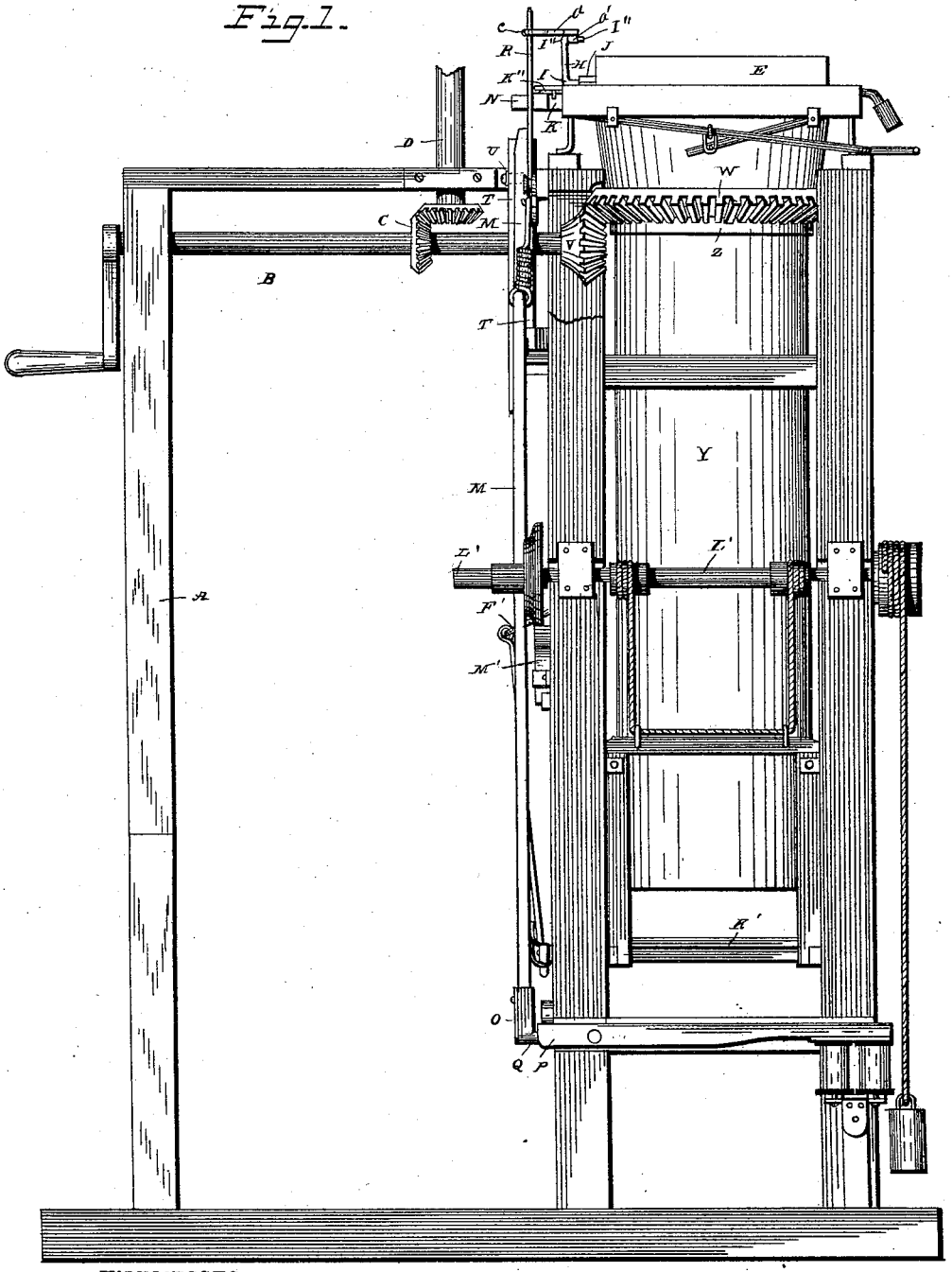
(No Model.) 4 Sheets—Sheet 1.

C. W. ROTH.

FLOUR PACKER.

No. 345,452. Patented July 13, 1886.

Fig. 1.



WITNESSES

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(No Model.)

