

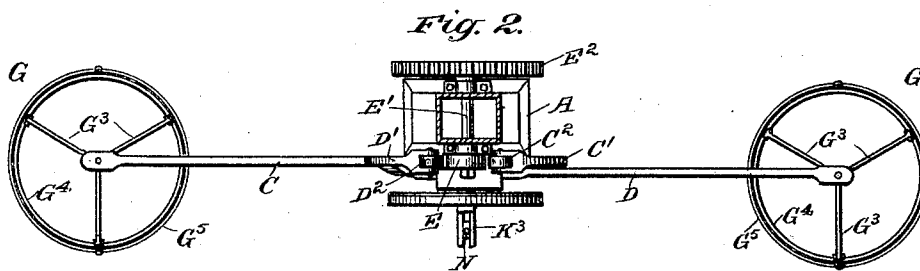
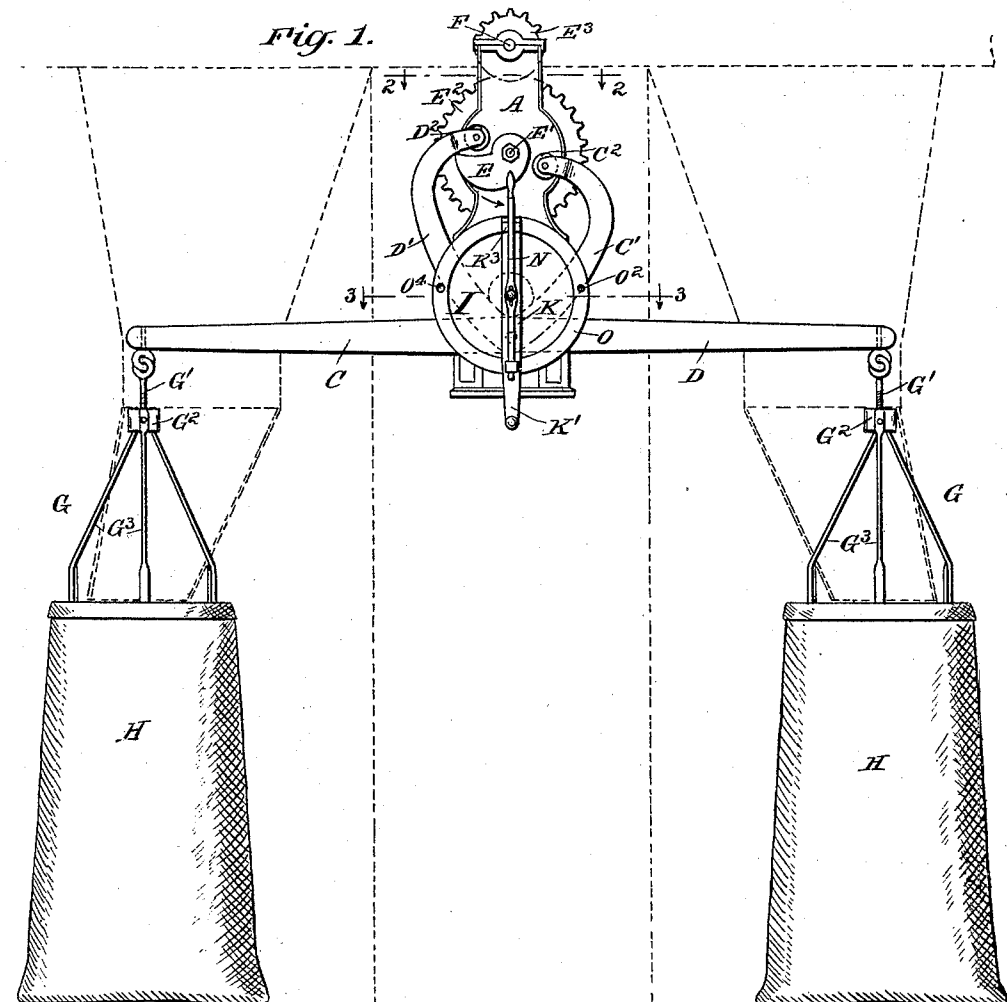
(No Model.)

