J. HEAGERTY.

BARREL PRESS.

APPLICATION FILED JUNE 8, 1908.

919,720.

Patented Apr. 27, 1909.

2 SHEETS—SHEET 1.

Fig. 1.

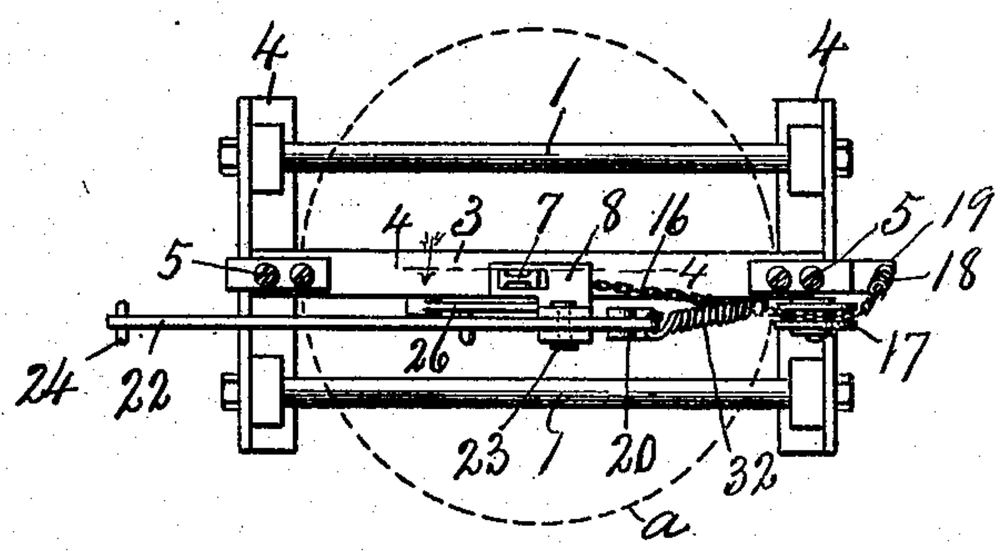
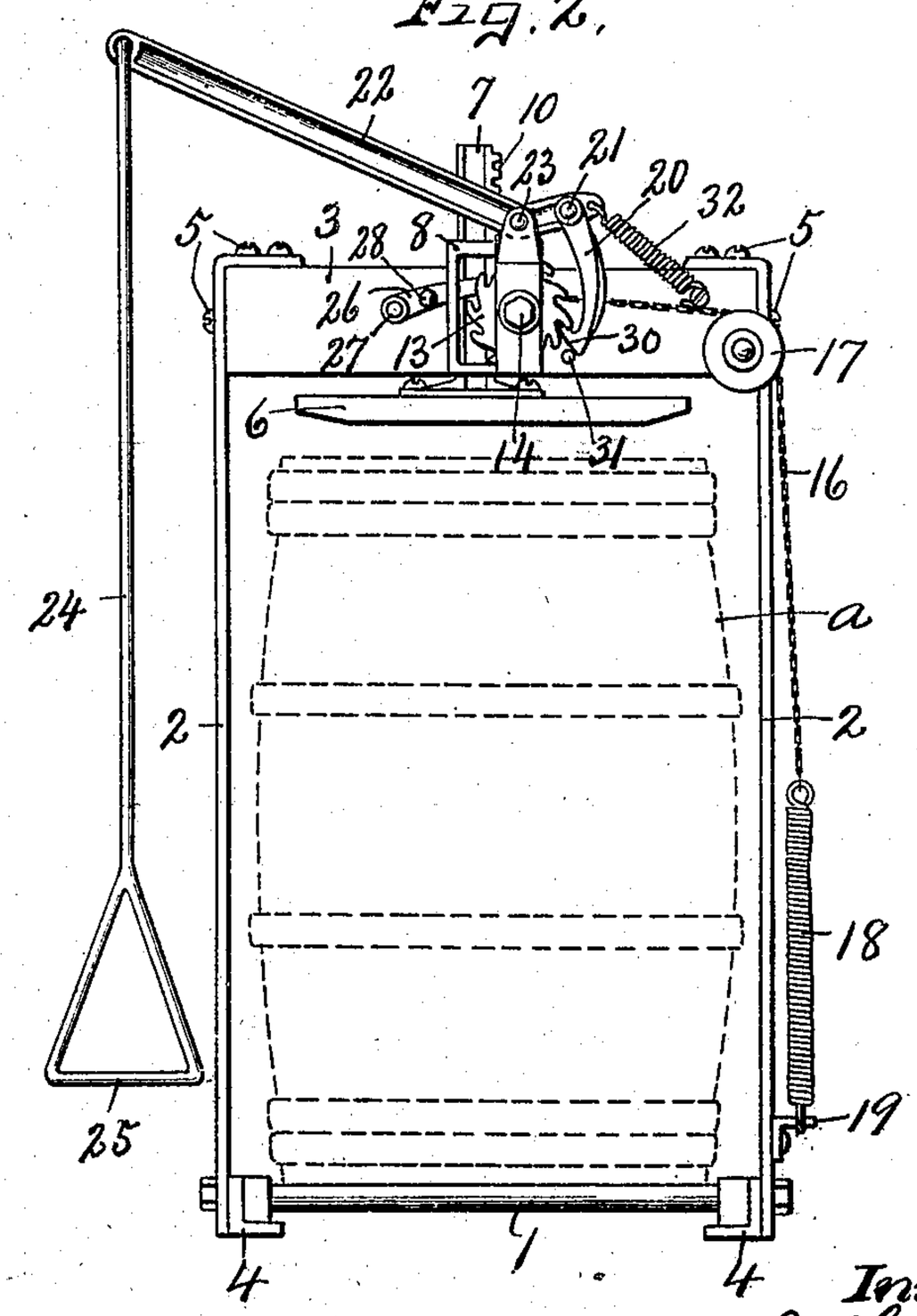


