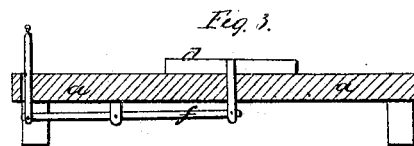
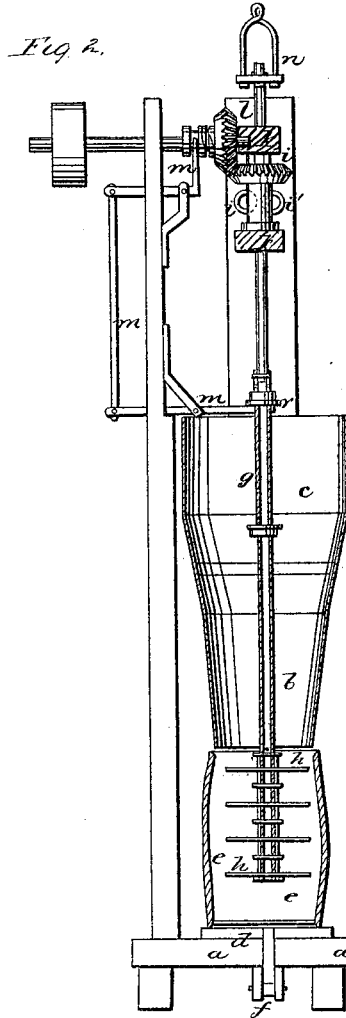
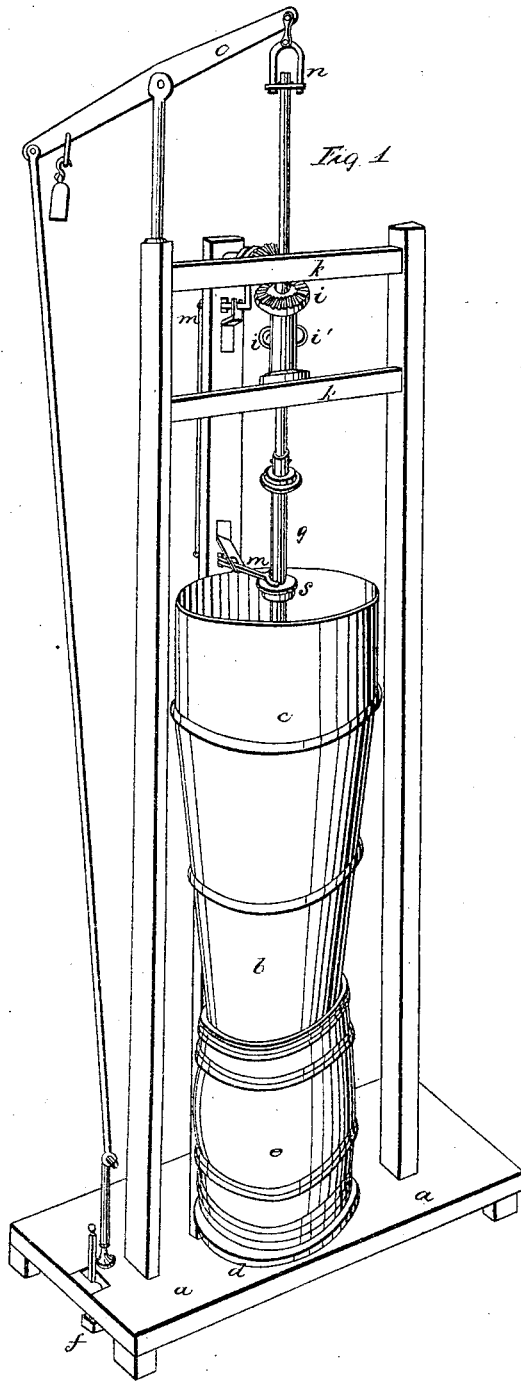


*N. Kinman,*  
*Flour Packer.*

*N<sup>o</sup> 6,830.*

*Patented Oct. 30, 1849.*



# UNITED STATES PATENT OFFICE.

NATHAN KINMAN, OF BUFFALO, NEW YORK.

## FLOUR-PACKER.

Specification forming part of Letters Patent No. 6,830, dated October 30, 1849; Reissued April 26, 1864, No. 1,659.

*To all whom it may concern:*

Be it known that I, NATHAN KINMAN, of Buffalo, in the county of Erie and State of New York, have invented certain new and  
5 useful Improvements in Apparatus for Packing Flour, and that the following is a full, clear, and exact description of the principle or character which distinguishes them from all other things before known  
10 and of the usual manner of making, modifying, and using the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1, is a perspective view of the apparatus; Fig. 2, is a vertical section through the center; Fig. 3, shows the lever and platform on which the barrel is raised.

