

No. 710,338.

Patented Sept. 30, 1902.

F. PRENTICE.
BUTTER PACKER.

(Application filed Feb. 18, 1902.)

(No Model.)

2 Sheets—Sheet 1.

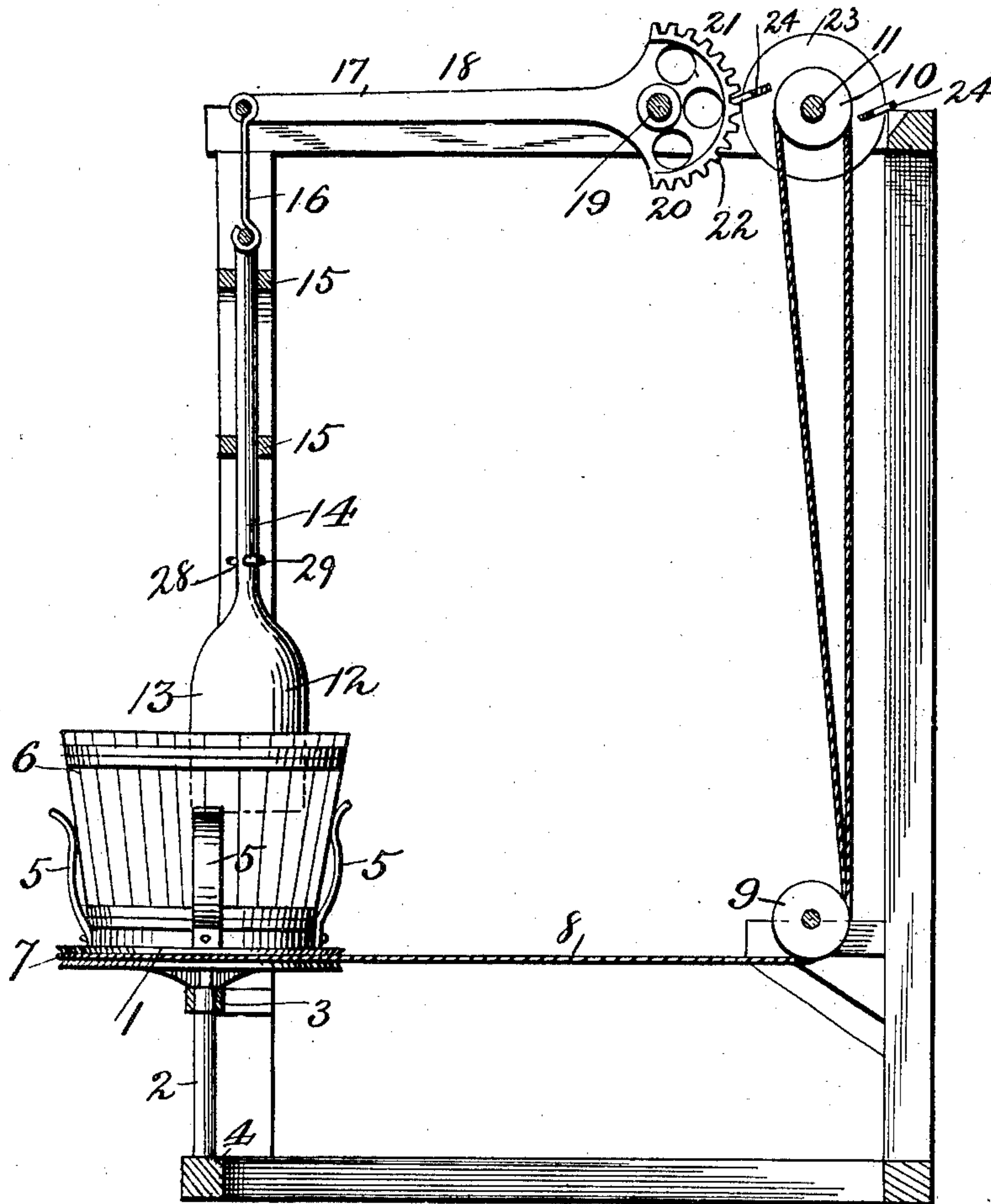
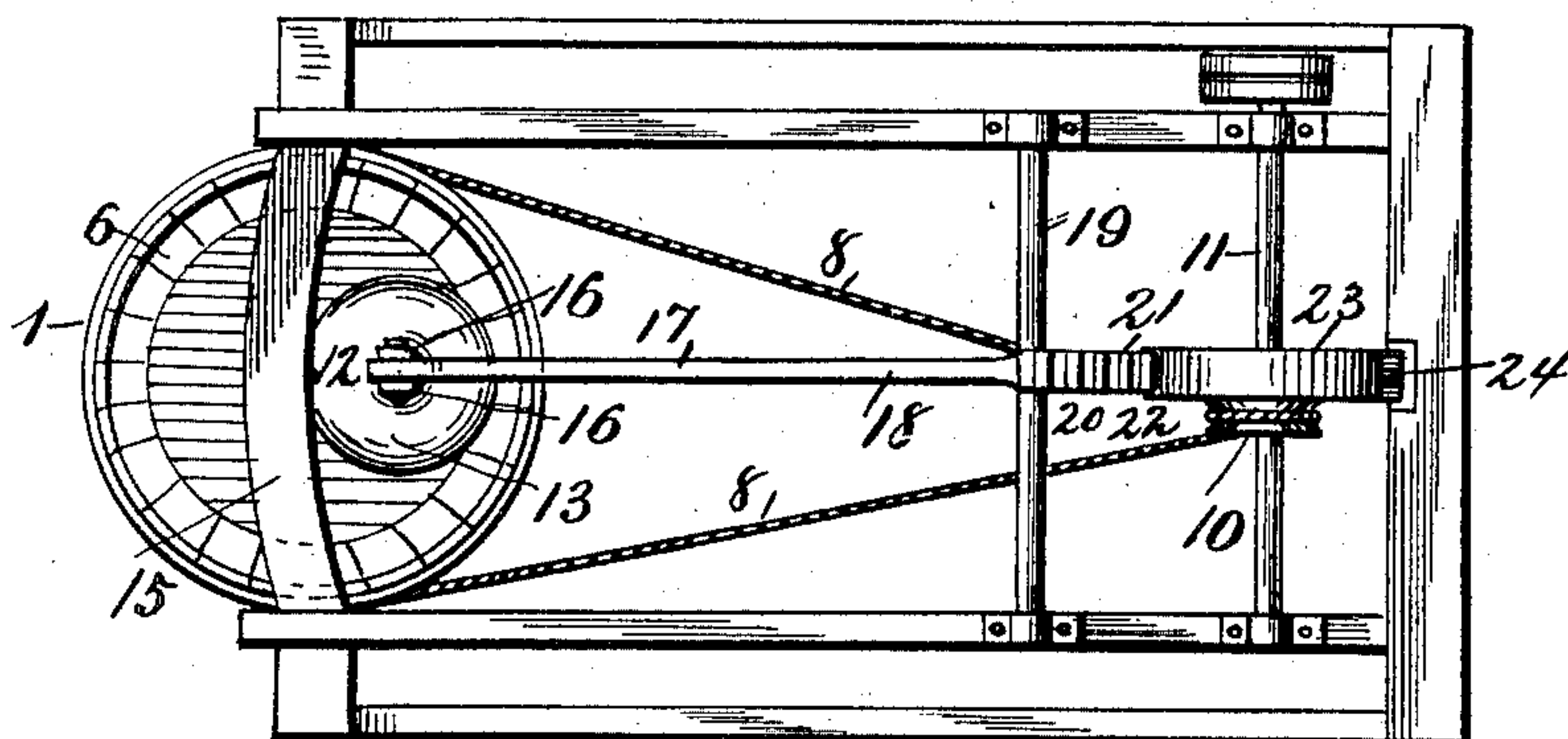


Fig. 1.

