

No. 686,195.

Patented Nov. 5, 1901.

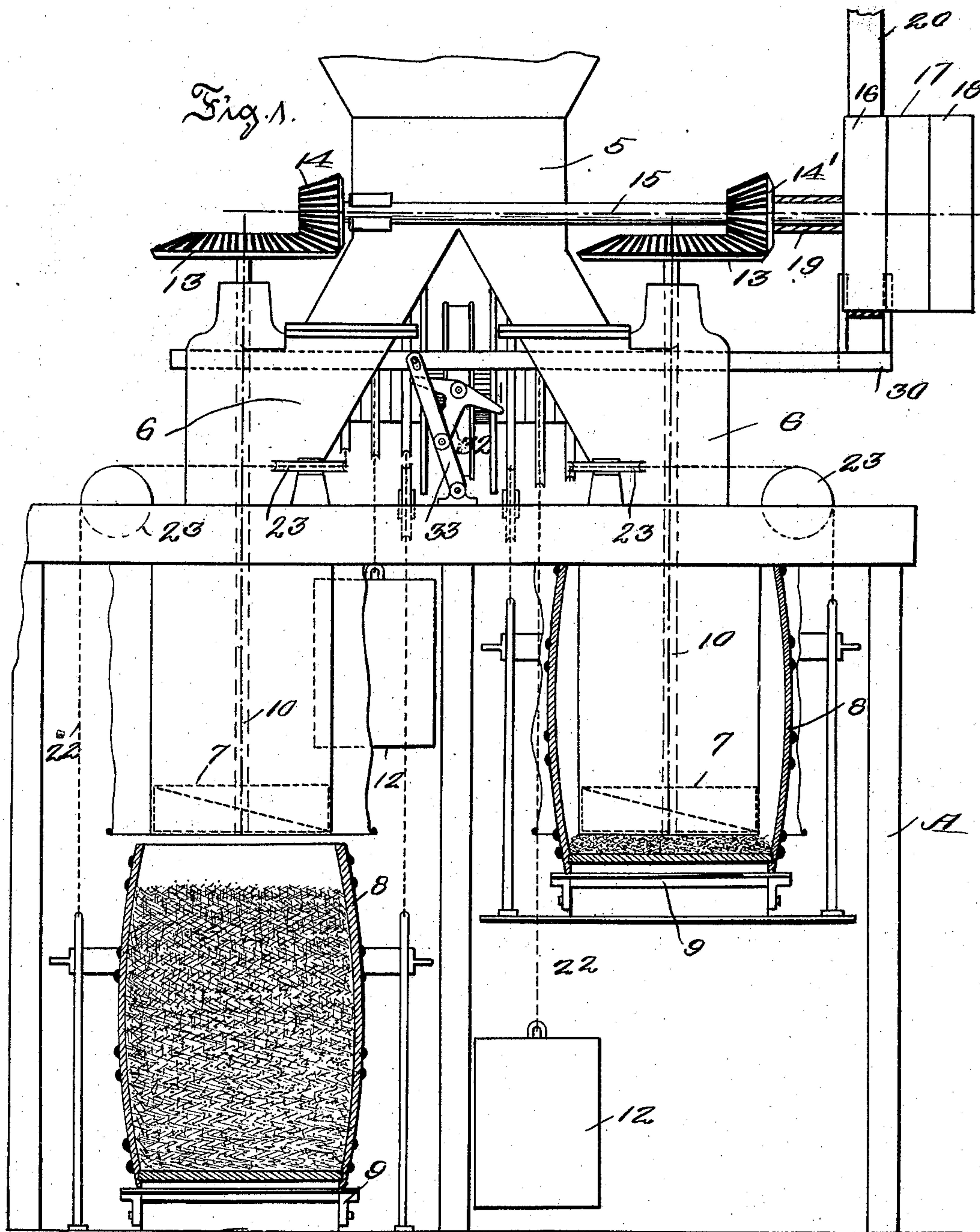
E. BARTHELMESS.

PACKING MACHINE.