J. R. MESA.
BAGGING MACHINE.

2 Sheets—Sheet 1.

No. 467,377.

Patented Jan. 19, 1892.



WITNESSES:

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ATTORNEYS.

(No Model.)

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2 Sheets—Sheet 2.

BAGGING MACHINE.

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Fig. 3.

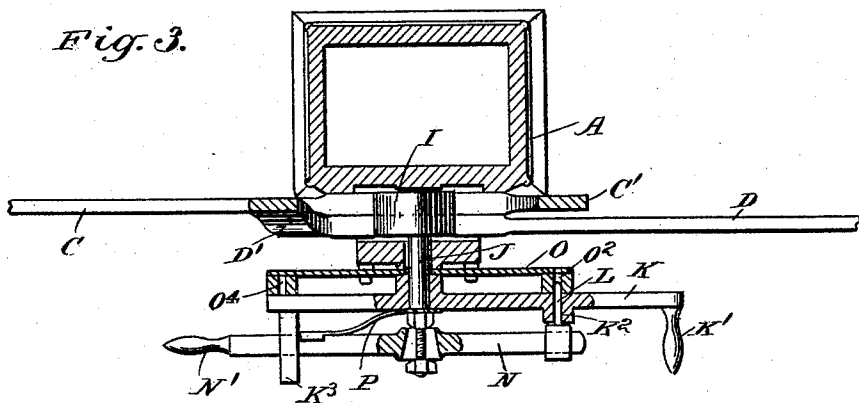


Fig. 4.

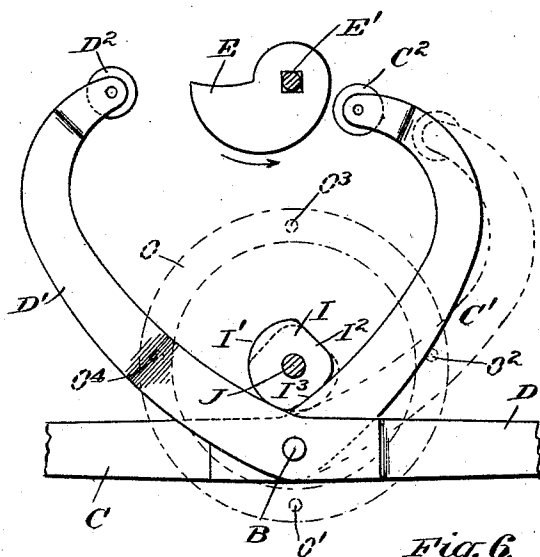


Fig. 5.

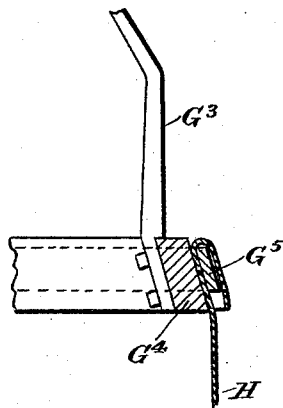
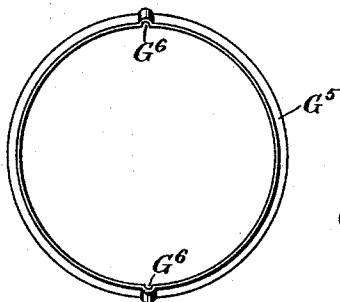


Fig. 6.



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UNITED STATES PATENT OFFICE.

JOSÉ R. MESA, OF ST. CATALINA, CORREL FALSO, MACURIGES, CUBA.

BAGGING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 467,377, dated January 19, 1892.

Application filed September 12, 1891. Serial No. 405,485. (No model.)