Fig. 2.



Witnesses.

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2 SHEETS—SHEET 2.

Fig. 3.

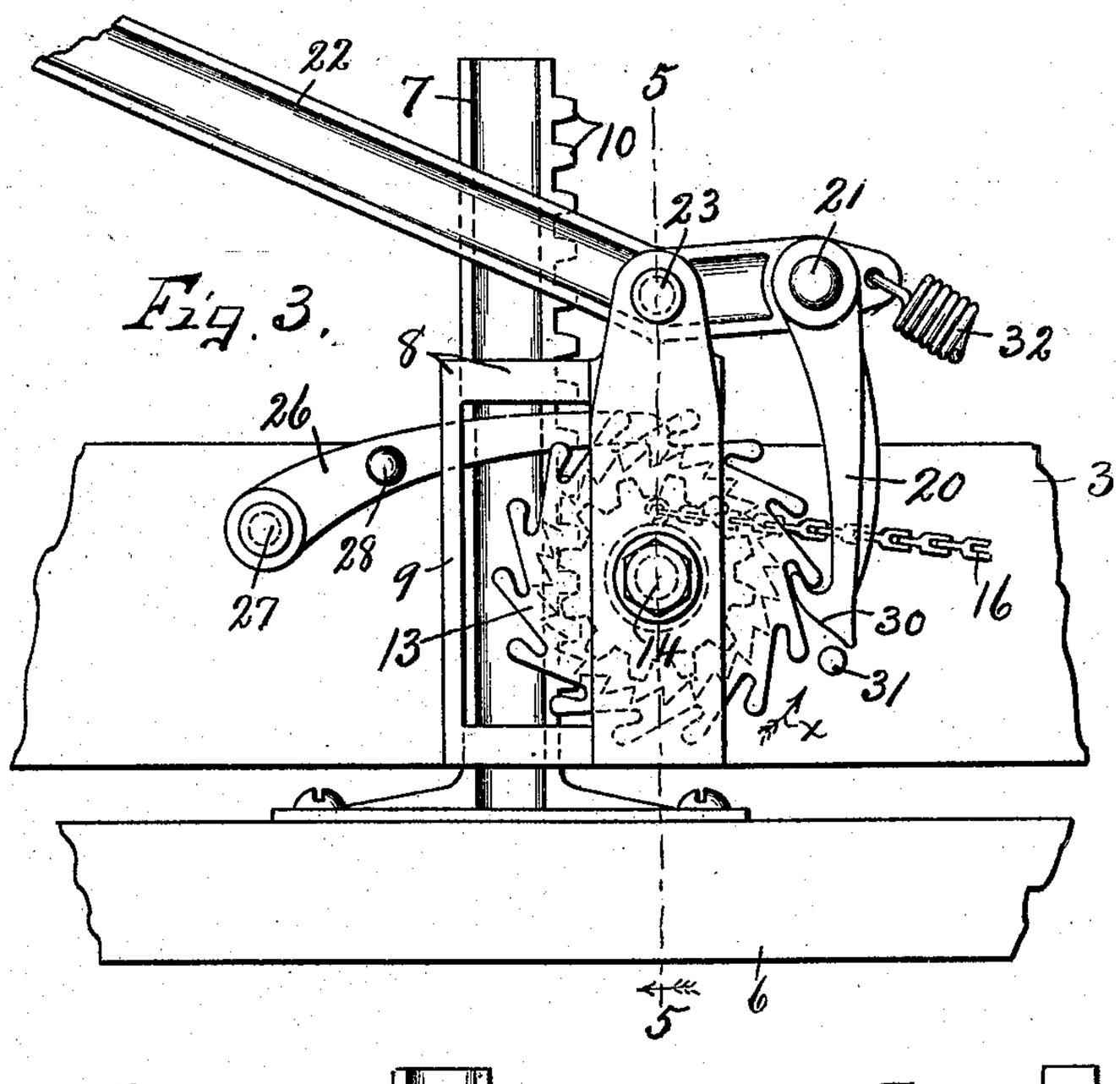


Fig. 4.

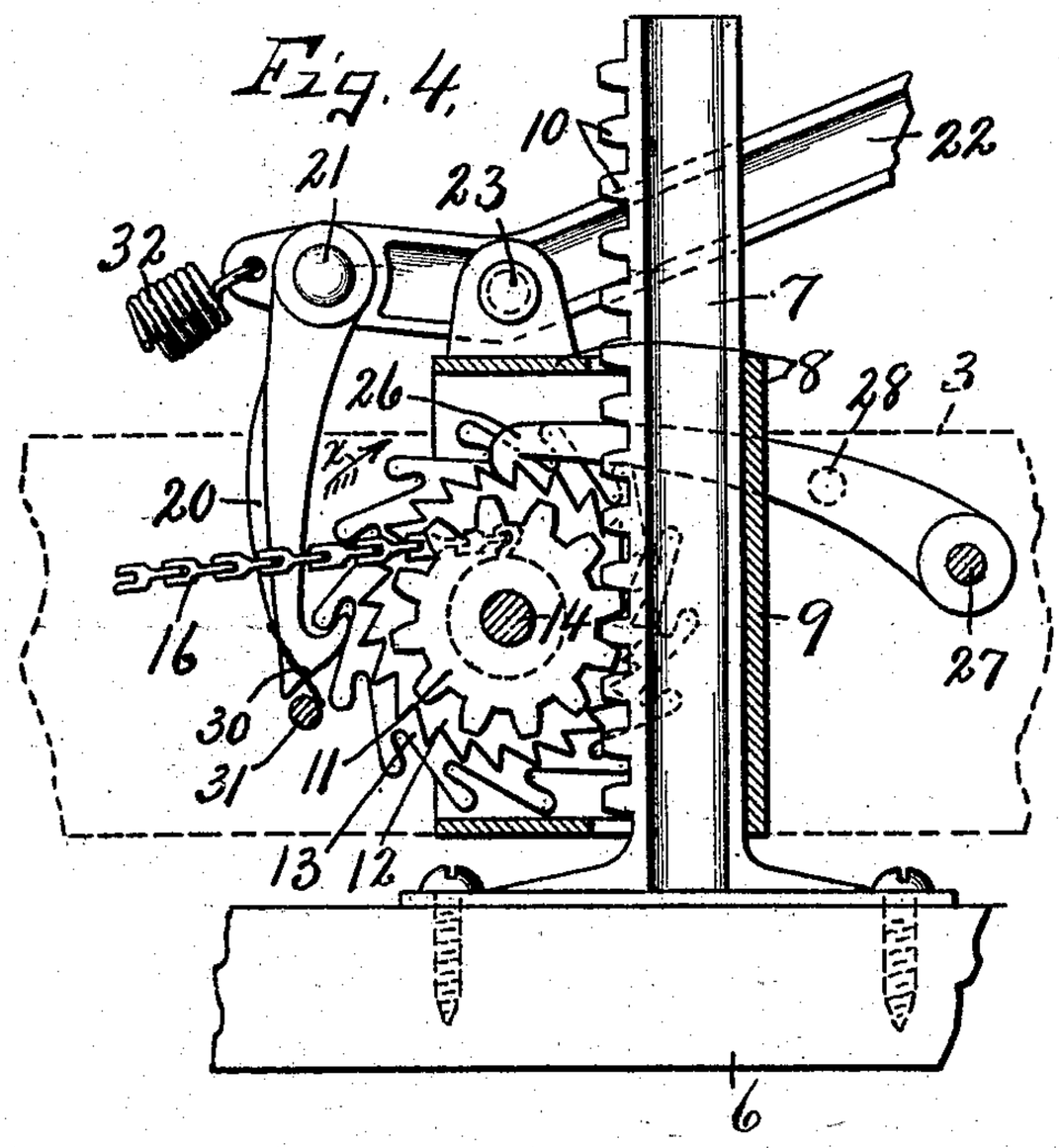
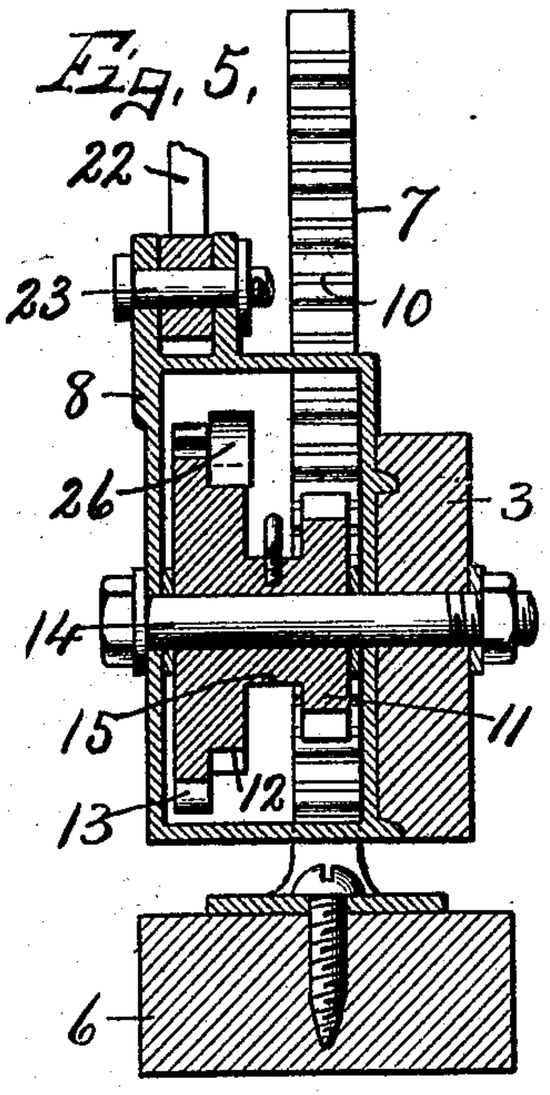


