No. 648,702. Patented May 1, 1900.

W. G. MURRAY.

PACKING MACHINE.

(Application filed Dec. 1, 1899.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

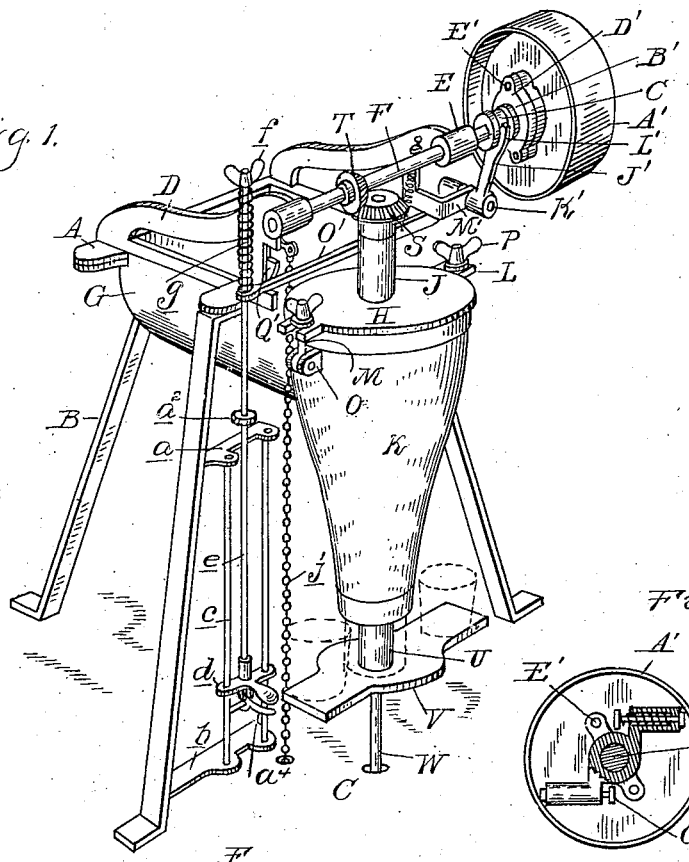


Fig. 5.

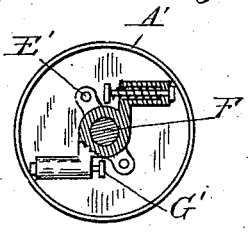
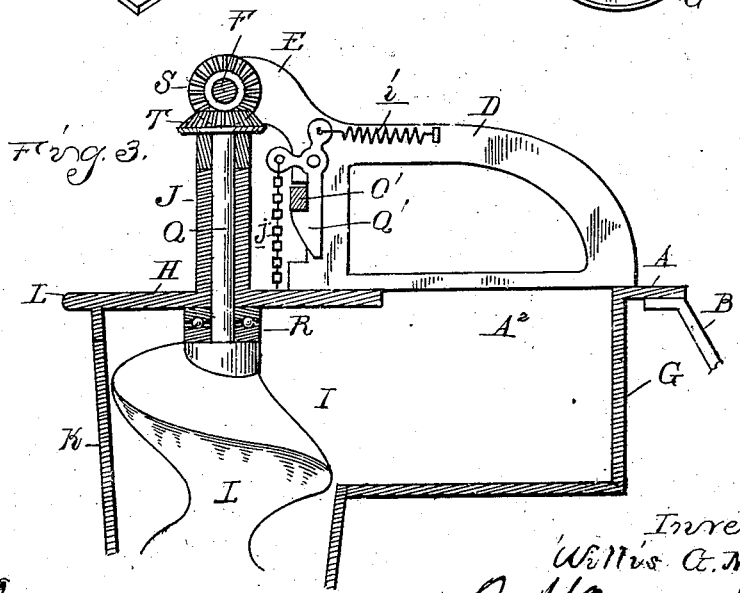


Fig. 3.



Witnesses:
E. C. Smith.
M. B. Hagerty.

Inventor
Willis G. Murray
By Munn & Co.
Attys.

No. 648,702. Patented May 1, 1900.