Fig. 2.



Witnesses:

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Fig. 5.

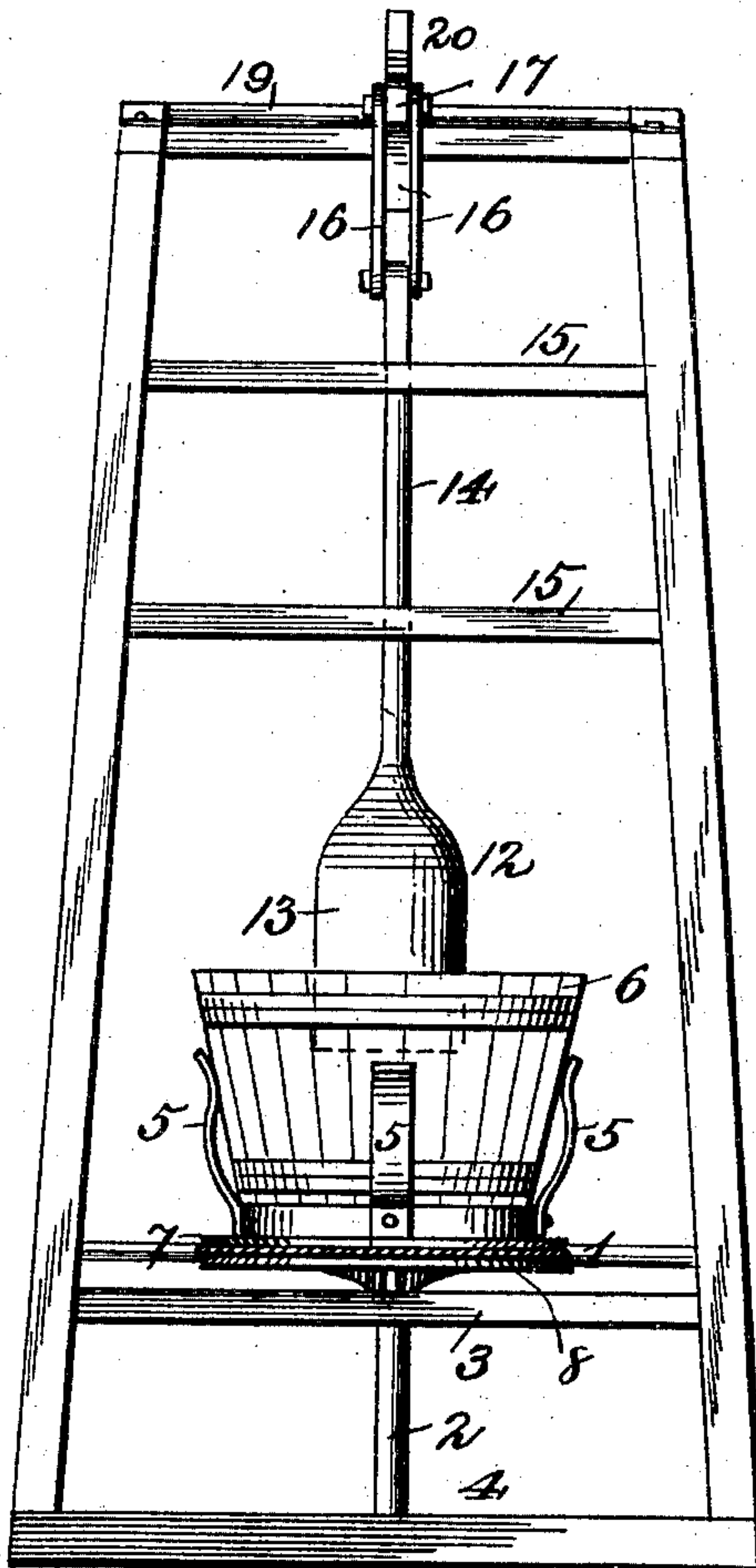


Fig. 4.