Fig. 5.



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UNITED STATES PATENT OFFICE.

JEREMIAH HEAGERTY, OF OSWEGO, NEW YORK.

BARREL-PRESS.

No. 919,720. Specification of Letters Patent. Patented April 27, 1909.

Application filed June 8, 1908. Serial No. 437,373.

To all whom it may concern:

Be it known that I, JEREMIAH HEAGERTY, of Oswego, in the county of Oswego, in the State of New York, have invented new and useful Improvements in Barrel-Presses, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to certain improvements in barrel presses involving the use of a presser head adapted to enter the head of a barrel for pressing the contents thereinto, and suitable actuating means for reciprocating the presser head.

The primary object is to provide a practical and efficient barrel press in which all of the elements are permanently associated and adapted to constitute an article of manufacture capable of supporting the barrel and presser head together with mechanism for operating the presser head into and out of the open head of the barrel for effectively pressing the contents therein sufficiently to permit the head of the barrel to be easily secured in place preparatory to storage or shipment.

One of the specific objects is to provide means whereby the presser head may be easily released from its pressing position and instantly returned to its normal inoperative position.

A further object is to support the barrel in the same frame upon which the operating mechanism for the presser head is mounted so that the barrels may be readily placed in operative relation to and in registration with the presser head.

Other objects and uses will be brought out in the following description.

