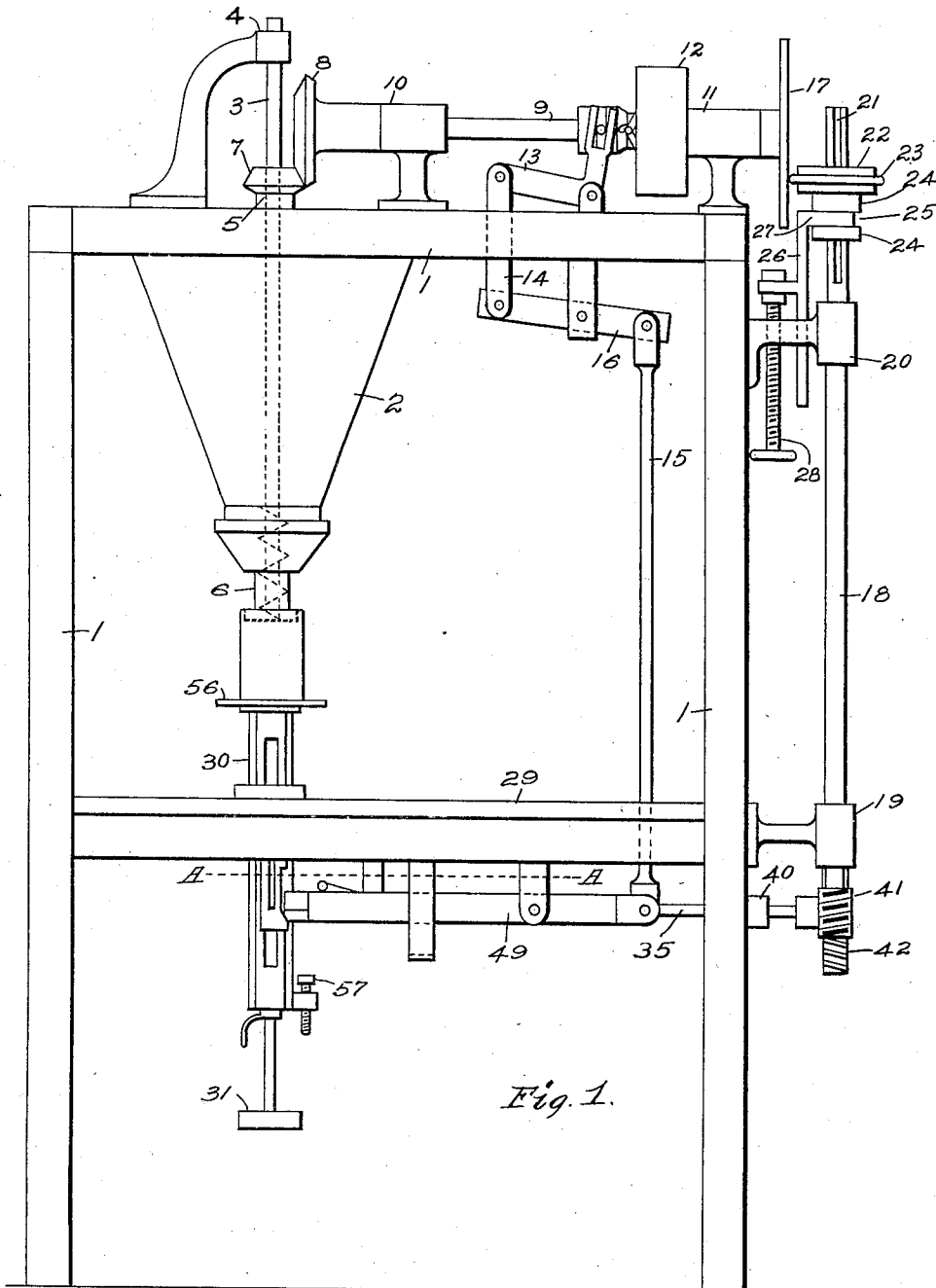


2 SHEETS—SHEET 1.



Witnesses
