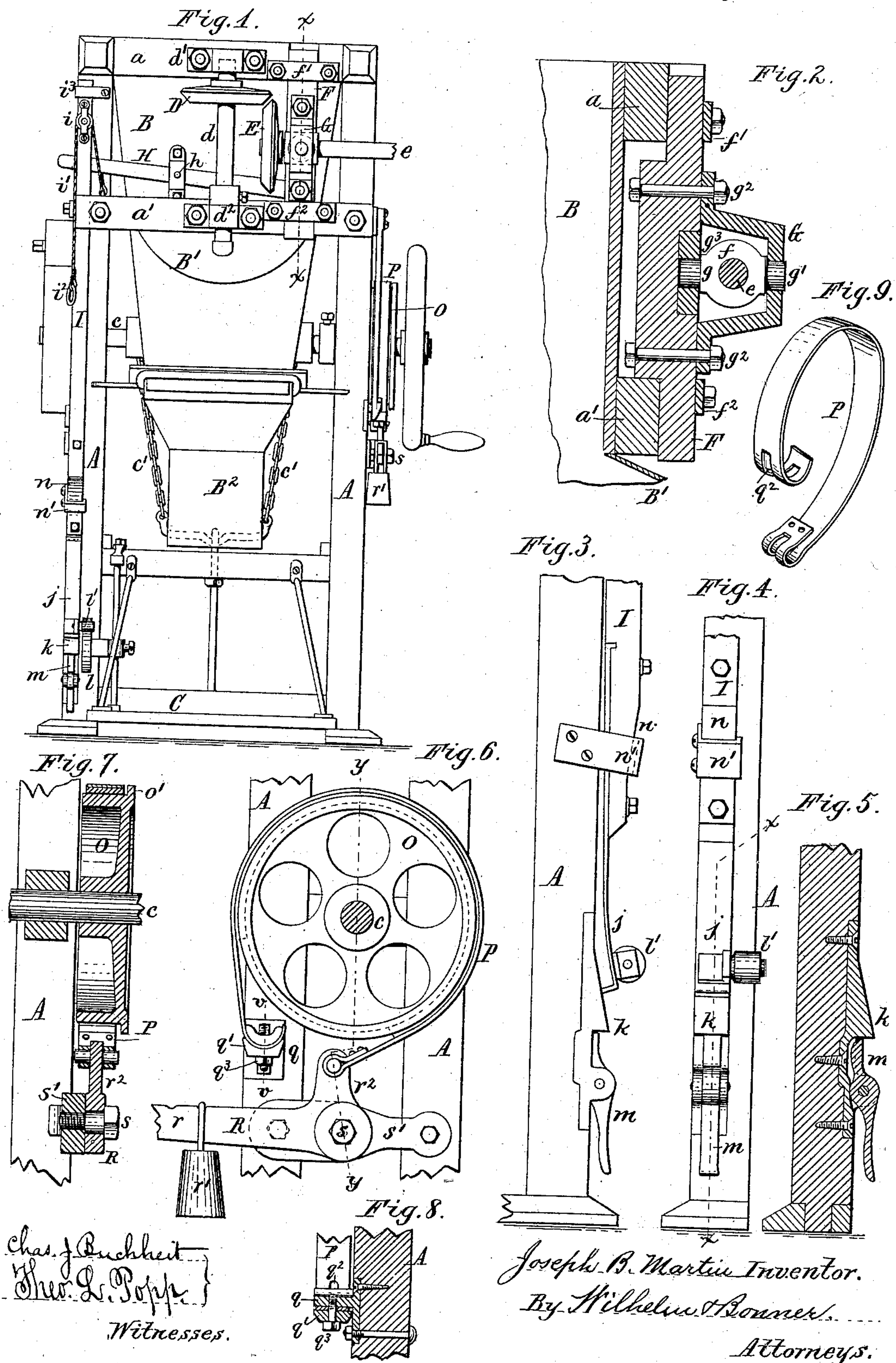


(No Model.)

J. B. MARTIN.
FLOUR PACKER.

No. 277,845.

Patented May 15, 1883.



UNITED STATES PATENT OFFICE.

JOSEPH B. MARTIN, OF SILVER CREEK, NEW YORK, ASSIGNOR TO HOWES, BABCOCK & EWELL, OF SAME PLACE.

FLOUR-PACKER.

SPECIFICATION forming part of Letters Patent No. 277,845, dated May 15, 1883.

Application filed March 31, 1883. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH B. MARTIN, of Silver Creek, in the county of Chautauqua and State of New York, have invented new and useful Improvements in Flour-Packers, of which the following is a specification.

This invention relates to an improvement in that class of flour-packers which are provided with a packing-tube, into which the flour is delivered from the bin, and in which a revolving auger operates, which forces the flour into a barrel, bag, or other receptacle supported upon the movable platform, which recedes from the packing-tube as the barrel or bag becomes filled, the operation being automatically arrested when the desired quantity of flour has been packed.