In the drawings—Figures 1 and 2 are respectively a top plan and side elevation of a barrel press involving the various features of my invention. Fig. 3 is an enlarged side elevation of the upper end of the press similar to that shown in Fig. 2. Fig. 4 is an enlarged sectional view taken on line 4—4, Fig. 1, showing the reverse view of the parts seen in Fig. 3. Fig. 5 is a sectional view taken on line 5—5, Fig. 3.

As shown in the drawings, the barrel as —*a*— is mounted in a suitable supporting frame consisting of horizontal base bars —1—, opposite upright side bars —2— and a top cross bar —3—.

I preferably provide a pair of horizontal base bars —1— which in this instance consist of round rods spaced apart equi-distant from the vertical axis of the frame and having their ends secured in suitable angle irons —4— which extend transversely of the rods —1— and are spaced some distance apart to form suitable supporting feet for the main supporting frame adapted to rest upon the floor or other available support.

The upright bars —2— are secured at their lower ends to the angle bars —4— substantially midway between the base bars —1— and extend upwardly some distance above the top of the barrel —*a*— where they are secured to the ends and top edge of the upper cross bar —3— by suitable fastening means as screws —5—, sufficient clearance being left between the side bars —2— to easily receive the barrel —*a*— and permit the operation of a presser head as —6—. This presser head may form the head of the barrel or may be firmly secured to a vertically reciprocating rack —7— and adapted to operate against a separate head for the barrel to press the latter head together with the contents of the barrel downwardly a sufficient distance to permit the head to be secured in place within said barrel.

When the presser head —6— is permanently secured to the reciprocating rack or plunger —7—, the lower end of the latter is preferably enlarged horizontally so as to afford a broad bearing for the presser head as shown in the drawings, said presser head consisting in this instance of a bar or plate of substantially the same length as the interior diameter of the upper end of the head or barrel but is somewhat narrower transversely so as to readily enter the upper end of the barrel to press the head into proper place for securement.

The rack or plunger —7— is guided in a suitable frame or bracket —8— having an opening in its top through which the rack or plunger may play and provided with an upright bearing —9— against which the back of the plunger rides while the opposite upright edge of said rack or plunger is provided with teeth —10— meshing with a rotary pinion —11—, the bearing —9— serving to hold the teeth of the rack—7—in operating engagement with the teeth of the pinion —11—. This pinion is rigidly secured to and coaxial with a pair of ratchet wheels —12— and —13—, all of which are mounted upon a suitable supporting shaft —14—, the latter being supported in the frame or bracket —8—

at one side of the cross bar —3— and substantially midway between the upright side bars —2—.

The pinion —11— and ratchet wheels —12— and —13— are preferably made in one piece of cast or other suitable metal, the pinion —11— being connected to the ratchet —12— by a reduced portion or hub constituting a drum —15— to which is secured one end of a chain or cable —16— having its other end passed over a suitable idler —17— and connected to a spring —18— at one side of and near the bottom of the main supporting frame, the lower end of said spring —18— being fastened to a suitable anchorage —19— on the lower end of one of the side bars —2—. This cable —16— and spring —18— serves as an effective means for returning the rack —7— and pressure head —6— to their normal up positions when the operating mechanism hereinafter described is released.

The ratchet wheel —13— constitutes a part of the mechanism for operating the presser head downwardly and for this purpose is engaged by a gravity pawl —20— which is pivoted at —21— to the short arm of a lever —22—, the latter being fulcrumed at —23— upon the upper end of the bracket —8—. The long arm of the lever —22— extends laterally some distance beyond the vertical plane of one of the side bars —2— and is provided at its outer end with a pendent rod —24— having at its lower end a suitable stirrup —25— to receive the foot of the operator whereby the lever may be operated with a considerable power to force the pressure head —6— downwardly against the head or contents of the barrel to permit the head to be secured in place. This operation of forcing the presser head —6— to its operative position is as follows: As the long arm —22— of the lever is depressed by the foot of the operator upon the stirrup —25— or by hand, the pawl —20— which is at the opposite side of the lever —23— is elevated thereby engaging one of the teeth of the ratchet wheel —13— and rotating said wheel together with the ratchet —12— and pinion —11— in the direction indicated by arrow —X— during which rotation, the rack —7— is depressed or forced downwardly by the pinion —11— and is held in its adjusted position by a gravity pawl —26— engaging one of the teeth of the ratchet —12—. This stop pawl —26— is pivoted at —27— to the cross bar —3— at one side of the bracket —8— and is provided with a hand piece —28— whereby it may be elevated by hand out of engagement with the teeth of the ratchet wheel —12— to release the ratchet wheels and pinion together with the rack —7— and presser head —6— when it is desired to elevate the latter after the barrel head has been secured in place. During this operation of forcing the presser head —6— downwardly, the chain or cable —16— is wound upon the drum —15— thereby tensioning the spring —18— and as soon as the ratchet wheels —12— and —13— and pinion —11— are released by throwing the stop pawl —26— out of engagement with the teeth of the ratchet wheel —12—, the tension of the spring —18— acting upon the wound cable —16— operates to instantly rotate the ratchet wheels and pinion in the reverse direction thereby elevating or retracting the rack —7— and presser head —6— to their normal positions.