W. G. MURRAY.

PACKING MACHINE.

(Application filed Dec. 1, 1899.)

(No Model.) 2 Sheets—Sheet 2.

Fig. 2.

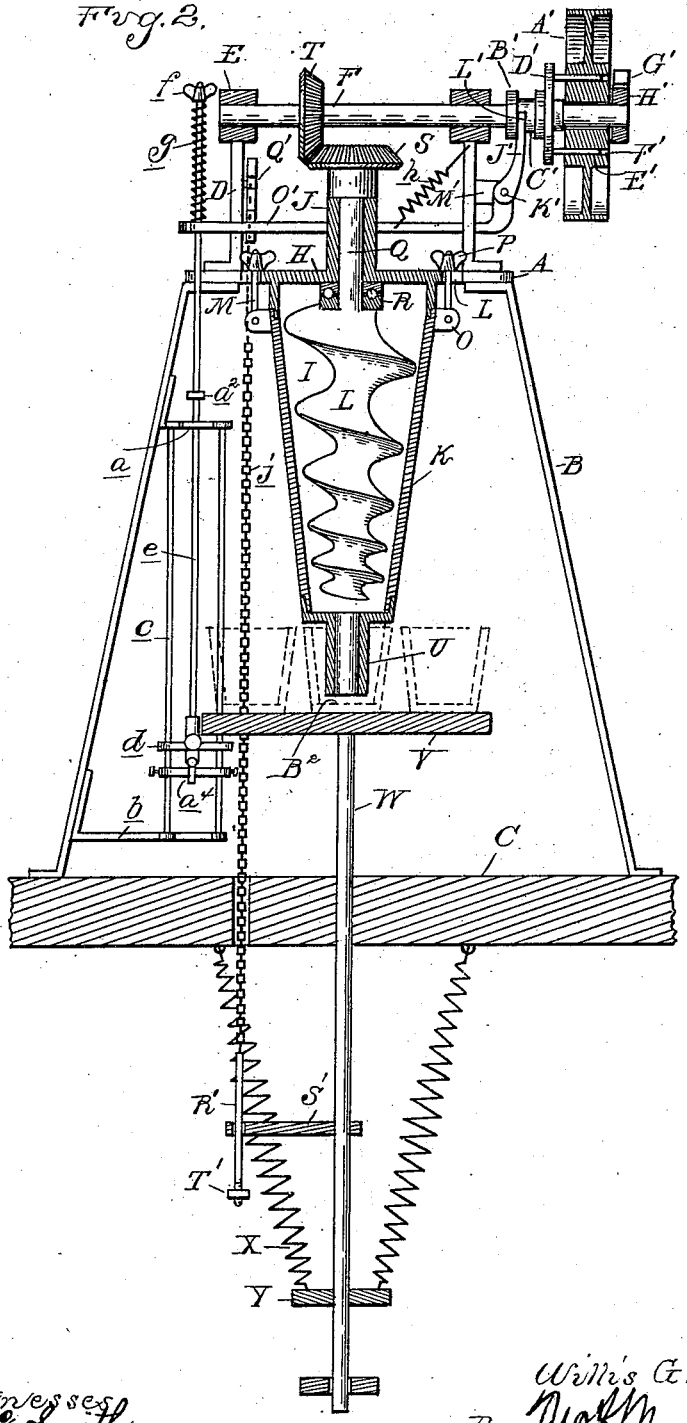
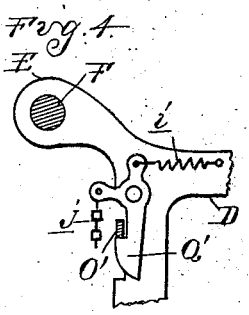


Fig. 4.



Witnesses
H. C. Smith.
Thos. O. Dugherty.

Inventor
Wm's G. Murray
By Dickerson Brown & Fraser
Attys.

UNITED STATES PATENT OFFICE.

WILLIS G. MURRAY, OF DETROIT, MICHIGAN, ASSIGNOR TO ALEXANDER F. MACLAREN, OF STRATFORD, JAMES B. MACLAREN, OF INGERSOLL, AND HENRY WRIGHT, OF TORONTO, CANADA.