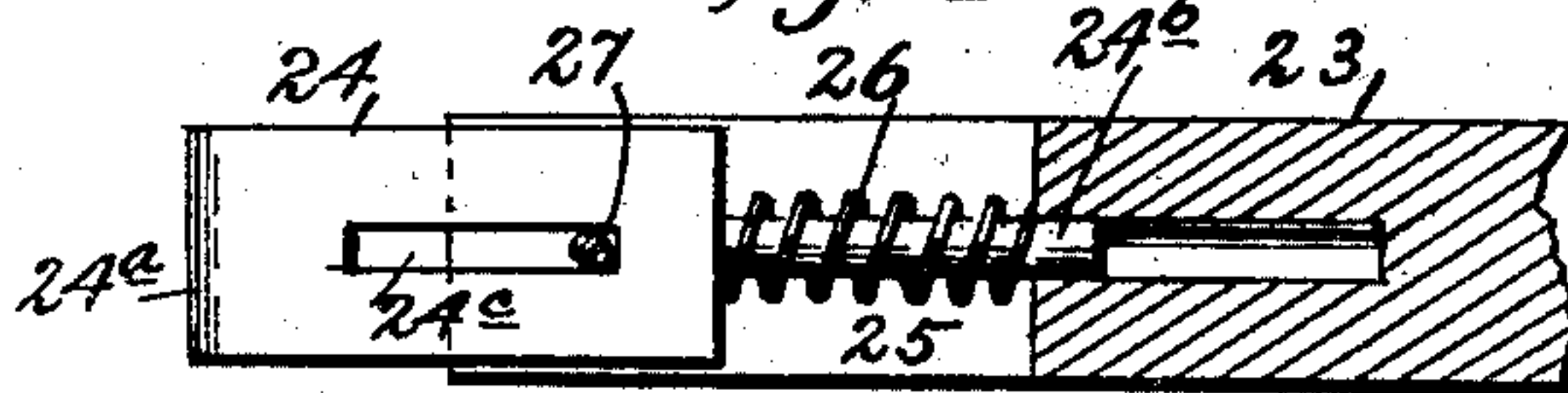
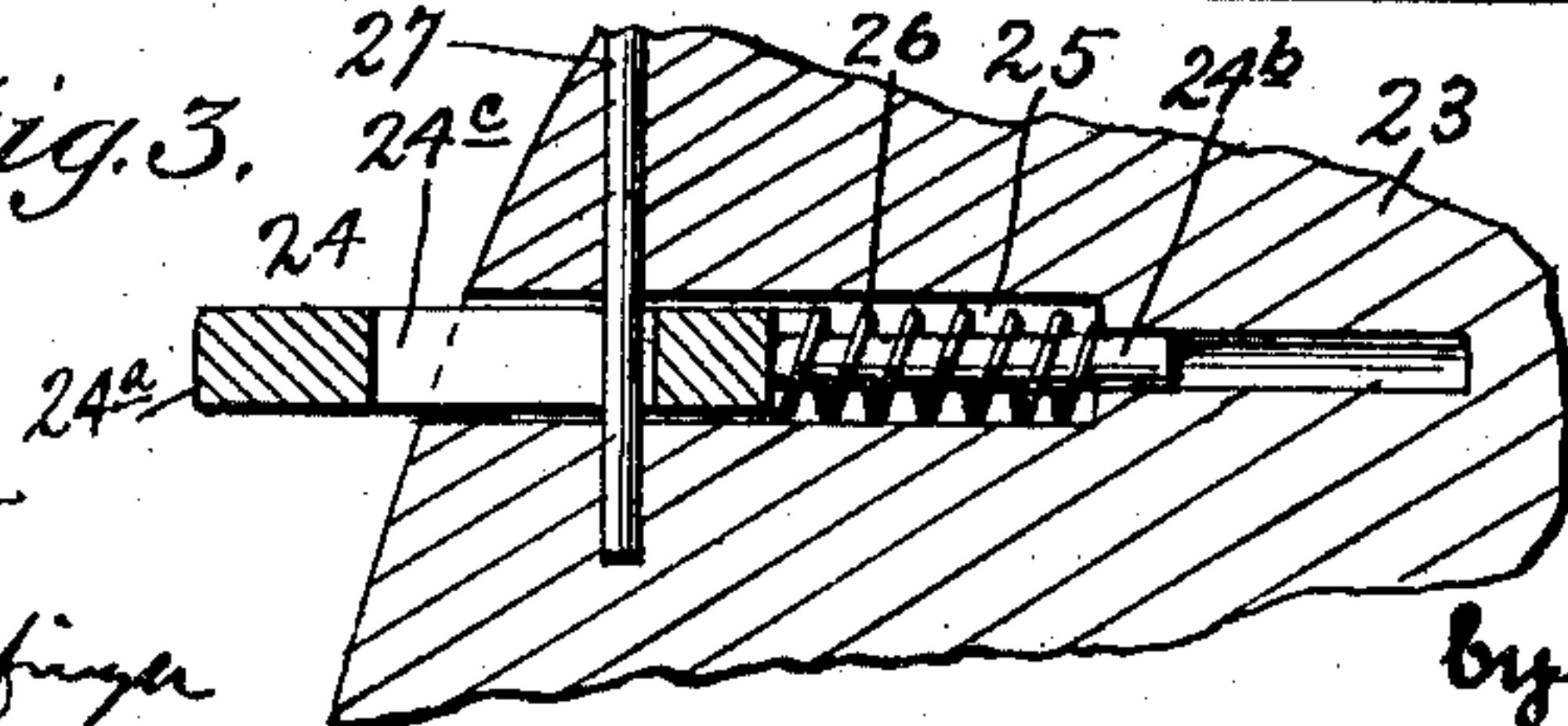