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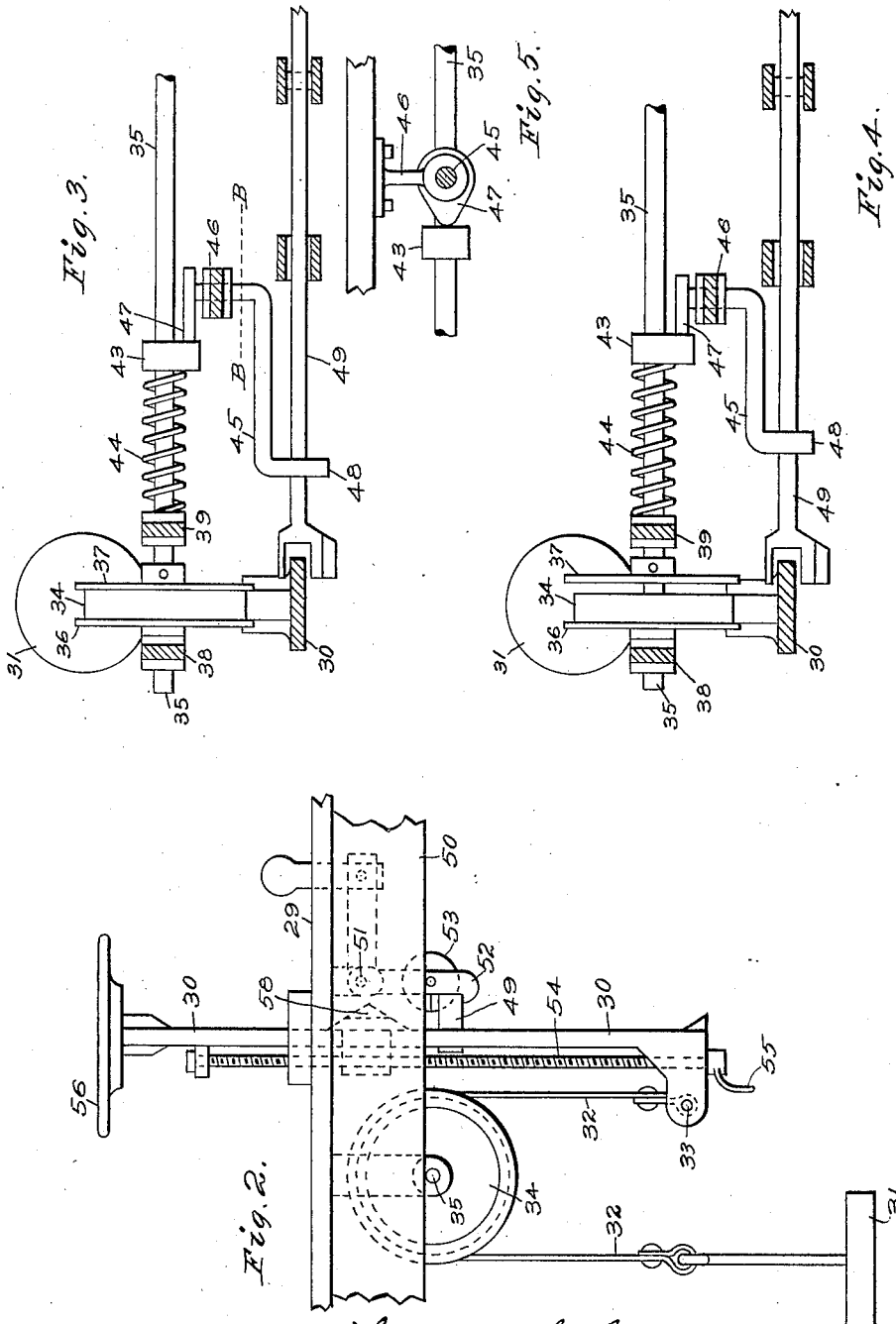
L. G. SIEBER.
PACKER.