4 Sheets—Sheet 2.

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Fig. 2.

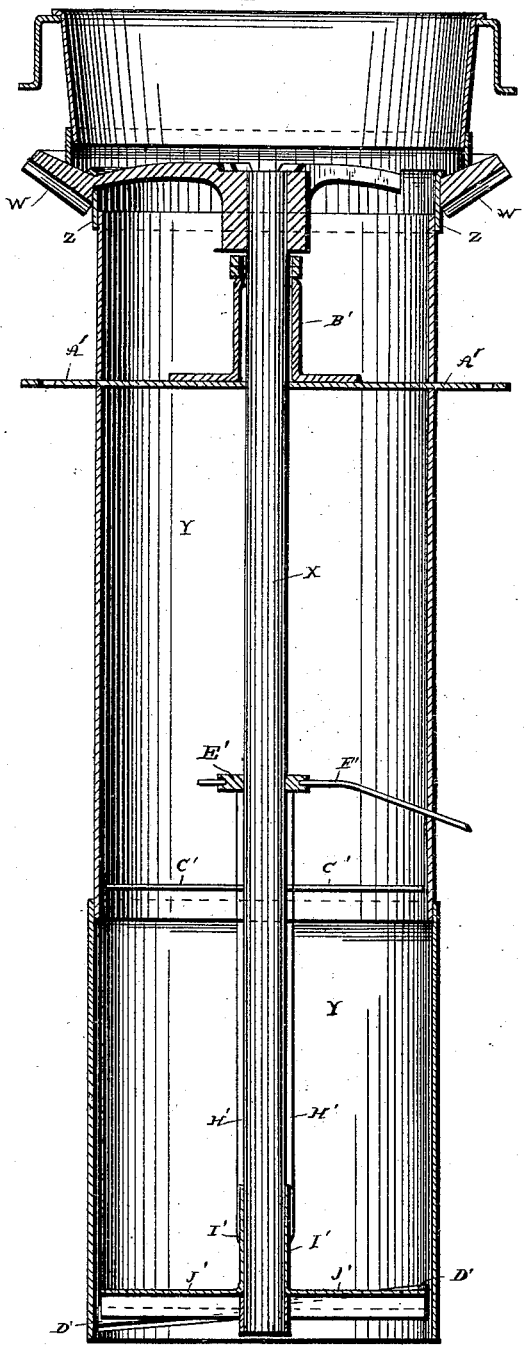
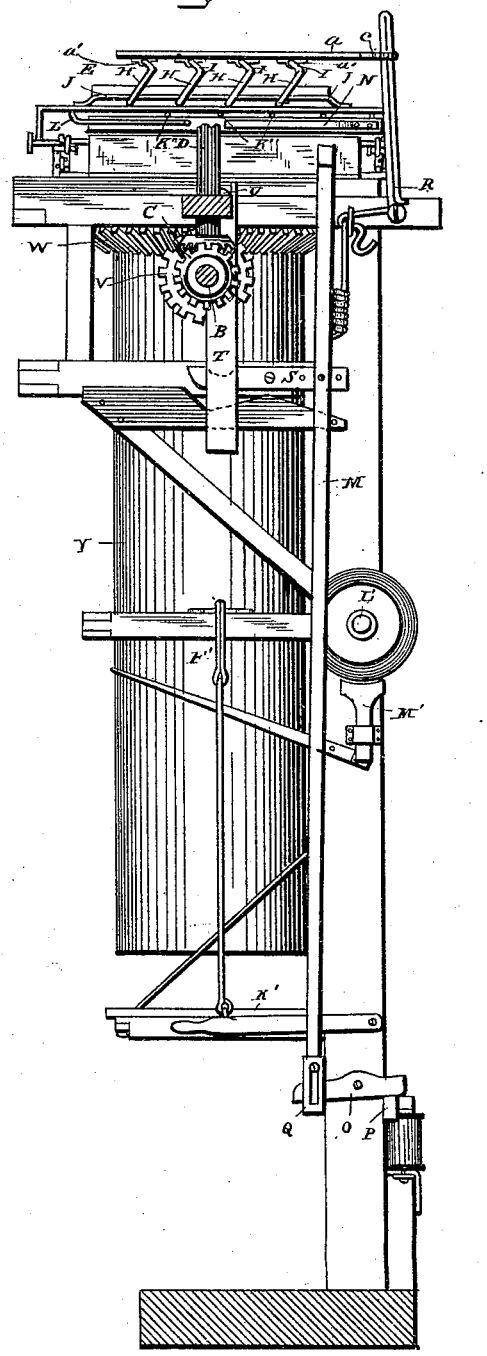


Fig. 3.