To all whom it may concern:

Be it known that I, JOSÉ R. MESA, a citizen of the United States, at present residing at St. Catalina, Correl Falso, Macuriges, Cuba, have invented a new and Improved Bagging-Machine, of which the following is a full, clear, and exact description.

The invention relates to machines for filling granulated sugar, grain, &c., into bags.

The object of the invention is to provide a new and improved bagging-machine, which is simple and durable in construction, very effective and automatic in operation, and arranged to automatically detach the bag when filled, and firmly pack the contents in the bag.

The invention consists of certain parts and details and combinations of the same, as will be fully described hereinafter, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a front view of the improvement. Fig. 2 is a sectional plan view of the same on the line 2 2 of Fig. 1. Fig. 3 is an enlarged sectional plan view of the same on the line 3 3 of Fig. 1. Fig. 4 is an enlarged side elevation of part of the levers and cams. Fig. 5 is an enlarged sectional side elevation of part of the bag-holder, and Fig. 6 is an enlarged plan view of the outer ring or bag holder.

The improved machine is mounted on a suitably-constructed frame A, attached to a post or other suitable support. In the frame A is held a transversely-extending pivot B, on which are fulcrumed the levers C and D, extending horizontally and in opposite directions, the inner ends C' and D' of the said levers being curved upwardly, as is plainly illustrated in Figs. 1 and 4, the extreme ends carrying friction-rollers C² and D², respectively. The friction-rollers C² and D² are adapted to be engaged by a cam E, secured on the front end of a shaft E', mounted to turn in suitable bearings in the frame A, and carrying a gear-wheel E² in mesh with a pinion E³, secured on a main driving-shaft F, also journaled in the main frame A, and connected with suitable machinery for imparting a con-

tinuous rotary motion to the said shaft, so that the said cam E continually turns around and acts on the friction-rollers C² and D² of the levers C and D, to impart a swinging motion to the said levers.

On the free end of each lever C or D is arranged a bag-holder G, comprising a threaded eyebolt G', supported from an eye on the lever C or D, and engaging with its threaded portion a nut G², provided with a series of downwardly and outwardly extending arms G³, connected with the inside of a ring G⁴, formed with an outer beveled edge extending from the bottom upward and inward, as is plainly illustrated in Fig. 5.

A ring G⁵, provided with an inner beveled edge, is adapted to fit upon the outer beveled edge of the ring G⁴, with the mouth end of the bag between the two rings, as is plainly shown in Fig. 5. In the inner beveled edge of this ring G⁵ and at diametrically-opposite points are formed grooves G⁶ to accommodate the seam of the bag when the mouth end of the latter is engaged between the two rings. Part of the mouth is turned over upon the outside of the ring G⁵, so that when the bag is filled and a downward pull is exerted on the bag the ring G⁵ is drawn very tight, and consequently the bag is securely held in place on the holder.

The arms G³ are placed a sufficient distance apart near their lower ends to permit of conveniently entering the sugar, grain, or other material or substance to be filled into the bag. As shown in dotted lines in Fig. 1, a spout opens into the mouth end of the bag to fill the same.

The operation is as follows: When the device is in the position shown in Fig. 1, the revolving cam E in engaging either of the friction-rollers C² and D² causes a swinging motion of the respective levers C or D, so that the free or horizontal end of the lever is caused to swing upward, thus raising the bag with the material accumulating in the bag. When the bag is filled, the supply is shut off in any suitable manner, and at that time the long end of the cam passes over the respective friction-roller, so that the latter is released, and the weight of the bag causes a downward swinging of the horizontal portion

of the lever, whereby the bag is dropped onto the floor, and thus the contents are very firmly packed in the bag. When it is desired to disconnect the bag from the holder, the operator takes hold of the outer ring on the downward movement of the bag-holder, so that at the time the bag strikes the floor the ring G^4 moves inward into the bag away from the outer ring G^5 , whereby the mouth end of the bag is disconnected from the two rings. The mouth end readily slips out from between the two rings G^4 and G^5 , so that the mouth of a newly-empty bag can be readily inserted between the two rings to suspend the emptied bag for filling from the respective levers C or D. The motion of the cam E is so timed in respect to either of the levers C or D and a filling-chute that the bag is filled with the desired amount of sugar, grain, or other material or substance before the respective friction-roller is released, and the lever is free to swing down.

