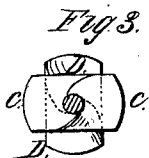
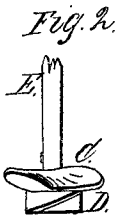
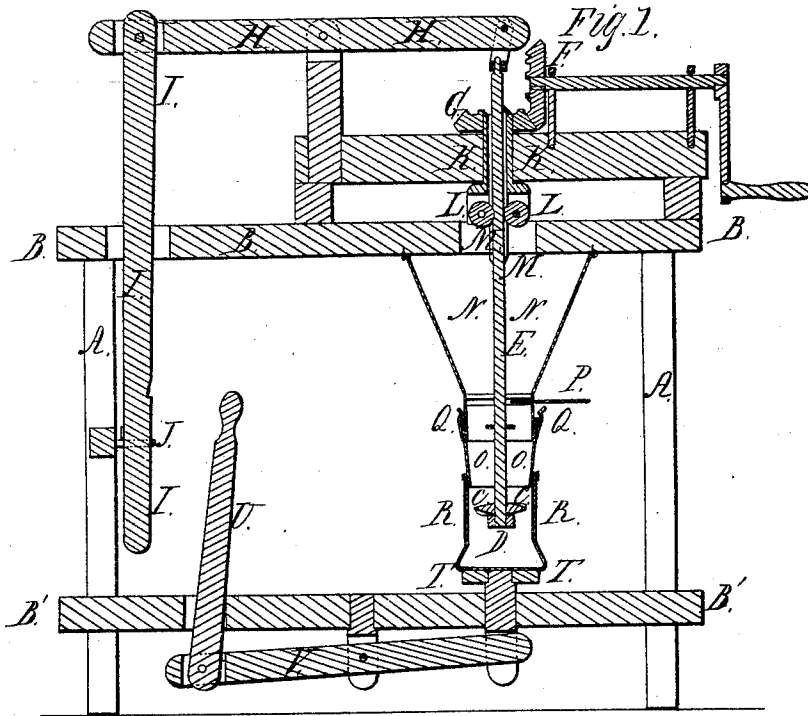


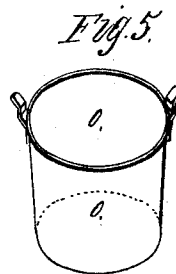
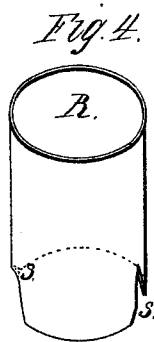
A. Brown, Flour Packer.

N^o 35,075.

Patented Apr. 29, 1862



Witnesses;
J. M. Deak
Jm. H. Harrison.



Inventor;
Albus Brown by
Stoddard his atty

UNITED STATES PATENT OFFICE.

ALBERT BROWN, OF MIFFLINVILLE, PENNSYLVANIA.

IMPROVEMENT IN FLOUR-PACKING MACHINES.

Specification forming part of Letters Patent No. 35,075, dated April 29, 1862.

To all whom it may concern:

Be it known that I, ALBERT BROWN, of Mifflinville, in the county of Columbia, in the State of Pennsylvania, have invented certain new and useful Improvements in Flour-Packing Machinery; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 represents a sectional elevation of my improved flour-packing machine. Figs. 2 and 3 show, respectively, a side and plan view of the propeller-shaped flour-presser; Fig. 4, the metallic sleeve or funnel for holding the flour-bag while being filled and packed; and Fig. 5, the adjustable funnel for holding the upper edge or opening of the bag distended and snug against the rim of the metallic sleeve, and at the same time establishing communication between the stationary hopper and the bag.

In the said figures, A represents the posts of a strong frame, upon which is mounted the whole machinery for packing the flour as delivered from the flouring-mills. Instead of posts, A may represent the side walls of a flour-packing room, of which B and B' are respectively the ceiling and floor.

The packing machinery proper consists, first, of a mechanism or instrument for pressing the flour into and within a barrel or bag in uniform layers; second, of a mechanism for imparting the requisite movements to the pressing-instrument, so as to render its operation continuous and automatic; third, of a means for properly conveying the flour from the place of its storage or from the flouring-mill to the barrel or bag; and, fourth, of a means for holding the barrel or bag in a proper position in relation to the packing machinery and for allowing of its being readily engaged with or disengaged from the said machinery.