WITNESSES

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(No Model.) 4 Sheets—Sheet 3.

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Fig. 4.

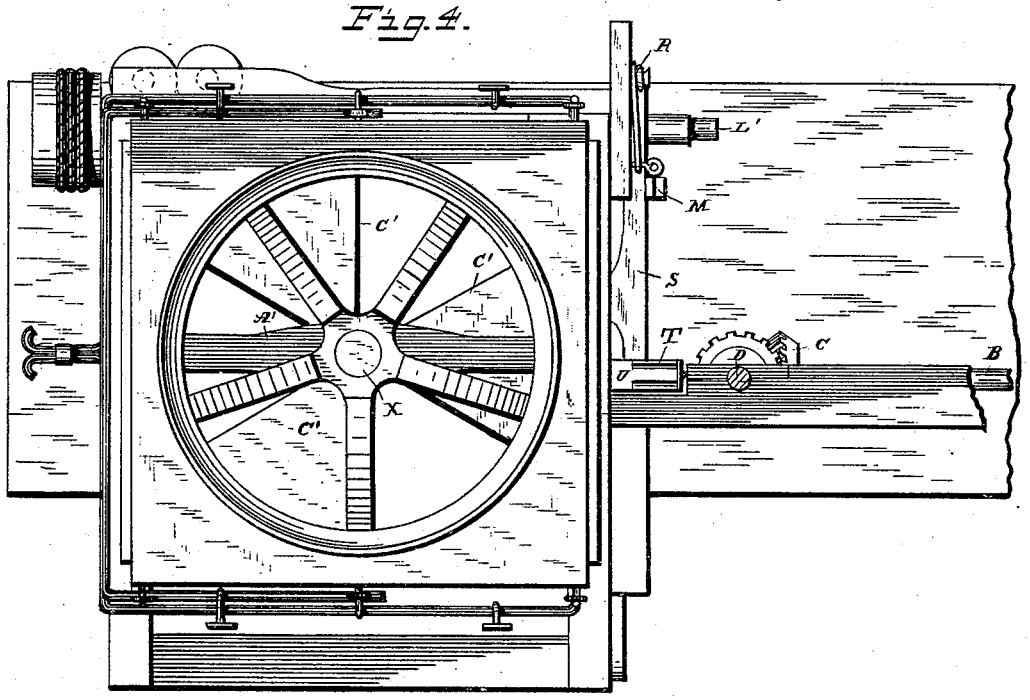
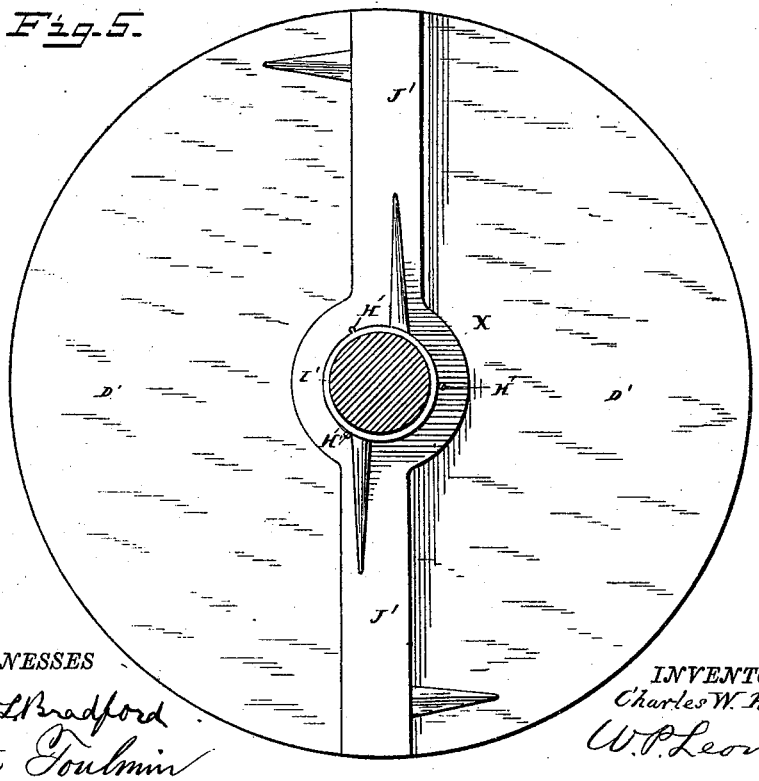