It is understood that the bag is once or any desired number of times lifted and suddenly dropped before it is completely filled and detached from the holder. Whenever the bag on its sudden downward movement strikes the floor or other suitable fixed supports, the contents of the bag receives a shock, so that the particles closely pack themselves in the bag by concussion. As packing in this manner is continued until the bag is filled, it is apparent that the material is thoroughly packed by the time the bag is filled. The bag is then disconnected in the manner above described.

In order to actuate both levers C and D alternately by the single cam E or to actuate either of the two levers singly, a locking device is provided of the following construction: A cam I is located directly above the pivot B and is secured on a shaft J, arranged parallel with the pivot B and mounted to turn in suitable bearings in the frame A. The cam I is formed with a semicircular surface I^1 and with two straight surfaces I^2 and I^3 , as is plainly illustrated in Fig. 4. The surfaces of the cam are adapted to engage the inner edges of the curved arms C' and D' of the levers C and D directly above the pivot B. When the cam I is in the position shown in dotted lines in Fig. 1, then the two straight surfaces I^2 and I^3 are adjacent to the inner edges of the curved arms C' and D' , so that the latter are free to swing inward a sufficient distance to be operated on by the cam E in the manner above described.

When the operator desires to actuate the lever C only, then the shaft J is turned so that the cam I assumes the position illustrated in Fig. 4—that is, part of the curved surface I^1 presses on the curved arm D' of the lever D, thus swinging the said curved arm outward sufficiently far away from the cam E to prevent the latter from engaging the friction-roller D^2 . The straight part I^3 of the cam I is adjacent to the inner edge of the arm

C' , and permits the said arm and lever C to freely swing toward and from the cam E, as above described.

When it is desired to actuate the lever D only, the cam I is turned so that the straight surface I^2 is adjacent to the curved arm D' , while part of the curved surface I^1 presses on the curved arm C' , thus throwing the lever C out of engagement with the cam E.

When it is desired to throw both levers C and D out of action, then the cam I is turned to the position shown in dotted lines in Fig. 4—that is, until the segmental surface I^1 engages both inner edges of the arms C' and D' —thus throwing the friction-rollers C^2 and D^2 a sufficient distance away from the cam E, where the latter cannot touch the said friction-rollers.

In order to conveniently turn the shaft J, a lever K is fastened to the front end of the said shaft and is formed with a handle end K' , in which is arranged a transverse aperture K^2 , engaged by a pin L held on one end of a lever N, mounted to swing and to turn on the reduced end of the shaft J. (See Fig. 3.) The handle end N' of the lever N is guided in a fork K^3 , supported on the end of the lever K, opposite the handle end K' . The pin L is of sufficient length to project beyond the rear of the lever to engage one of a series of apertures O^1 , O^2 , O^3 , and O^4 , located equal distances apart and arranged in a circle in a ring O, secured on the frame A and concentric with the shaft J. A spring P presses on the handle end N' of the lever N, so as to hold the pin L in position in the lever K and in the respective aperture in the ring O.