The most important element in packing flour, in large mills, is expedition; and how-  
20 ever perfect any apparatus may be in packing, if it has not this great desideratum, it is useless in such situations. The great object therefore of my improvements is to give greater expedition to the process of packing  
25 flour than has heretofore been done, retaining at the same time such parts of the old and well known apparatus for packing as are necessary to carry out my designs.

At a proper distance from the packing  
30 floor (*a*), I suspend a tube, (*b*), which will contain about a barrel of flour, or a little more; this tube is somewhat larger at the top than at the bottom, which is made just to fit into the top of the barrel; the upper-  
35 end of this tube connects with a chest, or reservoir, (*c*), of sufficient capacity to hold the flour from the bolts of many hours' grinding, directly under the tube (*b*) above named, there is a small movable platform  
40 (*d*), on which the barrel (*e*), is placed that is to be filled; this platform is raised by means of the lever (*f*), (see Fig. 3,) till the barrel slips over the lower end of the tube, where it remains till it is packed.

45 The packing apparatus consists of a shaft (*g*), that extends up vertically through the center of the tube (*b*), to a sufficient height above the chest which contains the flour to be packed; it will vary in length from fif-  
50 teen to forty feet, according to the size of the chest through which it passes. It has eight (more or less) arms, or inclined blades, (*h*), radiating in different directions from it, one above the other, near its lower

end. This shaft is made hollow, and is 55 open at the bottom, and at the top has lateral holes into it; above which it is solid, and has a groove cut into it on each side; this solid part of the shaft passes up through the hollow shaft of a miter wheel (*i*) that  
60 has its bearings in two bridge trees (*k*), between which it is located; two friction wheels, (*i'*), are inserted in the hollow shaft of this miter wheel, that enters the grooves above named in shaft (*g*), and guide and  
65 turn it as hereafter more clearly set forth:—one half the thickness of each of the bridge trees (*k*), is cut large enough for a bearing for the shaft of the miter wheel; the other serving as a bearing for the fluted shaft (*g*),  
70 by which it is steadied; the miter wheel (*i*), has another (*l*), working into it, on a horizontal shaft, by which the whole is driven; the last named wheel being loose on the shaft, with which it is connected by a clutch  
75 of ordinary construction, that is moved by a bent lever (*m*), hereafter described. The shaft (*g*), is suspended at its upper end by a swivel (*n*), to a lever (*o*), which has a connection rod (*p*), affixed to its other end  
80 by which the shaft is raised and lowered.

The operation is as follows: The chest is filled with flour—say several hundred barrels, and passes down into the tube (*b*); a barrel is placed in the position shown in  
85 drawing under the tube, and the shaft is lowered into it, and being hollow, permits the air to escape up through it from the barrel, by which I avoid the dust and waste occasioned by the escape of air through the  
90 flour at the sides; when the shaft reaches the lowest point, a collar (*r*) thereon strikes the bent lever (*m*), above named, and clutches the bevel gearing with the prime mover, and thus causes the shaft (*g*), to revolve and  
95 pack the flour, by means of the inclined blades, into the barrel, and at the same time gradually rise up into the tube (*b*), where it also packs the flour, and condenses it ready for the next operation. (This I consider a  
100 very important operation for expediting the business.) As soon as the lower blades on the shaft have risen to a level with the bottom of the tube, there is another collar (*s*), set on the shaft so as to strike the bent lever  
105 (*m*), and throw the clutch out of gear and stop the revolution of the shaft; the barrel of packed flour is lowered on the platform,

on which it rests, and breaks off from the main body in the tube, that is retained by means of the blades on the shaft; a new barrel is then put upon the platform in place of the one filled, and it is raised up to the tube; the shaft is then lowered again, carrying with it the condensed flour in the tube, and the process again commences by the revolving of the shaft; but inasmuch as the barrel is filled with flour previously, condensed, it is packed, and the shaft ascends more rapidly than if the previous condensation had not taken place. This process is repeated with each succeeding barrel till the whole of the flour contained in the chest is packed.

Having thus fully described my improved apparatus and its mode of operation what I

claim therein as new and for which I desire to secure Letters Patent is—

1. The packing apparatus consisting of a combination of the tube *b*, and inclined blades for condensing the flour and retaining it while moving the barrel substantially in the manner and for the purposes set forth.

2. I claim the hollow shaft for expelling the air from the barrel in packing as above described. I also claim the self acting clutch in combination with the packing apparatus in the manner above made known.

NATHAN KINMAN.

Witnesses:

J. J. GREENOUGH,  
WM. BISHOP.

[FIRST PRINTED 1913.]