(Application filed Oct. 29, 1900.)

(No Model.)

3 Sheets—Sheet 1.



Witnesses:

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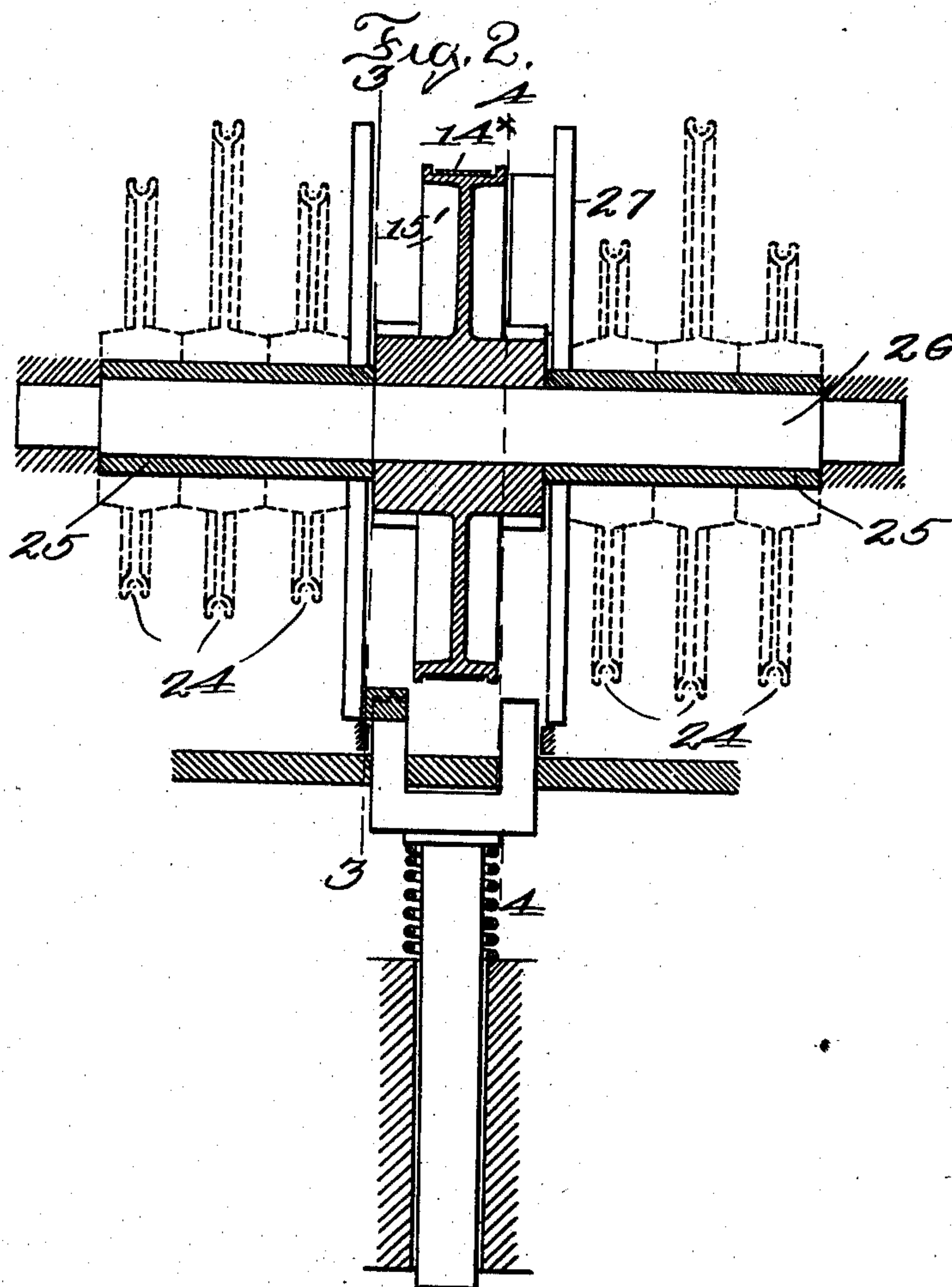
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3 Sheets—Sheet 2.



