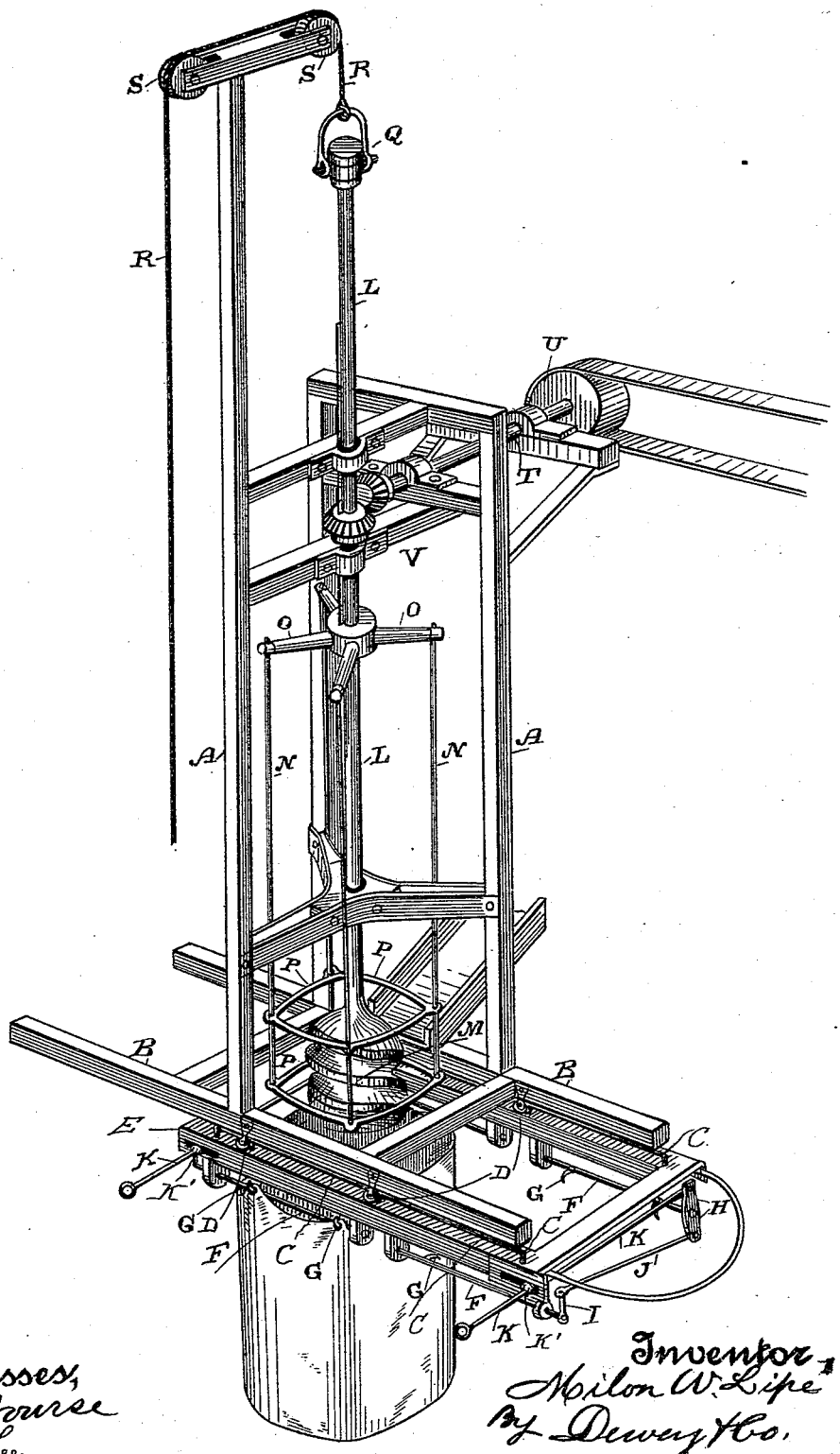
(No Model.)

M. W. LIPE.

FLOUR PACKER.

No. 458,327. Patented Aug. 25, 1891.



Witnesses,
J. N. Nourse
H. C. Lee.

Inventor,
Milon W. Lipe
By Dewey & Co.
Attys

UNITED STATES PATENT OFFICE.

MILON W. LIPE, OF SAN JOSÉ, CALIFORNIA.

FLOUR-PACKER.

SPECIFICATION forming part of Letters Patent No. 458,327, dated August 25, 1891.

Application filed November 10, 1890. Serial No. 370,970. (No model.)

To all whom it may concern:

Be it known that I, MILON W. LIPE, a citizen of the United States, residing at San José, Santa Clara county, State of California, have invented an Improvement in Sack-Fillers; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to an apparatus for filling sacks; and it consists of mechanism for packing the grain solidly into the sack and certain details of construction.

Referring to the accompanying drawing for a more complete explanation of my invention, the figure is a perspective view of as much of the apparatus as relates to my invention.

In filling sacks with grain where the grain is discharged by a chute or otherwise into the sack it is well known that unless the grain is tamped or shaken down while the sack is being filled it will lie so loosely that the sack will not hold as much by a great many pounds as it would otherwise do. It is usual in filling sacks from thrashing-machines to use a stick or some device for tamping the grain as it flows into the sack.

My invention consists of an automatic device for doing this work and in certain means for attaching and detaching the sacks, so that the work may be made continuous.