When the levers K and N are in the positions shown in Fig. 1, the pin L of the lever N passes through the lever K and engages the aperture O^1 in the ring O, whereby the cam I is held in position to permit the cam E to actuate both levers C and D alternately. Now when the operator desires to actuate the lever C only, he takes hold of the handle end of the lever N, presses the same rearward, so that the pin L is withdrawn from the aperture O^1 in the ring O. The operator can then turn the lever K by taking hold of the handle end K' until the opening K^2 registers with the opening O^2 and the pin L passes into the said opening O^2 by the operator releasing the pressure on the lever N. The latter is returned to its position by the action of the spring P. The turning-lever K turns the shaft J and the cam I, so that the latter assumes the position shown in full lines in Fig. 4—that is, locks the lever D in an outermost position to prevent it from being operated on by the revolving cam E.

When it is desired to lock the lever C in an inactive position, the levers N and K are manipulated in the manner above described, so that the pin L engages the aperture O^4 in the ring O. When it is desired to throw both levers C and D out of action, the position of the levers K and N is changed, so that the pin

L engages the opening O³ in the ring O, the cam I then standing in the position shown in dotted lines in Fig. 4.

It is understood that the friction-rollers C² and D² do not touch the cam when in their innermost position, as illustrated in Fig. 1, the inward swinging motion of the arms C' and D' of the levers C and D being limited by the cam I, against which the said arms abut on either the straight or curved surfaces I', I², or I³.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. A packing-machine provided with a bag-supporting lever mounted to swing and arranged to lift the bag and suddenly drop the same on the floor to pack the contents by concussion, substantially as shown and described.

2. In a packing-machine, the combination, with a rotatable cam, of a lever supporting the bag and receiving an upward swinging motion from the said cam to lift the bag and permit a sudden dropping of the lever to drop the bag onto the floor to pack its contents by concussion, substantially as shown and described.

3. In a machine of the class described, the combination, with a continually-rotating cam, of two levers adapted to be operated on alternately or singly by the said cam, and a bag-holder held on the free end of each lever and comprising a ring suspended from the said lever and formed with an outer beveled edge and a second ring formed with an inner beveled edge and adapted to fit over the first ring, the ends of the mouth of a bag being between the two rings, substantially as shown and described.

4. In a machine of the class described, the combination, with a continually-rotating cam, of two levers adapted to be engaged and suddenly released by the said cam to drop a bag supported on the respective lever, and a device, substantially as shown and described, for locking the said levers in such positions as to be engaged alternately by the said cam, or singly, as set forth.

5. In a machine of the class described, the combination, with a continually-rotating cam, of two levers adapted to be engaged by the

said cam, and a second locking-cam formed with two straight surfaces and a curved or segmental surface adapted to engage the said levers, substantially as shown and described.

6. In a machine of the class described, the combination, with a continually-rotating cam, of two levers adapted to be engaged by the said cam, a second locking-cam formed with two straight surfaces and a curved or segmental surface adapted to engage the said levers, and means, substantially as described, for turning the said cam into the desired position, as set forth.

7. In a machine of the class described, the combination, with a continually-rotating cam, of two levers adapted to be engaged by the said cam, a second locking-cam formed with two straight surfaces and a curved or segmental surface adapted to engage the said levers, and means, substantially as described, for turning and locking the said second cam into position, as set forth.

8. In a machine of the class described, the combination, with two bag-supporting levers and a continually-revolving cam for actuating the said levers, of a locking-cam formed with two straight surfaces and a curved surface adapted to engage the said levers, a shaft carrying the said locking-cam, a hand-lever secured on the said shaft, a pin adapted to pass through the said lever, and an apertured ring adapted to be engaged by the said pin, substantially as shown and described.

9. In a machine of the class described, the combination, with two bag-supporting levers and a continually-revolving cam for actuating the said levers, of a locking-cam formed with two straight surfaces and a curved surface adapted to engage the said levers, a shaft carrying the said locking-cam, a hand-lever secured on the said shaft, a pin adapted to pass through the said lever, an apertured ring adapted to be engaged by the said pin, and a spring-pressed lever carrying the said pin and guided in a fork projecting from the said hand-lever, substantially as shown and described.

JOSÉ R. MESA.

Witnesses:

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EDGAR TATE.