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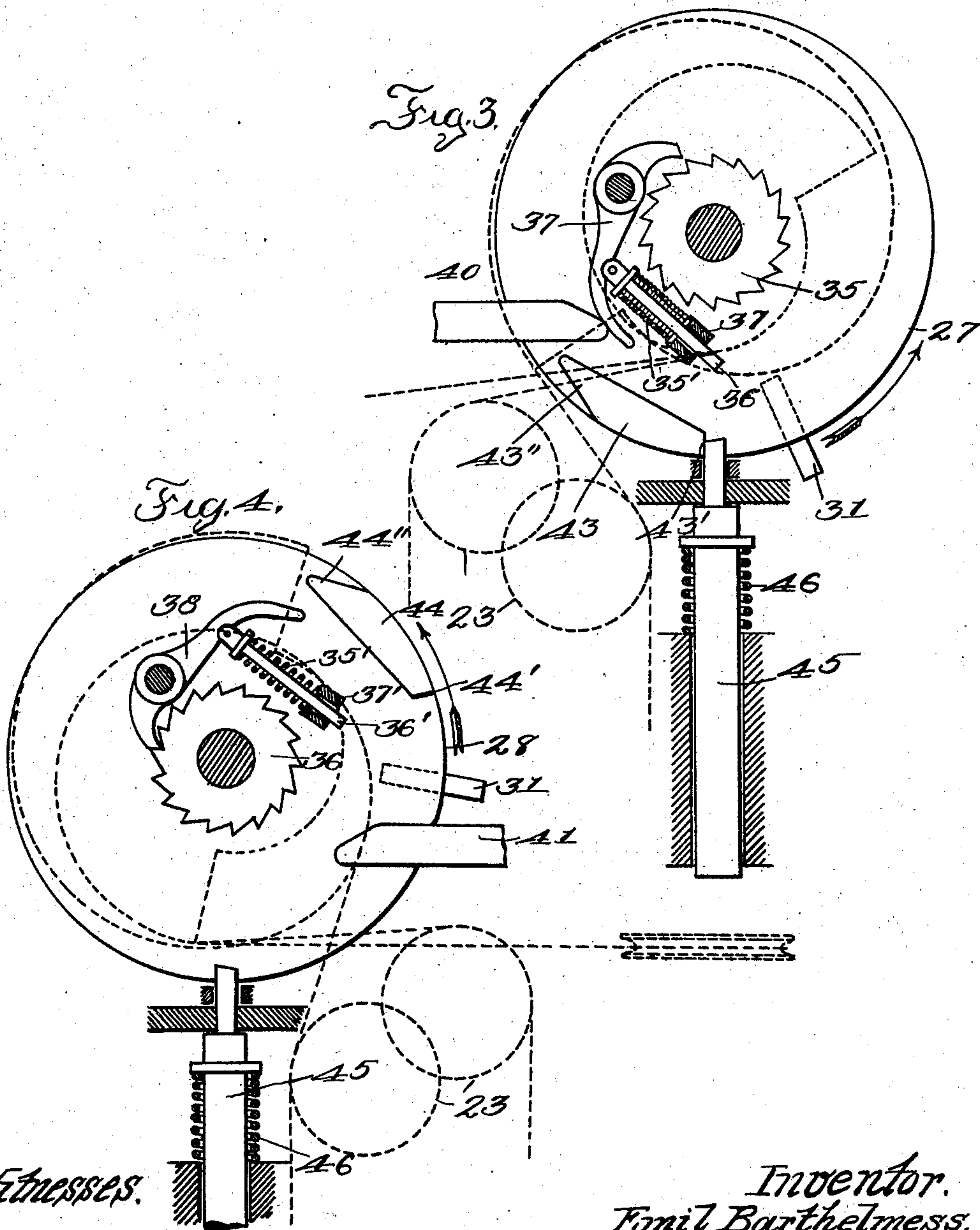
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3 Sheets—Sheet 3.



