

No. 648,112.

Patented Apr. 24, 1900.

**E. I. NOXON.
FLOUR PACKER.**

(Application filed May 22, 1899.)

(No Model.)

4 Sheets—Sheet 1.

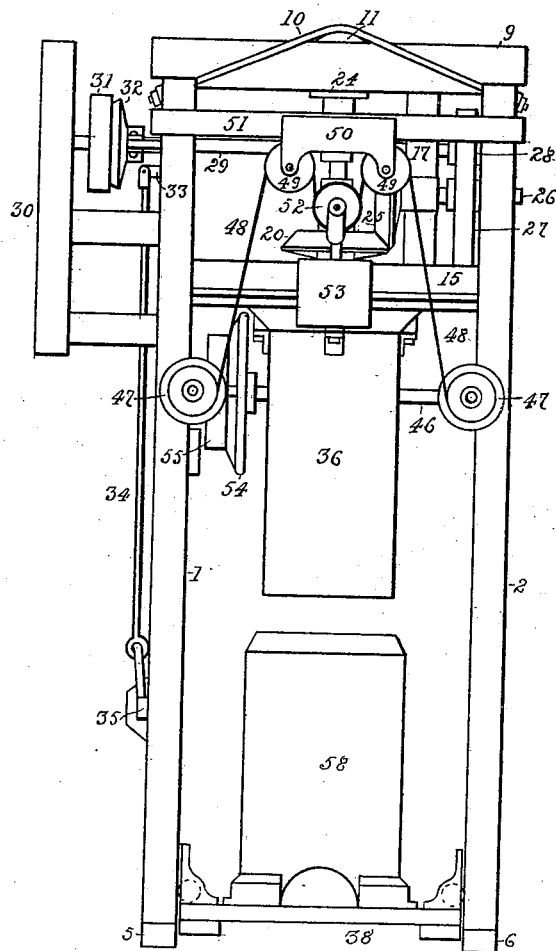


Fig. 1.

Witnesses:
Ray Turner.
Nellie M. Danforth.

Inventor:
E. I. Noxon,
by Humphrey & Humphrey,
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4 Sheets—Sheet 2.

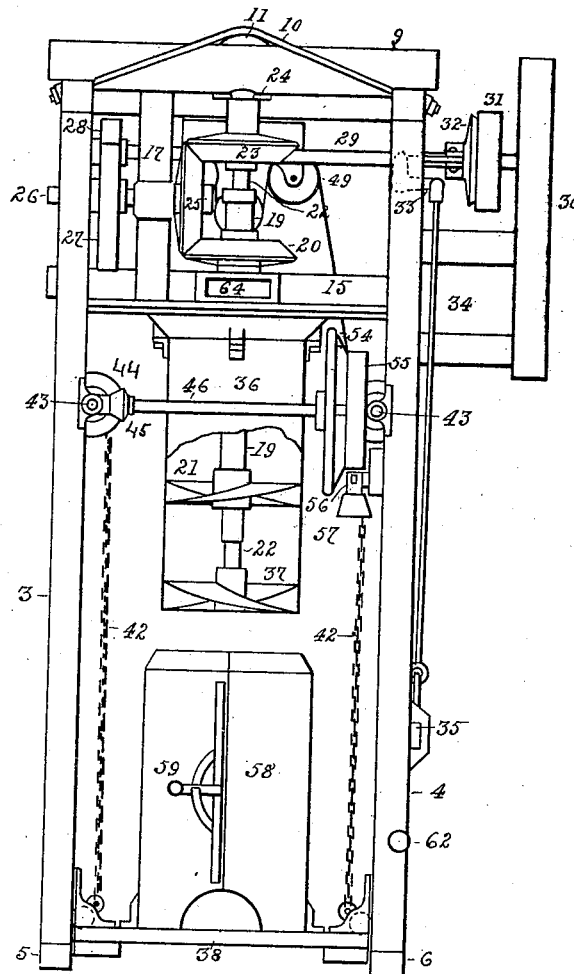


Fig. 2.