Fig. 3.



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UNITED STATES PATENT OFFICE.

FREDERICK PRENTICE, OF DEERCREEK, MINNESOTA.

BUTTER-PACKER.

SPECIFICATION forming part of Letters Patent No. 710,338, dated September 30, 1902.

Application filed February 18, 1902. Serial No. 94,680. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK PRENTICE, a citizen of the United States, residing at Deercreek, in the county of Ottertail and State of Minnesota, have invented new and useful Improvements in Butter-Packers, of which the following is a specification.

My invention relates to butter-packers; and the object of the same is to construct a power-driven device for packing butter into tubs in which the blows of the tamper would be independent of the amount of butter in the tub.

The simple and novel construction employed by me in carrying out my invention is fully described in this specification and claimed, and illustrated in the accompanying drawings, forming a part thereof, in which—

Figure 1 is a side elevation of my device, partially in section. Fig. 2 is a plan view of the same. Fig. 3 is a detail of the pinion. Fig. 4 is a detail of one of the retreating spring-actuated teeth. Fig. 5 is an end elevation of my device.

Like numerals of reference designate like parts in the different views of the drawings.

The numeral 1 designates a circular platform set horizontally and mounted on the upper end of a vertical shaft 2, journaled in boxes 3 and 4. Carried by the platform 1 are four outwardly-curved resilient fingers 5, arranged to engage and hold a tub 6, in which butter is to be packed. The fingers 5 have no positive hold on the tub 6, which may therefore be easily replaced when full by an empty one. The periphery of the platform is traversed by a groove 7, which serves to accommodate a belt 8 for rotating the platform. The belt 8 is endless and runs over two idlers 9, and up and over a grooved pulley 10, carried by a driving-shaft 11.

To pack the butter in the tub a reciprocating pounder 12 is employed, which pounder has an enlarged head 13 and a slender stem 14. The diameter of the head 13 is a little greater than the radius of the bottom of the tub 6. The stem 14 is set vertically and is slidingly mounted in guides 15. A link 16 is pivotally connected at one end to the upper end of the stem 14 and at the other end to the long arm 17 of a lever 18, fulcrumed on a shaft 19. The short arm 20 of the said lever 18 carries a circular rack 21, having teeth 22.