Witnesses.

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# UNITED STATES PATENT OFFICE.

EMIL BARTHELMESS, OF NEUSS, GERMANY.

## PACKING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 686,195, dated November 5, 1901.

Application filed October 29, 1900. Serial No. 34,849. (No model.)

*To all whom it may concern:*

Be it known that I, EMIL BARTHELMESS, a subject of the German Emperor, residing at Neuss-on-the-Rhine, Germany, have invented a certain new and useful Improved Packing-Machine, of which the following is a specification.

This invention relates to packing-machines; and the objects and advantages thereof will be set forth in the accompanying specification and the novel features pointed out in the appended claims.

Referring to the drawings forming a part of this specification, Figure 1 is a front elevation of a packing-machine involving my improvements, showing barrels on the supporting-tables in section. Fig. 2 is a vertical central section of part of the counterbalancing mechanism; and Figs. 3 and 4 are transverse sections on the lines 3 3 and 4 4, respectively, Fig. 2.

Like characters refer to like parts in all the figures of the drawings.

The framework is denoted in a general way by A, and it supports a hopper, as 5, having the diverging spouts 6, the lower portions of which are vertical and contain the feed screws or worms 7, which alternately force the material into receptacles, as 8, on the floors of carriages or elevators 9. These elevators are adapted to sustain the receptacles in position to receive charges of material from the spouts 6, the material being forced into such receptacles and packed therein by the rotary feed-screws 7 at the lower ends of the upright shafts 10, the rotation of the shafts, and hence of the feed-screws, being automatically stopped, as will hereinafter appear. When said feed-screws are at rest, they, being of the same diameter as the interior of the spouts 6, act as effective valves to prevent the accidental escape of material from the spouts. The elevators are connected with weights, as 12, which when the elevators support empty casks or barrels are adapted to raise the same to bring such casks or barrels into their charge-receiving positions, it being understood that the elevators rise and fall in unison and in alternation, the descent thereof being secured by the weight of the filled barrels 8. The manner of transmitting the effect of these weights 12 to the elevators will

be hereinafter set forth and also means for controlling the descent of the elevators, so that this motion will not be too rapid.

The shafts 10 carry bevel-gears 13 at their upper ends, meshing with bevel-gears 14 and 14' on the horizontal shaft 15. The shaft 15 supports at its outer end the three pulleys 16, 17, and 18, the last two being carried directly on the shaft, the pulley 17 being an idler, while the pulley 18 is keyed or otherwise fixed to said shaft. The bevel-pinion 14 is fixed to the shaft 15, while the bevel-pinion 14' and pulley 16 are secured to a sleeve 19, loose on the shaft. A belt, as 20, is shiftable from one pulley to another, and when it is on the pulley 16 the right-hand feed-screw 7, through the intermediate connections, will be operated, and when it is shipped to the pulley 18 the feed-screw 7 at the left will be rotated, and these actions will alternate while the machine is in operation.

The weights 12 are suspended from cables or bands, as 22, connected in some convenient manner with the respective elevators, so as to raise the same at proper points in the operation, and said bands are passed over suitably-positioned guide-rollers 23 on the framework A and also around grooved rollers 24. There are six of these rollers shown, they being arranged in sets of three, keyed, respectively, to sleeves, as 25, loose on the shaft 26, located below the shaft 15. These sleeves also carry fixed wheels or disks, as 27 and 28, respectively, and they rotate in unison with the respective elevators.

The belt 20 is moved along the pulleys 16, 17, and 18 automatically by a shipper, as 30, suitably carried by the framework A, for horizontal reciprocation, and it has at one end the usual belt-engaging fingers, between which the belt 20 travels. This belt-shipper is moved back and forth by means of pins or tappets 31 on the outer faces of the wheels 27 and 28, which engage the upper oppositely-inclined faces of a lever 32, pivoted to a lever 33, vibratory upon the framework and connected with the belt-shipper by a pin-and-slot joint, and the parts are so arranged that the belt 20 will be put upon the pulley 16 when the barrel 8 at the right is in position to receive a charge of material, and the same operation is repeated when the barrel or cask



at the left is in position to receive its charge, and these operations will alternate so long as the shaft 15 is in motion and material is supplied to the apparatus.