The object of my invention is to render the machine more sensitive and more rapid in its operation, and to facilitate the manipulation of the machine.

My invention consists of the improvements which will be hereinafter fully described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a front elevation of a flour-packer provided with my improvements. Fig. 2 is a vertical section on an enlarged scale in line *xx*, Fig. 1. Fig. 3 is a side elevation, on an enlarged scale, of the lower part of the mechanism, whereby the motion of the packing-auger is controlled. Fig. 4 is a front elevation, and Fig. 5 is a vertical section, thereof in line *xx*, Fig. 4. Fig. 6 is a side elevation of the brake mechanism. Fig. 7 is a vertical section in line *yy*, Fig. 6. Fig. 8 is a vertical section in line *vv*, Fig. 6. Fig. 9 is a perspective view of the brake-band.

Like letters of reference refer to like parts in the several figures.

A A represent the upright posts of the stationary frame of the machine, and *aa'* are cross-pieces, whereby the parts are connected at and near their upper ends.

B is the hopper or receptacle, secured between the upper portions of the posts A A, and communicating with the flour-bin; and B' is a hood which connects the lower end of the hopper B with the packing-tube B².

C is the platform, which moves vertically between the posts A, and is attached to a hori-

zontal shaft, *e*, by chains *e'*, in a well-known manner.

d is a vertical shaft, to the lower end of which the packing-auger is attached. The shaft *d* extends upwardly through the hood B' and turns in bearings *d'* *d*², secured, respectively, to the cross-pieces *aa'* of the frame.

D is a bevel-wheel secured to the shaft *d* below the upper bearing, *d'*.

e is the horizontal driving-shaft, which carries at its inner end a bevel-wheel, E, which is adapted to engage with the wheel D on the auger-shaft. The shaft *e* is supported near the wheel E by a bearing, *f*, which is secured to a bar, F. The latter is made vertically movable in ways or grooves formed in the cross-pieces *aa'*, in which it is held by straps *f'* *f*². The bearing *f* is provided with journals *g* *g'*. The journal *g'* is arranged on the outer side of the bearing *f*, and engages in a socket formed in a strap or support, G, which is secured to the bar F by bolts *g*² or other suitable fastening devices, and the inner journal, *g*, engages in a socket, *g*³, formed in or secured to the bar F, as clearly represented in Fig. 2. The bar is raised for engaging the wheel E with the wheel D and lowered for disengaging the wheels. The outer end of the driving-shaft *e* is supported in any suitable bearing secured to a stationary part of the mill structure, and the raising and lowering of the bar F tends to bind the inner end of the shaft in its bearing. This binding of the shaft is prevented by pivoting the bearing *f* to the bar F, as above described.

H represents a lever, which is pivoted at *h* to the hopper B, and attached with its inner end to the bar F and with its outer end to a vertical bar, I, which is arranged on the front side of one of the posts A, and by means of which the lever H is operated.

i is a pulley secured to the bar I near its upper end, and *i'* is a cord which runs around the pulley *i*, and is secured to the cross-piece *aa'* with one end and provided at its opposite end with a ring or handle, *i*², in convenient reach of the operator, so that by pulling on the cord the bar I is lowered, thereby depressing the outer end of the lever H and raising the bar F and wheel E, while, by releasing the cord *i'*, the weight of the shaft *e* and connect-

ing parts will cause the bar F to drop, so as to disengage the wheel E from the wheel D. The bar I is guided at its upper end in a strap, i^3 .

j is a spring-catch, which is secured to the lower end of the bar I, and k is a stop or shoulder secured to the post A, near its lower end, below the spring-catch j , and turned with its abrupt side downward, so that upon lowering the bar I the spring-catch j will ride over the inclined face of the stop k , and finally engage against the abrupt side of the stop, and thereby hold the bar I in its lowest position and the wheel E in engagement with the wheel D.

l represents an adjustable stop secured to the side of the platform C, and l' is a roller mounted on a stud secured to the inner side of the spring-catch j in the same vertical line with the stop l of the platform. The relative arrangement of the stop l and roller l' is such that the stop l engages against the rear side of the roller l' as the platform descends and forces the roller l' forwardly until the spring-catch j is disengaged from the stop k , when the weight of the shaft e and connecting parts will cause the bar I to move upwardly to the position represented in Fig. 3. The stop l is so adjusted on the platform C that the catch j is disengaged from the stop k when the desired quantity of flour has been packed, thereby stopping the operation of the packing-auger at the proper point. The roller l' reduces the friction between the parts and prevents the flour from being packed harder when the stop of the platform comes in contact with the shifting mechanism, which is the case when the roller is not used, owing to the increased resistance encountered at this point by the descending platform.