PACKING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 648,702, dated May 1, 1900.

Application filed December 1, 1899. Serial No. 738,812. (No model.)

To all whom it may concern:

Be it known that I, WILLIS G. MURRAY, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Packing-Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention relates to packing-machines, and has particular reference to a machine of this type adapted in use for filling and packing jars or other receptacles with cheese.

The invention consists in the peculiar construction of the machine and in the novel combination and arrangement of the various parts thereof, which will be more fully hereinafter described, and shown in the drawings, in which—

Figure 1 is a perspective view of a machine embodying my invention. Fig. 2 is a vertical central section therethrough. Fig. 3 is a sectional view of the upper portion of the feeding device, the hopper, and a portion of the driving mechanism. Fig. 4 is a detached view of the lock for the clutch and the trip mechanism therefor, and Fig. 5 is a detached end view of the yielding stops carried by the drive-shaft.

In the drawings thus briefly referred to the reference-letter A designates a frame supported by legs or posts B, which are adapted to rest on a flooring or platform C.

D designates bracket-arms extending forward from the rear portion of the frame A and carrying at their free ends shaft-bearings E, in which is journaled a drive-shaft F.

G designates the hopper, supported upon the frame A, which carries at its outer end, and preferably integral therewith, the cover H for the feeding device I. The cover is provided with a vertical tubular bearing J and laterally-projecting slotted lips L, arranged upon each side of the cover, as shown.

The feeding device consists, essentially, of a tapering casing K, the interior of which constitutes the feed-chamber, and a worm L. The casing referred to is provided with bolts M, pivotally connected at each side of the casing, near the top, to lugs O. The bolts referred to are adapted to be swung upwardly between the slotted ears upon the cover and are provided with winged nuts P, which lock the casing to the cover, as shown. The worm L is carried by the vertical shaft Q, which extends through a ball thrust-bearing R upon the under side of the cover and upwardly through the tubular bearing J.

S designates a bevel-gear attached to the upper end of the shaft, which is adapted to mesh with a similar gear T upon the drive-shaft F.

U is a delivery or discharge spout carried by the casing at its lower end.

Beneath the feeding device is arranged a yielding or movable support V in the form of a platform, the latter being supported upon a vertical shaft W, which extends downward through the flooring or platform C, as plainly shown in Fig. 2.

X designates springs secured to the cross-head Y upon the lower end of the shaft and connected to the under side of the flooring, as shown, whereby the platform is held normally in close proximity to the delivery-spout U.

The means for operating or driving the feeding device consists, essentially, of a rotating pulley A′, which has motion transmitted to it in any suitable manner. This pulley is loosely sleeved upon the drive-shaft F and is thrown into engagement with the shaft by means of a clutch B′. In construction the clutch consists of the usual collar C′, head D′, connected thereto, and laterally-extending pins E′, carried by the head. These pins are adapted to project through apertures F′ in the hub of the pulley and to be thrown into the path of yielding stops G′, which are secured to and carried by a collar H′ upon the end of the drive-shaft. A lever J′, fixed to a stub-shaft K′, engages the collar C′ of the clutch through its bifurcated end L′. The stub-shaft has bearings in the bracket M′ on the frame and carries at its opposite end a lever O′.

It will readily be seen from the description

of the mechanism as thus set forth that upon an upward vertical movement of the lever O', which will hereinafter be referred to as the "operating-lever," the clutch mechanism will be actuated and motion transmitted to the drive-shaft F and from thence to the worm L. Material fed into the feed-casing from the hopper through the opening A^2 will be discharged through said casing by means of the worm into a receptacle, such as B^2, which is adapted to rest upon the yielding or movable support immediately beneath the discharge-spout U. As the receptacle, which is preferably in the form of a jar, fills the movable support recedes from the delivery-spout, so that the jar is entirely filled and packed. I have provided means whereby after the packing of the jar has been effected the operation of the feeding mechanism will be stopped to allow of the jar being removed and another substituted in its place. The construction of this mechanism is as follows:

a and *b* designate bracket-arms extending inwardly from one of the supporting-legs, and fixedly secured to these laterally-extending brackets are guide-rods *c*. *d* is a slide which engages these rods for vertical movement, and *e* is the slide-rod, which extends upwardly through the frame and also through the end of the operating-lever, as plainly shown in Fig. 2. At its extreme upper end the sliding rod is provided with a wing-nut *f*, and interposed between this nut and the operating-lever is a spring *g*.

h designates a second spring of less tension than the spring *g*, which connects the operating-lever with one of the bracket-arms D.