Witnesses:

Ray Turner.
Mellie M. Danforth

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4 Sheets—Sheet 3.

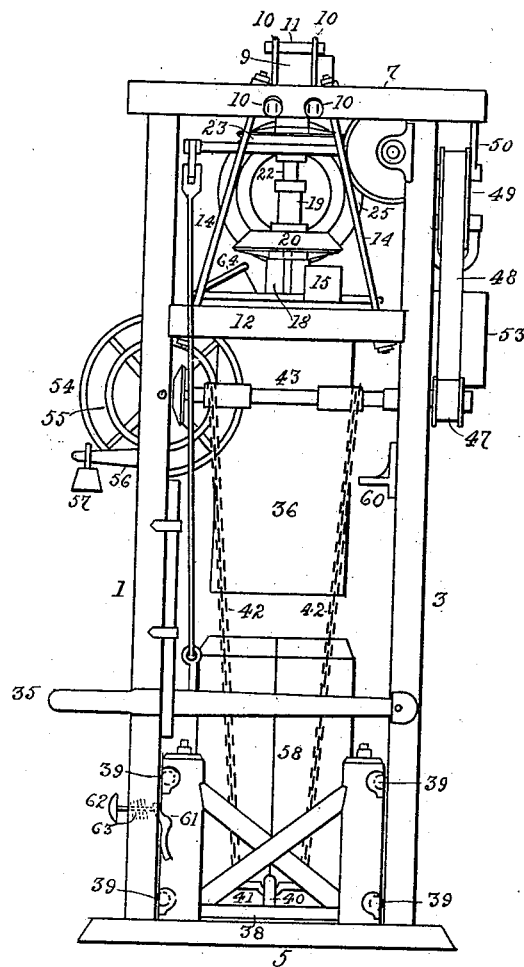


Fig. 3.

Witnesses:

Ray Turner.
Nellie M. Danforth.

Inventor:

E. I. Noxon,
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4 Sheets—Sheet 4.

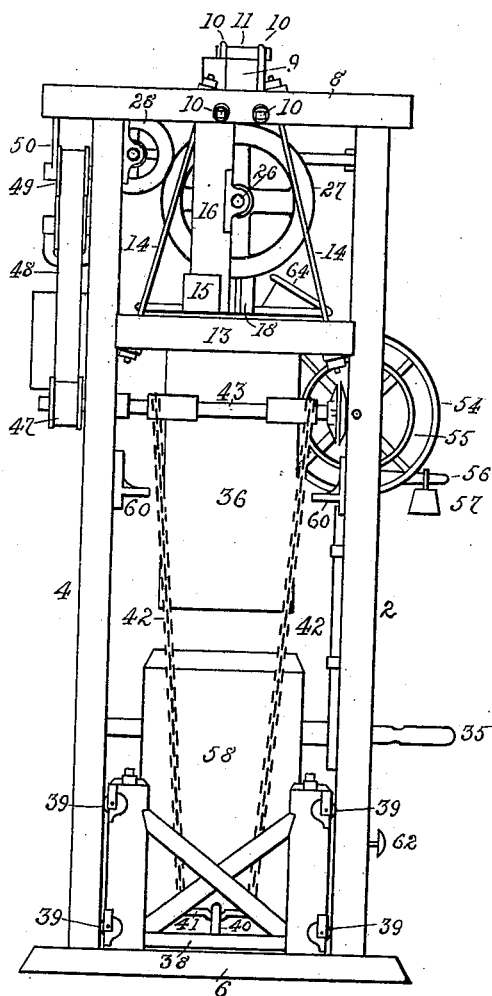


Fig. 4.

Witnesses:
Ray Turner.
Mellie M. Danforth.

Inventor:
Elwin I. Noxon,
by Humphrey & Humphrey,
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UNITED STATES PATENT OFFICE.

ELWIN I. NOXON, OF AKRON, OHIO.

FLOUR-PACKER.

SPECIFICATION forming part of Letters Patent No. 648,112, dated April 24, 1900.

Application filed May 22, 1899. Serial No. 717,739. (No model.)