m represents a trip-lever, which is pivoted to the post A, below the shoulder k , and arranged with its upper end in rear of the catch j , so that upon pressing the lower arm of the lever backward toward the post A the upper arm of the lever will move forwardly and disengage the catch j from the stop k . When during the operation of packing it becomes necessary to instantly stop the machine this is readily accomplished by a slight movement of the lever m .

n represents an inclined face formed on the bar I, near its lower end, and n' is a correspondingly-inclined guide secured to the post A. The guide and face are so arranged that when the bar I is in its elevated position, as represented in Fig. 3, the face is separated from the inclined portion of the guide. Upon lowering the bar I the inclined face n comes in contact with the inclined portion of the guide n' , and the lower end of the bar I is thereby forced toward the face of the post A, whereby the spring-catch is made to hug the inclined face of the guide, thereby insuring the engagement of the spring-catch j with the shoulder k , when the end of the catch is placed beyond the edge of the shoulder. During the upward movement of the bar I the inclined face n draws away from the inclined portion of the

guide n' , thereby permitting the free movement of the bar.

O represents the brake-pulley, which is secured to the shaft e , and P is the brake-band which encircles the pulley O. The latter is provided at its outer side with a projecting rim, o' , which confines the brake-band.

q is a bracket or support secured to the side of the front post, A, below the pulley O, for securing the stationary end of the brake-band thereto. The lower side of the bracket q is curved, as represented in Fig. 6, and the end of the brake-band is correspondingly curved, so as to lie snugly against the under side of the bracket.

q' is a washer, which is made concave on its upper side and applied to the lower convex side of the curved end of the brake-band. The latter is provided with a slot, q^2 , through which passes a fastening-screw, q^3 , which is tapped into the bracket q and bears with its head against the washer q' .

R represents the brake-lever, which is provided with a long arm, r , to which a movable weight, r' , is applied, and a short arm, r^2 , to which the movable end of the brake-band is connected. The lever R is pivoted by a bolt, s , to a bridge-tree or support, s' , which is secured to the posts A. The long arm of the lever R is arranged substantially in a horizontal position, and the short arm r^2 of the lever in an upright position, but slightly inclined forwardly, so that a downward movement of the long arm of the lever will cause the point at which the short arm is connected to the brake-band to swing in an arc which lies substantially in the direction of the movable end of the brake-band. This construction of the brake-band furnishes a large contact-surface between the brake band and the brake-pulley and causes the brake to be tightened by a very slight movement of the long arm of the lever. The fixed end of the brake-band can be adjusted within the limits of the slot q^2 , whereby the length of the brake-band and the position of the brake-lever can be regulated.

I claim as my invention—

1. The combination, with the auger-shaft d and gear-wheel D, mounted thereon, of the driving-shaft e , provided with a gear-wheel, E, movable bar F, and a bearing, f , pivoted to the movable bar, substantially as set forth.

2. In a flour-packer, the combination, with the stationary frame A, provided with a shoulder, k , of the shifting-bar I, and a spring-catch, j , secured to the lower end of said bar and adapted to engage against said shoulder, substantially as set forth.

3. The combination, with the movable platform having a suitable stop, of the shifting-bar I, spring-catch j , and roller l' , substantially as set forth.

4. The combination, with the auger-shaft d , provided with gear-wheel D, of the movable bar F, driving-shaft e , lever H, vertical bar I, spring-catch, j , secured to the vertical bar I, and a shoulder, k , secured to the post A and adapted

to engage with the spring catch and hold the bar I against upward movement, substantially as set forth.

5 5. The combination, with the bar I, provided with a spring-catch, *j*, of the shoulder *k* and trip-lever *m*, substantially as set forth.

6. The combination, with the bar I, provided with inclined face *n* and spring-catch *j*, of the inclined guide *n'*, and stop *k*, substantially as set forth.

10 7. In a flour-packer, the combination, with the brake-wheel, of a brake-band made adjustable at one end, whereby the length of the brake-band and the position of the brake-lever can be regulated, substantially as set forth.

15 8. In a flour-packer, the combination, with a brake-pulley, O, of the brake-band P, support *q*, to which the fixed end of the brake-band is attached, and the bell-crank lever R,

having its short arm connected with the movable end of the brake-band, and its long arm provided with a weight, *r'*, substantially as set forth. 20

9. In a flour-packer, the combination, with a brake-pulley, O, and brake-band P, of the convex support *q* and concave washer *q'*, between which the fixed end of the brake-band is clamped, substantially as set forth. 25

10. In a flour-packer, the combination, with the brake-pulley O, of the brake-band P, provided with a slot, *q²*, the supporting-bracket *q*, washer *q'*, and bolt *q³*, substantially as set forth. 30

JOSEPH B. MARTIN.

Witnesses:

GROW L. HEATON,
G. S. CRANSON.