Fig. 5.



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4 Sheets—Sheet 4.

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Fig. 6

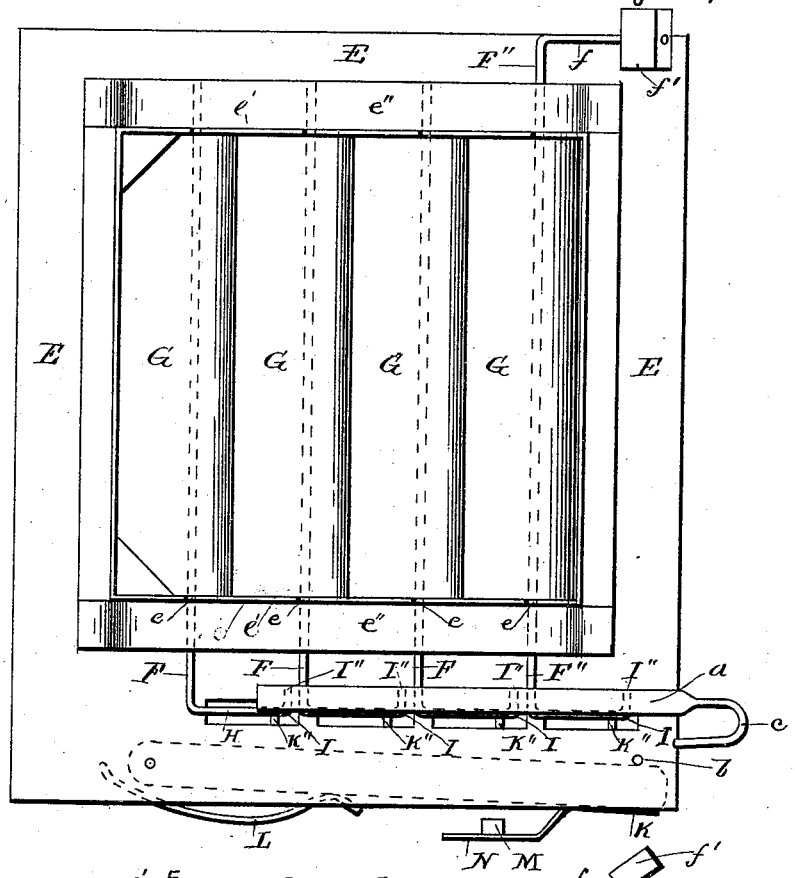

Fig. 7.