A is a vertical frame-work, having the horizontal transverse frame-work B attached to its lower end. Upon this frame-work guides C are fixed and upon these guides the rollers D are fitted to travel. From these rollers a frame E is suspended, having the horizontal shafts F journaled along its opposite edges. These shafts have the outwardly-curving hooks G secured to them, and when the shafts are rotated in one direction these hooks are turned downward and inwardly to release a sack. When turned in the opposite direction, they are thrown outwardly and upwardly, so that the sack may be readily hung upon them. One of these shafts is journaled upon each side of the frame in the position where the sack is to be suspended. I have here shown the traveling frame made of such a length as to contain two of these sets of shafts with their hooks, so that two sacks may be suspended therefrom. By this construction one sack may be hung upon its hooks and the frame moved along until the sack is beneath the filling-spout, and while this sack is being filled another sack may be hung upon the other set of hooks to be transferred beneath the filling-spout after the first one is complete, and by thus alternately moving the sack-carrying frame to one side and the other the work is carried on continuously.

In order to rotate the shafts F in opposite directions, I have shown upon one of the shafts the double crank H, the arms of which extend in opposite directions from the shaft. Upon the other shaft is the single crank I. The single crank I, which projects upwardly from its shaft, and the lower end of the double-crank H are united by a connecting-rod J. The upper end of the double crank H has a rod K connected with it, this rod projecting to the front of the machine, having a handle by which it may be easily operated. This rod passes through or over a latch K′, with which it may be engaged when the shafts F have been turned so that the hooks G are in position for a sack to hang upon them. The sack is then hung upon these hooks, two in front and two behind, which will keep its mouth open, and it remains there until filled. After being filled, by touching the handle of the rod K it is raised from the holding-catch, and the shafts F will revolve, so that the hooks turn downwardly and inwardly, and these release the sack, which drops upon the ground, the shafts and hooks are again returned to their position by pulling the rod K forward and engaging it again with the catch. As the frame-work carrying these shafts travels easily upon the bearing-rollers, it may be shifted alternately from one side to the other to transfer an empty sack into the place of the full one. The frame-work is preferably sufficiently high from the ground so that the sack does not touch, but hangs beneath it, and will drop off easily when the shafts and hooks are turned.

In order to compact the grain within these sacks, I have shown the vertical shaft L, suitably journaled within the upright frame-work A, and at the lower end of this shaft is a screw or auger M of considerable diameter. Around this auger are the safety-rods N, which are supported from a frame or spider O, fixed upon the shaft L, and at the lower end these rods are connected with a frame P, which may be

made round, square, or any other desirable form, and of sufficient size to inclose the lower end of this screw M and keep the sides of the sack away from it, so that in its revolutions the screw will not twist the sack up upon itself. The shaft L is suspended by a swivel-head Q, and a rope R passes over pulleys S and extends down to a point within reach of the operator. If the screw-shaft and attachments are too heavy for the work, a counterweight of any suitable size can be attached to the rope R, and the weight of the screw thus regulated.

In order to rotate the shaft L and the screw M, I have shown a horizontal shaft T, fixed to the frame A, and a driving pulley and belt, as shown at U. The beveled gears V upon the horizontal shaft T and vertical shaft L serve to transmit motion to the latter from the former. When set in motion, power being derived from any convenient portion of the machine, the screw will be turned in such a way as to cause it to lift continuously, or as if it were being drawn out of the sack, and as the grain falls into the sack this screw, rotating, forces it down and compacts it into every part of the sack until the latter is full. When the sack is full, the gate of the supply-chute being temporarily closed, the screw is lifted upward by means of the rope R, and the shaft L has a feather, so that it may slide through the gear V, which is upon it, thus allowing the shaft to be raised and lowered without affecting the rotation of the screw. The frame before described is then moved along, so as to bring another sack beneath the chute, the screw is dropped into the sack, and the gate opened, so that the second sack may be filled. In this manner the work proceeds.

I have found that by the use of this device I can place eight or ten pounds more of grain in every sack than could be done with any of the hand-tamping that has previously been practiced.

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

1. In a sack-filling device, the sliding frame having the oscillating shafts journaled upon its opposite sides and provided with outwardly-curved hooks attached to them for the suspension of the sack, the crank-arms H and I on opposite shafts, the connecting-rod J, secured to the cranks of opposite shafts, and the hand-rod K, leading from one of the crank-arms and provided with a latching device, whereby the shafts may be turned, so that the hooks will support a sack or release it to allow the sack to drop, substantially as herein described.

2. In a sack-filling machine, a horizontal sliding frame having the two or more sets of oscillating shafts upon opposite sides, with hooks adapted to hold sacks upon them, the independent cranks, and connecting-rods whereby each set of shafts may be turned simultaneously and independently of each other, substantially as herein described.

3. In a sack-filling machine, a sack-holder provided with means for holding the sack, in combination with a rotary shaft having a screw or auger fixed to its lower end, a swivel-head and rope by which it is suspended and raised and lowered, a spider on the shaft, the rods N, depending therefrom, and the frame P on the lower ends of the rods and inclosing the lower end of the screw or auger, substantially as herein described.

In witness whereof I have hereunto set my hand.

MILON W. LIPE.

Witnesses:
GEO. H. STRONG,
S. H. NOURSE.