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Patented May 27, 1913.

2 SHEETS—SHEET 2.

1,062,741.



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UNITED STATES PATENT OFFICE

LAWRENCE G. SIEBER, OF CINCINNATI, OHIO, ASSIGNOR TO THE J. H. DAY COMPANY,
OF CINCINNATI, OHIO, A CORPORATION OF OHIO.

PACKER.

1,062,741.

Specification of Letters Patent.

Patented May 27, 1913.

Application filed June 28, 1912. Serial No. 706,342.

To all whom it may concern:

Be it known that I, LAWRENCE G. SIEBER, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented a certain new and useful Improvement in Packers, of which the following is a specification.

My invention relates to machines used for packing solids of powdered or granular form into cans or cartons and its object is to provide a machine by which cans may be filled automatically and which may be arranged to stop feeding when a predetermined quantity of material has been fed into the cans.

Another object is to provide means whereby the quantity of material supplied to the cans may be increased or diminished without changing the size of the cans, thereby increasing or diminishing the density of the material in the cans.

I attain these objects by the mechanism illustrated in the accompanying drawings, in which:—

Figure (1) is an elevation of a packer; Fig. (2) is an enlarged detail of parts shown in Fig. (1); Fig. (3) is an enlarged sectional view of Fig. (1) taken on the line A—A; Fig. (4) is similar to Fig. (3); Fig. (5) is a section through Fig. (3) on line B—B.

The machine is mounted on the frame (1). Suspended from this frame is the storage hopper (2). Through this hopper the shaft (3) extends being rotatably mounted in bearings (4) and (5). Attached to the lower end of shaft (3) is a feeding screw of any suitable pattern shown by dotted lines surrounded by the tube (6). Shaft (3) is driven by the bevel pinion (7) which is splined thereto. Bevel gear (8) is rotatably mounted on horizontal shaft (9) and meshed with bevel pinion (7). Shaft (9) is journaled in bearings (10) and (11) and drives gear (8).

(12) represents a friction clutch pulley of any well known type which is arranged to be thrown in and out of gear by the bell crank arm (13) and connecting links (14) and (15) and lever (16). The disk (17) is secured to the end of shaft (9) and rotates therewith. The shaft (18) is rotatably mounted in bearing (19) and (20). The upper part of shaft (18) is supplied with a spline (21), which rotates the pulley (22),

mounted thereon. The periphery of said pulley (22) is supplied with an annular strip (23) of any abrasive material, preferably of rubber. The periphery of said rubber strip bears against the face of disk (17) which causes shaft (18) to rotate while the machine is in operation. Pulley (22) is provided with a neck (24) which is grooved at (25). The bar (26) has an angled end (27) which fits in groove (25). Said bar (26) is raised and lowered by the screw (28) which serves to cause the rubber ring (23) to play across the surface of said disk (17) toward or away from its center, which serves to cause a variation in the speed of shaft (18) to a higher speed as said pulley (22) is lowered from the center of disk (17) and vice versa when raised toward the center of said disk.

(29) represents the packing table which is supported by the frame (1). The sliding frame (30) is mounted on said table and is arranged to slide vertically through it. The sliding frame (30) is counterbalanced by the weight (31), suspended by the belt (32), one end of which is attached to the said weight and the other end is attached to said sliding frame (30) at the point (33). The belt passes over the pulley (34). The pulley (34) is constructed of two parts, one of which is loosely mounted on shaft (35) and is provided with a rim which supports the said belt (32) and a flange (36) and a second part consisting of a disk (37) which is attached to said shaft (35). Shaft (35) is mounted in bearings (38), (39) and (40) and rotates therein and is arranged to take a slight longitudinal movement. On one end of said shaft is securely fastened the worm wheel (41) which rotates with said shaft. This worm wheel is driven by a worm (42) constructed on the lower end of shaft (18) and integral therewith. Securely fastened to shaft (35) is a collar (43). Against this collar on one side an expansion coil spring (44) presses, surrounding shaft (35). The crank lever (45) is mounted in bearing (46) and carries the cam (47) on one end and an angle projection (48) on its other end. The angle projection (48) rests upon trip lever (49) and is actuated thereby. Pivotaly secured to cross frame (50) at point (51) is the latch (52) carrying the roller (53). This latch, in the position shown in Fig. (2), supports the trip