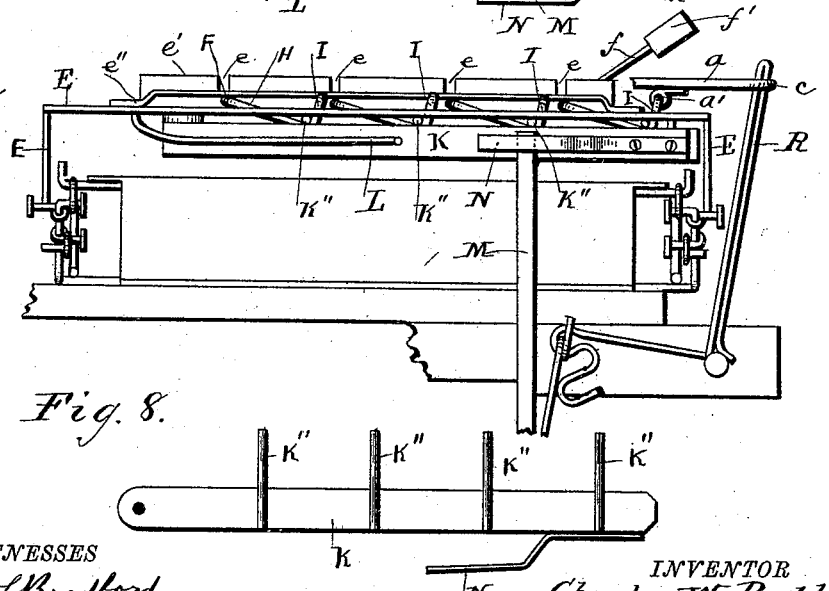

Fig. 8.

WITNESSES

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UNITED STATES PATENT OFFICE.

CHARLES W. ROTH, OF EVANSVILLE, INDIANA.

FLOUR-PACKER.

SPECIFICATION forming part of Letters Patent No. 345,452, dated July 13, 1886.

Application filed October 13, 1885. Serial No. 179,807. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. ROTH, a citizen of the United States, residing at Evansville, in the county of Vanderburg and State of Indiana, have invented certain new and useful Improvements in Flour-Packers, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in combined electrical weighing-scales and flour-packers, and has special reference to the machine on which Letters Patent of the United States, numbered 321,387, were granted to me June 30, 1885, the present object being to improve that machine in the several respects presently to appear.

In the accompanying drawings, forming a part of this specification, and on which like reference-letters indicate corresponding features, Figure 1 represents an elevation of the machine; Fig. 2, a vertical sectional view of the hopper and the cylinder and operating-gear, &c., showing the agitating and packing shaft in elevation; Fig. 3, an end elevation of the machine; Fig. 4, a top plan view with the feeding-slats and their frame removed; Fig. 5, a plan view of the packers. Fig. 6 is a plan of the frame E, and shows the slats G and their shafts F and other details on an enlarged scale. Fig. 7 is an enlarged view of some of the parts forming the upper portion of the machine, and shows the position of the cranks H and the bends I of said cranks when the slats G are held in a horizontal position and locked by means of the pins K″. Fig. 8 is a detached plan view of the bar K, and shows the position thereon of the pins K″.

The letter E designates the scale box or frame, which has upwardly-projecting flanges *e′*, in which are notches *e*, to receive the shafts F F″, to each of which is secured a slat, G. These shafts are maintained in their proper positions by means of the plates *e″*, secured at each end to the body of the frame E. One of these plates *e″* is placed on the outside of each of the flanges *e′*, and rests upon the top of the shafts F F″, supported and constructed in the manner set out in that patent, except that each of the shafts F F″ has a crank, H, and also a bend, I, which extend through slots J in the upper surface of the frame when the seats are in a horizontal position. The object of this arrangement is to lock the slats in that position, so as to enable them to more reliably sustain the flour or other material until the proper time to discharge the same into the cylinder or barrel below. This locking of the slats is effected by means of a bar, K, preferably of wood, pivoted to the frame E, and provided with a pin, K″, for each bend I, these pins being adapted to pass between the under surface of the frame E and above the bends I in the cranks H, as shown in Fig. 7, a spring, L, being employed to press the bar toward the cranks. The shaft F″, in addition to the crank H, has an arm, *f*, provided with a counterbalance, *f′*. At the extremity of each of the bends I there is another bend, I″, at right angles thereto in a line parallel to the line of the shafts F F″. These points or bends I″ enter clips *a′*, attached to a connecting-rod, *a*, whereby the cranks H, the shafts F and F″, together with the slats G, are connected with each other, and may be turned on their axes by means of the connecting-rod *a*, which is provided with a hook or link, *c*, whereby it is connected to the bell-crank lever R. A pin or stop, *b*, projects downwardly from the under side of the frame E, and limits the motion of the bar K in an inward direction. The rod M (which corresponds to the rod E″ in the patent referred to above) extends up to about opposite the scale-frame, and is constructed to engage the bracket N, attached to the bar K, whereby, when the said rod M is released, as will presently appear, it moves upward and throws said bar outward and disengages the pins K″ from the cranks, and allows the slats to assume an edgewise position and discharge the superincumbent flour. For this purpose the upper end of the rod M may be beveled off, as shown. The next point of novelty is in dispensing with the several devices shown in my said patent for holding the lower end of the rod M, and substituting for them the pivoted trigger O, one end whereof fits upon the shorter arm of the armature-lever P, and the other end upon the right-angle projection Q of that shaft. By this means the shaft is held in normal attitude during the time the electric circuit, described in said patent, is maintained unbroken. This rod actuates a bell-crank lever, R, whose function is to control the slats of the scale, as