To all whom it may concern:

Be it known that I, ELWIN I. NOXON, a citizen of the United States, residing at Akron, in the county of Summit and State of Ohio, have invented a certain new and useful Improvement in Flour-Packers, of which the following is a specification.

My invention has relation to improvements in devices for packing in barrels, casks, or sacks cereal products, as flour, bran, or feed; and it has for a general object the production of a compact and effective apparatus for the purpose that will not only embody an inclosing case readily opened to receive the packing-receptacle and permit its removal and a screw-packer to press the material therein, but as a special object will by means of an auxiliary screw carry the material to the packing-screw, be provided with a counterbalanced apparatus for elevating the receptacle to the packing-screws and retarding its descent as it becomes filled, and which apparatus will operate in the center line of the raising apparatus, so that the latter will not be strained or bind from the weight of the load.

To the aforesaid objects my invention consists in the peculiar and novel construction, arrangement, and combination of parts hereinafter described and then specifically pointed out in the claims, reference being had to the accompanying drawings, forming a part of this specification.

In the accompanying drawings, in which similar reference-numerals indicate like parts in the different views, Figure 1 is a front elevation; Fig. 2, a rear elevation; Fig. 3, a side elevation looking from the left of Fig. 1, and Fig. 4 a similar elevation looking from the opposite direction.

Referring to the figures, 1 2 3 4 are vertical posts, the posts 1 and 3 and 2 and 4 being supported at the bottom in sills 5 and 6, respectively, and tied at the top by beams 7 and 8 and the beams 7 and 8 united by a cross-beam 9, the whole secured by tie-bolts 10 on the center of the beam 9, and pass through the beams 7 and 8, when they are secured by bolts and washers. Between the posts 1 and 3 and 2 and 4, below the beams 7 and 8, are cross-beams 12 and 13, secured by bolts 14, united centrally by a beam 15. Between the beams 15 and 9 are vertical parallel beams 16 and

17. Mounted in a journal-box 18 on the beam 15 is a hollow vertical shaft 19, bearing a bevel-gear 20, which bears near its lower end a screw-packer 21. Inside the hollow shaft 19 is a smaller solid shaft 22, having a bevel-gear 23, with a long hub that abuts on a plate 24 on the beam 9 and bears a packer 37, similar to the packer 21, but pitched in the opposite direction. The gears 20 and 23 mesh in a similar gear 25 on a shaft 26, journaled in boxes on the uprights 16 and 17. The gears heretofore referred to are toothed. The shaft 26 bears between the uprights 16 and 17 a wheel 27, driven by a smaller wheel 28 on a shaft 29. The shaft 29 is journaled at its outer end in an outside frame 30 and bears a free pulley 31, adapted to be engaged by a pan-clutch 32, shifted by a bell-crank 33, connecting-rod 34, and lever 35, pivoted to the post 3. Suspended from the beams 12, 13, and 15 is a cylindrical hopper 36, into which the material to be packed is fed and in which the screw-packers 21 and 37 revolve in opposite directions. These packers are of like diameter and as large as can move in the hopper 36 without actual contact, this feature being especially useful for securing successful operations of the device.

Within the lower part of the frame is a platform 38, having corner-posts provided with guide-rollers 39, arranged to run on the posts 1, 2, 3, and 4. This platform bears at each side a stirrup 40, in which is freely swung a yoke 41, to the ends of which yoke are attached pairs of chains 42, that are wound on small drums on two shafts 43, severally journaled in bearings on opposite sides of the machine in bearings in the posts 1, 2, 3, and 4. Each shaft 43 bears a bevel-gear 44, which mesh in smaller bevel-gears 45 on a shaft 46, journaled in two of the uprights, and at their outer ends bear strap-spools 47, to which are attached the ends of a strap 48, that runs over two oppositely-disposed pulleys 49, mounted in a housing 50, mounted on a cross-beam 51, extending between the uprights 1 and 2. Between the pulleys 49 the strap 48 runs under a pulley 52, to which is pivotally suspended a counterweight 53 to balance the platform 38 and its load. On the shaft 46 is a hand-wheel 54, by which it may be turned, and a brake-pulley 55, against which presses