lever (49). Slidably mounted upon the sliding frame (30) is the trip dog (58) adjustable to different positions upon said frame (30) by the screw (54) manually operated by the wing nut (55). When the driving clutch is out of engagement and consequently the machine out of operation the trip lever (49) hangs downwardly out of a horizontal position.

10 In operating the machine the carton or can is first placed upon the plate (56) which is integral with sliding frame (30) and by manual means the sliding frame is raised till the tube (6) strikes the bottom of said

15 can. I have termed the sliding frame (30) and plate (56) a sliding support. In this operation the screw (57) will strike the trip lever (49) and raise it till the latch (52) retains it. The raising of this trip lever

20 throws into operation the friction clutch pulley (12) through connecting links (14) and (15), lever (16) and bell crank (13). Raising the trip lever (49) has also operated the crank lever (45) and caused its cam (47)

25 to compress the spring (44) and force shaft (35) longitudinally till the flange (37) closes upon the pulley (34) and binds the belt (32) on its edges. The machine now drives shaft (35) through disk (17), pulley

30 (22), rubber ring (23), shaft (18), worm and worm wheel (42) and (41) respectively. By pressure of cam (47) the pulley (34) is now driven positively by shaft (35) and the counterweight is lifted by the belt (32)

35 which is positively carried by the flanges (36) and (37) of pulley (34). The sliding frame (30) will therefore descend as fast as weight (31) rises which depends on the velocity of pulley (34). While sliding plate

40 (30) is descending the can supported thereon will be filled with material by the feeding screw. When the can is sufficiently filled the trip dog (58) will cause the latch (52) to swing out (by contact with the

45 roller 53) and let trip lever (49) drop, thereby releasing crank lever (45) and cam (47), whereby the spring (44) will expand and move shaft (35) longitudinally causing flange (37) to release belt (32). Synchron-

50 ously with the above releasing operation the dropping of the trip lever (49) will cause the friction clutch pulley to be thrown out of operation and the machine to stop. The aforesaid operation is repeated each time a

55 can or carton is filled.

Having now fully described my invention and the operation thereof what I claim as new and desire to secure by Letters Patent are:—

1. In a machine of the class described a 60 containing hopper, a feeding mechanism to draw material from said hopper, a sliding support for receptacles operating in alignment with said feeding mechanism and means connected with the driving mechanism of the machine for withdrawing said 65 sliding support from said feeding mechanism as said receptacles are being filled.
2. In a machine of the class described a storage hopper having a feeding mechanism 70 arranged to discharge the contents thereof into receptacles, a sliding support for said receptacles, a counterbalance for said sliding support and means for raising said counterbalance while said feeding 75 mechanism is operating.
3. In a machine of the class described a storage hopper, having a feeding mechanism arranged to discharge the contents thereof 80 into receptacles, a sliding support for said receptacles, a weight for counterbalancing said sliding support, a flexible connection between said weight and said sliding support, and means for operating said flexible 85 connection to raise said weight and thereby cause said sliding support to withdraw from said feeding mechanism while operating.
4. In a machine of the class described a storage hopper having a feeding mechanism 90 arranged to discharge the contents thereof into receptacles, a sliding support for said receptacles, a weight for counterbalancing said sliding support and means for elevating the said weight to cause said sliding support to drop by gravity. 95
5. In a machine of the class described a storage hopper having a feeding mechanism arranged to discharge the contents thereof 100 into receptacles, a sliding support for said receptacles, a weighted counterbalance for said sliding support and mechanism for elevating said counterbalance and means for varying the velocity of said mechanism to change the density of the contents of said receptacles.

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Witnesses:

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