set forth in the said patent. To this rod M is also pivotally connected a pivoted lever, S, answering to the lever E‴ in the patent, and resting upon this lever is an upright support, T, a shoulder being formed on the upright for this purpose, as shown in dotted lines in Fig. 3. The upper end of the support T is bifurcated or slotted to fit over a guide-pin, U, projecting from the frame of the machine, whereby it is allowed to have an up-and-down movement, and is guided in such movement. This upright T forms a support for the inner end of the drive-shaft B, carrying the pinion V, which meshes with the cog-rim W, and imparts rotary motion to the packer-shaft X when the shaft M is in engagement with the trigger O. When, however, the circuit is broken, (by the tilting of the scale-beam, as described in said patent,) the trigger frees the shaft M, and the weight of the inner end of the drive-shaft B and the pinion V causes them to descend and break the engagement of the latter with the cog-rim, as also the engagement of the pinion C with that on the shaft D, thus automatically stopping the operation of the entire machine. A cylinder or barrel, Y, is attached to the main frame in any convenient manner, and to the upper end is fitted to rotate the cog-rim W by means of an interposed ring or band, Z, connected to the rim and constructed to fit and turn upon said upper end of the cylinder Y. This cog-rim is provided with several spider-arms, and at their juncture a sleeve is formed, and to which is secured the packer-shaft X. A bar, A′, extends across the barrel and through its walls and connects with the main frame, and to this bar are secured standards B′, which support the cog-rim and shaft. This shaft is provided with spiral wings C′ and augur-shaped disks D′, which serve the purpose of properly feeding the material through the cylinder and into the barrels or bags into which it is packed. It is also provided with a sliding disk, E′, and an operating-lever, F′, connected to the shaft M in the manner and for the purpose that the lever G is in said patent. To this disk are secured several rods, H′, which connect at their lower ends with a sleeve, I′, carrying two radial arms, J′, the function whereof is to agitate the material should it become clogged. The platform K′ and its operating-shaft L′, as also the brake mechanism M′, are the same as in the patent already alluded to, and need not therefore be here described again.

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

1. The combination of the slats and their shafts having cranks and bends and connecting-rod with the bar having projecting pins adapted to engage said bends and maintain the slats in a closed position, as shown and described.

2. The combination of the slats and their shafts having cranks and bends, with the pivoted bar having projecting pins, and a spring to force the bar toward the slats and maintain the pins in engagement with the said bends.

3. The combination of the slats and their shafts with the bar having projecting pins adapted to engage said rods and the rod constructed to engage said bar and withdraw it from the slats.

4. The combination of the slats and their shafts, having cranks and bends, with the pivoted bar having projecting pins, a bracket, and a spring to force the bar toward the slats and maintain the pins in engagement with said bends, and the rod having a beveled upper end constructed to engage said bracket and withdraw the bar from the slats when a given quantity of material has been fed to the slats.

5. The combination, with driving-shaft having a pinion thereon and mounted to move up and down at one end, of the cog-rim surrounding packing-cylinder Y, the packer-shaft and its attached devices, the pivoted lever connecting with the movable support of the drive-shaft, and the shaft connected to said lever and adapted to move upward when freed by the breaking of the electric circuit.

6. The combination, with the drive-shaft having a pinion thereon and mounted to move up and down at one end, of the cog-rim surrounding cylinder Y, with which said pinion engages.

7. The combination of the cog-rim and the attached packer-shaft and its wings and disks, of the cylinder through which the material passes, and means to actuate said cog-rim surrounding cylinder Y.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES W. ROTH.

Witnesses:
JOSEPH HARRELL,
W. P. LEONARD.