a brake-lever 56, on which is a weight 57 to give the requisite resistance to the descent of the platform. On the platform 38 is a separable case 58 to hold the receptacle for the product to be packed and provided with a latch 59, by which the parts may be locked together. On the uprights 2 and 4 are brackets 60 to arrest the ascent of the platform above a determined point, and to retain it at its lower position there is pivoted to one of its posts a catch 61, arranged to engage a notch in the adjacent post 1 and to be disengaged by a push-rod 62, that runs through said post and is normally held outward by a coiled spring 63.

In operation a suitable receptacle for the cereal product is placed in the case 58 and elevated with it to inclose the hopper 36 by the hand-wheel 54. Material to be packed is then placed in the hopper 36 through a spout 64 and the packing mechanism set in motion by the lever 35 and connected parts. The effect of this packing mechanism is twofold—the lower screw 37 packs the material at the bottom of the receptacle and thence gradually upward, while the upper screw 21 constantly forces the material to the lower screw to keep it supplied. As soon as the material begins to accumulate in the receptacle the platform will by the force of the packing-screw begin to descend, being retarded only by the brake-lever 56 until the receptacle is filled, when the packers are arrested, the platform lowered to its original position, the case 58 opened, and the package removed.

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

1. In an apparatus for packing cereal products the combination with a supporting-frame and a hopper located therein, a case to hold the receptacle for the product and means for elevating said case to said hopper, of a hollow vertical shaft bearing a screw-packer; a solid shaft within said hollow shaft bearing a screw-packer of opposite pitch, said packers being of like diameter and arranged to enter said case when it is raised, said hollow and solid shafts bearing bevel-gears at their upper ends, in combination with and arranged to mesh on opposite sides of an intermediate bevel-gear, and means for driving said intermediate gear, substantially as shown and described.

2. In an apparatus for packing cereal products the combination with a supporting-frame, and a hopper located therein, of a hollow vertical shaft bearing a screw-packer; a solid

shaft within said hollow shaft bearing a screw-packer of opposite pitch and like diameter, said hollow and solid shafts being secured against longitudinal movement and each bearing a bevel-gear at its upper end in combination with and arranged to mesh on opposite sides of an intermediate bevel-gear means for driving said intermediate gear, a platform to hold a separable case for the receptacle to be packed, hoisting-chains connected on opposite sides of said platform in the center line thereof, coiling-shafts to wind said chains and mechanism, substantially as described for turning said coiling-shafts, all arranged to operate substantially as shown and described.

3. In an apparatus for packing cereal products the combination with a supporting-frame and a hopper suspended therein and packing screws adapted to run in said hopper, of a vertically-moving platform, a separable case thereon, in alinement with said hopper, chains connected with the opposite sides of said platform in the center line thereof, oppositely-disposed shafts mounted in said frame bearing winding-drums for said chains and having on the end of each a strap-spool, and a strap having its ends attached to said spool, with its middle portion passing over oppositely-disposed pulleys on said frame, and under an intermediate free pulley bearing a weight to counterbalance, said winding-drum shafts being provided with bevel-gears arranged to mesh in bevel-gears on a transverse shaft provided with a hand-wheel, substantially as shown and described.

4. In an apparatus for packing cereal products, the combination with a supporting-frame of a hopper, packing-screws arranged to run therein and mechanism for turning said screws; a platform bearing a case to hold the receptacle for the products, and arranged to move vertically in said frame, chains attached to opposite sides of the central portion of said platform, oppositely-disposed shafts to wind said chains and provided with bevel-gears, a transverse shaft provided with a hand-wheel, and beveled gears to mesh in the gears of said winding-shafts, and a brake for said transverse shaft to regulate its movement, substantially as shown and described.

In testimony that I claim the above I hereunto set my hand.

ELWIN I. NOXON.

In presence of—

C. P. HUMPHREY,
C. E. HUMPHREY.