Q' designates a hook pivoted to one of the bracket-arms referred to in the vertical plane of movement of the operating-lever and is adapted to engage and lock said lever when the latter is in its extreme upward position.

i designates a spring acting normally to hold the hook beneath the operating-lever, and *j* is a chain attached to a lug or arm upon the hook, which extends downwardly through the platform C and carries at its end a rod R'. The rod referred to has a vertical sliding engagement with a lateral arm S', carried by and fixed to the supporting-rod W.

T' designates a nut adjustably arranged upon the free end of the rod R'.

The operating-lever is normally held through the agency of the spring *g* in its lowest position, the drive-pulley being disconnected from the shaft.

When it is desired to start the machine in operation, the slide *d* is moved upwardly upon the guide-rods, which releases the tension upon the spring *g*. A lug or pin a^2 upon the slide-rod strikes beneath the operating-lever and raises the same with the assistance of the spring *h* until it engages the hook Q'. The spring *g* is then compressed by returning the slide to its initial position and is held under tension by locking the slide to the guide-frame by means of a pivoted hook a^4. This movement of the lever starts the feeding device in operation. As the jar is filled the receding movement of the movable support V causes the arm S' to strike against the head or nut T', which trips the hook Q'. The said lever is returned to its normal position by the spring *g* and disengages the drive-pulley from the drive-shaft for the feed.

What I claim as my invention is—

1. In a packing-machine, the combination of the feeding device and a driving mechanism therefor, a lever controlling the operation of the feeding device, a spring acting normally upon the lever, means for moving said lever into an operative position, a hook for holding the lever in said position, means for compressing the spring after the locking of the lever has been effected, a movable support for the receptacle to be filled, and a trip for the hook connected to and adapted to be operated by the support.

2. In a packing-machine, the combination of the feeding device and a driving mechanism therefor, a lever controlling the operation of the feeding device, means for locking the lever in a position to permit the feeding devices to operate, a spring for the lever, means for compressing the spring after the locking of the lever has been effected, a spring-support for the receptacle to be filled, and means controlled by said support for unlocking the lever after the receptacle has been filled.

3. In a packing-machine, the combination of the feeding device and a driving mechanism therefor, a lever controlling the operation of the feeding device, means for locking the lever in a position to permit the feeding device to operate, a spring for the lever, a rod controlling the compression of the spring, means for actuating the rod to compress the spring and for locking the rod after the compression has been effected, a spring-support for the receptacle to be filled arranged beneath the feeding device, and a connection between said support and the lever-locking means, whereby the lever will be released at the time the receptacle is filled.

4. In a packing-machine, the combination of the feeding device and a driving mechanism therefor, a transverse lever controlling the operation of the feeding device, a hook for holding the lever in a position to allow the feeding device to operate, a rod extending through the free end of the lever, an adjustable head upon the rod end, a spring upon the rod intermediate the head and the lever, means for locking the rod against the tension of the spring, a spring-support for the receptacle to be filled, and connections between the support and the hook, whereby the lever is released after the filling of the receptacle.

5. In a packing-machine, the combination of a spring-support for the receptacle to be filled, a feeding mechanism above the support comprising a hopper, a cover for the

feed-casing secured to the hopper, the feed-casing detachably secured to and depending from the cover, a worm within the feed-casing and mechanism for driving the worm, and means controlled by the spring-support for stopping the operation of the worm after the filling of the receptacle has been effected.

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

WILLIS G. MURRAY.

Witnesses:
L. J. WHITTEMORE,
H. C. SMITH.