In order that the presser head may be effectively released to return to its normal up position by the action of the spring —18—, it is necessary to disengage the pawl —20— from the ratchet wheel —13— and for this purpose the lower end of said pawl is provided with a beveled face —30— which is adapted to be brought into engagement with a pin —31— on the upper cross bar —3— by simply elevating the long arm —22— of the lever by hand thereby depressing the pawl —20— until its inclined face —30— engages the stop pin —31— which operates to throw the pawl out of engagement with the teeth of the ratchet wheel —13—.

The short arm of the lever —22— is connected by a spring —32— to a suitable anchorage on the upper cross bar —3— and serves as a means for retracting the lever to its normal position after each compression stroke of the presser head, the pawl —20— being arranged to drop by gravity into engagement with the next succeeding tooth of the ratchet wheel while the stop pawl —26— drops into engagement with the succeeding tooth of the ratchet —12— to hold the presser head in its down position.

The pin —31— may be positioned in such manner as to trip the pawl —20— at each restoration of the lever —22— to its normal up position but relying on the stop pawl —28— to hold the rack —7— and presser head —6— in their depressed positions.

In operation, the head of the barrel to be inserted is first placed upon the contents which fill the barrel after which the lever —22— is operated to depress the head —6— against the head of the barrel sufficiently to enable the head of the barrel to be secured in place, the operating parts being held in their adjusted position by the stop pawl —28—. As soon as the head of the barrel is properly secured, the lever —22— is again operated sufficiently to relieve the strain upon the stop pawl —26— which latter is then withdrawn from engagement with the ratchet wheel —12— whereupon by rocking the lever —22— to engage the pawl —20— with the pin —31—, said pawl —20— is disengaged from the ratchet wheel —13— thereby releasing the ratchet wheel and pin-

ion and also the rack —7— and presser head —6— and permitting the spring to instantly return such parts to their normal position through the medium of the pawl —16—.

What I claim is:

1. In a barrel press, a supporting frame for the barrel, a vertically movable rack guided on the frame, a presser head secured to the rack, a pinion engaged with the rack, a ratchet wheel secured to the pinion, a lever and operating pedal therefor, a pawl on the lever for engaging and rotating said ratchet wheel and pinion and thereby depressing the rack and presser head, movable means for holding the rack and presser head in their adjusted position, and additional means including a drum and cable, for returning the rack and presser head to their normal positions when released by the movement of the first named means from its holding position.

2. In a barrel press, a supporting frame for the barrel, a vertically movable presser head, a toothed rack secured to the presser head, a rotary pinion engaging said rack, means for rotating said pinion, movable means for holding the rack in its adjusted position, a spring connected to the pinion and tensioned by the rotation of the pinion in one direction, said spring operating to return the pinion and rack together with the presser head to their normal positions when the holding means is thrown from its holding position.

3. In a barrel press, a supporting base for the barrel, side bars secured to and rising from the supporting base, a cross bar connecting the upper ends of the side bars, a bracket secured to the upper cross bar, a vertically movable rack guided in the bracket, a presser head on the lower end of the rack, a rotary pinion meshing with the rack, a drum secured to said pinion, means for rotating the pinion in one direction to depress the presser head, a cable having one end connected to the drum, and a spring connected to the cable, and tensioned by the rotation of the drum as the presser head is depressed, said spring operating to rotate the drum in the opposite direction when released by its operating means to return said presser head and rack to its normal position.

In witness whereof I have hereunto set my hand this 5th day of June 1908.

JEREMIAH HEAGERTY.

Witnesses:
L. L. THURMAN,
CLARK MORRISON.