To enable others skilled in the art to make and use my invention, I shall now proceed to describe the construction, arrangement, and *modus operandi* of the several parts herein-after referred to.

The pressing machinery consists of two screw-propeller-shaped blades, C and D, mounted upon a vertical shaft, E, that receives its rotary motion from some prime mover by means of the bevel-gears F and G.

The shaft is suspended to the end of a walking-beam, H, which the operator may work up and down at pleasure by means of the rod I to hoist or lower the screw or pressing-instrument out of or into the barrel. After one barrel is filled with flour the screw is hoisted up by pulling upon the rod on the outer end of the beam, and the rod is locked in with the loop, or by means of a spring-catch at J, while another and empty barrel is placed in position for a subsequent operation.

The two screws, it will be seen, are arranged one above the other. The object of thus arranging the two screws is the distribution of the flour by the one—*i. e.*, the upper one—into even layers in advance of the other—*i. e.*, the under screw—whose function it is to eliminate the air from the flour and to compress it. By this arrangement the screw is rendered most available for the purposes of packing flour or other substances in powder.

Rotary motion is imparted to the screws by means of a bevel-gear, G, mounted upon a hollow shaft or sleeve, K, through which the screw-shaft passes. To the sleeve are affixed two or more rollers, L, arranged to converge toward the center of the screw-shaft F, and are adjusted so as to mesh in with guides or grooves M upon the said shaft.

The rollers not only diminish friction in the up and down movements of the revolving screw-shaft, but will keep the said shaft in its true and central position in relation to the sleeve, and consequently in relation to the barrel or bag.

The screw is weighted, so as to give it the requisite pressing action upon the flour in the barrel. It has therefore a downward tendency, and is only worked up by the gradual filling of the barrel. This operation is effected automatically by the gearing described, which imparts the rotary motion to the shaft by means of the rollers L, that grip the shaft, without, however, interfering with its up and down motions.

The flour to be packed is first entered the hopper or flour-reservoir N, whence it is fed into the barrel or bag by passing through the funnel O. I provide the hopper with a gate, P, for the double purpose of regulating the supply of flour into the bag in accordance with the velocity of operation and weight of

the screw and of shutting off the supply of flour altogether at the intermediate stages—*i. e.*, when one barrel is full another and empty one is placed in its stead.

The funnel O is a single truncated cone, its upper diameter being somewhat larger than that of the lower opening of the hopper, while its inferior diameter is smaller than that of the opening of the bag or barrel. It is provided with two or more springs, Q, at or near its upper periphery, whose function it is to catch with the studs or other projections on the hopper, so as to be held thereby in position until purposely released therefrom.

If bags be used instead of the usual barrels, I employ a metallic or other cylindrical sleeve, R, of the exact diameter of the bag, so that when distended the said bag shall fill it completely. In order that the bag may not pucker within its sleeve, I cut two angular slits in the lower end of the cylinder, so as to allow the ears or corners of the bag to protrude from the cylinder, as shown in Fig. 1.

The method employed by me of distending the bag consists simply in turning over the rim of the sleeve or cylinder, the upper edge of the bag. By this means the bag will at once assume the form of the cylinder.

When the bag is properly distended, I place it upon a platform, T, which is raised up by means of the levers U and V against the funnel O, so that it shall tightly pack the opening of the bag, and thus insure it against becoming

loose or displaced by the constant action of the screw.

Having thus described my invention, I shall state my claims as follows:

1. The method of imparting rotary motion to the propeller or other rotary flour-packing device, so as to allow of its rotation at variable elevations by passing the propeller-shaft through the sleeve of the main gear-wheel, said sleeve being provided with friction-rollers impinging upon and working within grooves or ways arranged along the said shaft, substantially in the manner herein set forth.

2. In combination with a stationary hopper or spout for the conveyance of the flour to the bag to be packed, the adjustable funnel constructed and arranged, substantially as described, so as to be readily adjustable to the stationary hopper and securely hold the opening of the bag distended, substantially as herein shown and described.

3. The arrangement described of one double-winged screw-propeller over the other, so that while the one shall evenly spread the flour in advance of the other the latter shall press the flour thus spread.

In testimony whereof I have signed my name to this specification before two subscribing witnesses.

ALBERT BROWN.

Witnesses:

NATHAN MARTZ,
GEORGE A. BROWN.