5 The wheels 27 and 28 have ratchet-wheels, as 35 and 36, rotative therewith (see Figs. 2, 3, and 4) and formed on the hub of the brake-wheel 15' and engaged by pawls, as 37 and 38, pivoted to the respective wheels, the points  
10 of the pawls being held in their effective positions by coiled springs, as 35', surrounding the pins 36', pivoted to the tails of the pawls and passing freely through guide-lugs 37' on the wheels 27 and 28.

15 The brake-wheel 15' is surrounded by a friction-strap 14<sup>x</sup>, of some usual kind, by which its rotation can be controlled.

On the ascent of the tables the pawls run idly over the teeth of the ratchet-wheels, but  
20 their descent is governed by the pawls engaging the ratchet. During the descent of the right-hand elevator 9, and just before the cask 8 thereon is filled, the tail of the pawl 37 will strike the fixed stop 40 on the framework,  
25 thereby lifting the point of the pawl out of engagement with the ratchet, so that the elevator is automatically released and can descend to the limit of its movement to permit the removal of the filled barrel, and the same  
30 operation will be subsequently repeated by the pawl 38 striking the fixed abutment 41.

The feed-screws 7, it will be understood, are alternately stopped and started, and an alternate operation follows with respect to the ele-  
35 vators 9, one descending with a filled barrel or like receptacle while the other is ascending with an empty barrel.

On the reverse rotation of the wheels 27 and 28 the straight faces 43' of cams 43 and 44, car-  
40 ried by the wheels 27 and 28, are adapted to strike against the branches of a bifurcated bolt 45 on the framework. During the descent of, say, the elevator at the right the work-  
45 ing face of the cam 43 will strike the right-hand branch of the bifurcated bolt 45 and force the same downward to release the cam 44, and hence the wheel 28, so that the elevator on the right can be lifted by its weight 12, and the same operation will be repeated  
50 by face 44' of the other cam 44.

The bolt 45 is held up by a coiled spring 46, surrounding the same, and which when the

bolt is forced down by the cams alternately is placed under compression.

Having described the invention, I claim— 55

1. In a packing apparatus, elevators, a hopper having diverging spouts, feed-screws operative in the respective spouts, a plurality of pulleys, connections between the feed-screws and pulleys for operating the former, 60 a belt-shipper, two connected levers one carried by the other, and the latter supported for oscillation by the framework and being connected with the belt-shipper, a pair of wheels connected with and operated by the 65 elevators, and means on the wheel for engaging one of said levers.

2. In a packing apparatus, elevators, a hopper having diverging spouts, feed-screws operative in the respective spouts, a plurality 70 of pulleys, connections between the feed-screws and pulleys for operating the former, a belt-shipper, two connected levers one carried by the other, and the latter being supported for oscillation by the framework and 75 being connected with the belt-shipper, a pair of wheels connected with and operated by the elevators, means on the wheel for engaging one of said levers, a brake-wheel having ratchet-wheels connected therewith, and 80 spring-actuated pawls carried by said pair of wheels for engaging the ratchet-wheels.

3. In a packing apparatus, elevators, a hopper having diverging spouts, feed-screws operative in the respective spouts, a plurality 85 of pulleys, connections between the feed-screws and pulleys for operating the former, a belt-shipper, two connected levers one carried by the other, and the latter supported for oscillation upon the framework and being 90 connected with the belt-shipper, a pair of wheels connected with and operated by the elevators, means on the wheel for engaging one of said levers, cams carried by said pair of wheels, and a spring-actuated lever, hav- 95 ing a bifurcation, the branches of which are adapted to be engaged by said cams.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

EMIL BARTHELMESS.

Witnesses:

WILLIAM ESSENWEIN,  
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