In order to operate the lever 18 to reciprocate the pounder 12, a pinion 23, keyed on the shaft 11, is mounted in alinement with the rack 21 and is provided with two teeth 24, located to mesh with the teeth on the rack 21. The teeth 24 are of novel construction, as common teeth would not do, as is easily seen, for the position of the rack 21 varies with the height of the pounder 12, which varies with the amount of butter in the tub. Therefore if unyielding teeth were used on both rack 21 and pinion 23 a smash-up would result if they did not mesh. The teeth 24 are slidingly mounted in recesses 25, extending at an angle of about forty-five degrees to a radius drawn through the point where the recess 25 cuts the periphery of the pinion 23. Each of the teeth 24 consists of a crown 24^a and a reduced shank 24^b. A spring 26 surrounds the shank 24^b, bears on the head 24^a, and is seated in the recess 25. A slot 24^c is formed in the crown and is engaged by a cross-pin 27, which secures the tooth against removal from the recess 25, but at the same time gives sufficient play to permit the tooth to retreat until the end of the crown is flush with the mouth of the recess 25. There is a transverse aperture 28 in the stem 14, through which a pin 29 can be passed to hold the pounder 12 up out of the way after the machine is stopped and the pounder 12 raised up, when the pin will rest on the lower guide 15.

In operation an empty tub 6 is placed in position and the machinery is started by applying power to the main shaft 11 by means of a loose pulley device or otherwise. Butter is then thrown into the tub 2, alongside of the pounder 12, when the rotation of the platform will carry it around under the pounder, which will tamp it down. When the pounder is in contact with the butter, the belt 8 will slip on the platform 1; but when the pounder is raised the rotation of the platform will continue. When the tub 6 is full, the machine is stopped, and it is replaced by an empty one. The operation of the pinion 23 in driving the rack 21 requires a word of explanation. As the pinion 23 revolves the teeth 24 will be carried around to engage the rack 21. If the rack 21 is standing in such a position that the tooth 24 will engage the end of one of the teeth 22, the tooth 24 will be forced

back into the recess 25 until it clears the said tooth 22; after which it will snap out and engage the notch intervening between the said tooth 22 and the next tooth. When the tooth 5 24 is engaging this notch the component of force will be such that the tooth will not be pushed back but will depress the rack 21 until it swings far enough to clear the tooth 24. This action will raise the pounder 12 and 10 then release it. The operation will be repeated by the next tooth 24. It is important to note that the arc through which the lever 18 is swung by the pinion 23 is constant, and therefore the pounder 12 would be dropped 15 through the same distance no matter what the height of the butter in the tub is.

I do not wish to be limited as to details of construction, as these may be modified in many particulars without departing from the 20 spirit of my invention.

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

1. In a butter-packer, a circular platform 25 mounted to revolve and having a groove in its periphery, a belt engaging said groove, means for driving said belt, a pounder and means for reciprocating said pounder, said belt being arranged to slip while said pounder is in contact with the butter in the tub, substantially 30 as described.

2. In a butter-packer, a circular platform

mounted to revolve and having a groove in its periphery, means for securing a tub to said platform, a pounder mounted to be reciprocated, a lever bearing a circular rack, a shaft 35 bearing a pinion located to mesh with said rack, a pulley mounted on said shaft, and a belt passing around said pulley and said platform, substantially as described. 40

3. In a butter-packer, a circular platform mounted to revolve and having a groove in its periphery, means for securing a tub to said platform, a slidingly-mounted pounder, means 45 for reciprocating said pounder, a pulley, a belt passing around said pulley and fitting the groove in said platform, said belt being arranged to slip when said pounder is in contact with the butter in the tub, substantially 50 as described. 50

4. In a butter-packer, a platform mounted to revolve, means for securing a tub to said platform, a pounder, means for reciprocating said pounder, and means for driving said platform, which means is arranged to yield when 55 said pounder is in contact with the butter in the tub, substantially as described.

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

FREDERICK PRENTICE.

Witnesses:

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BENNETT S. JONES.