(No Model.) 2 Sheets—Sheet 1.

F. L. WHITE.

COTTON PRESS.

No. 426,892. Patented Apr. 29, 1890.

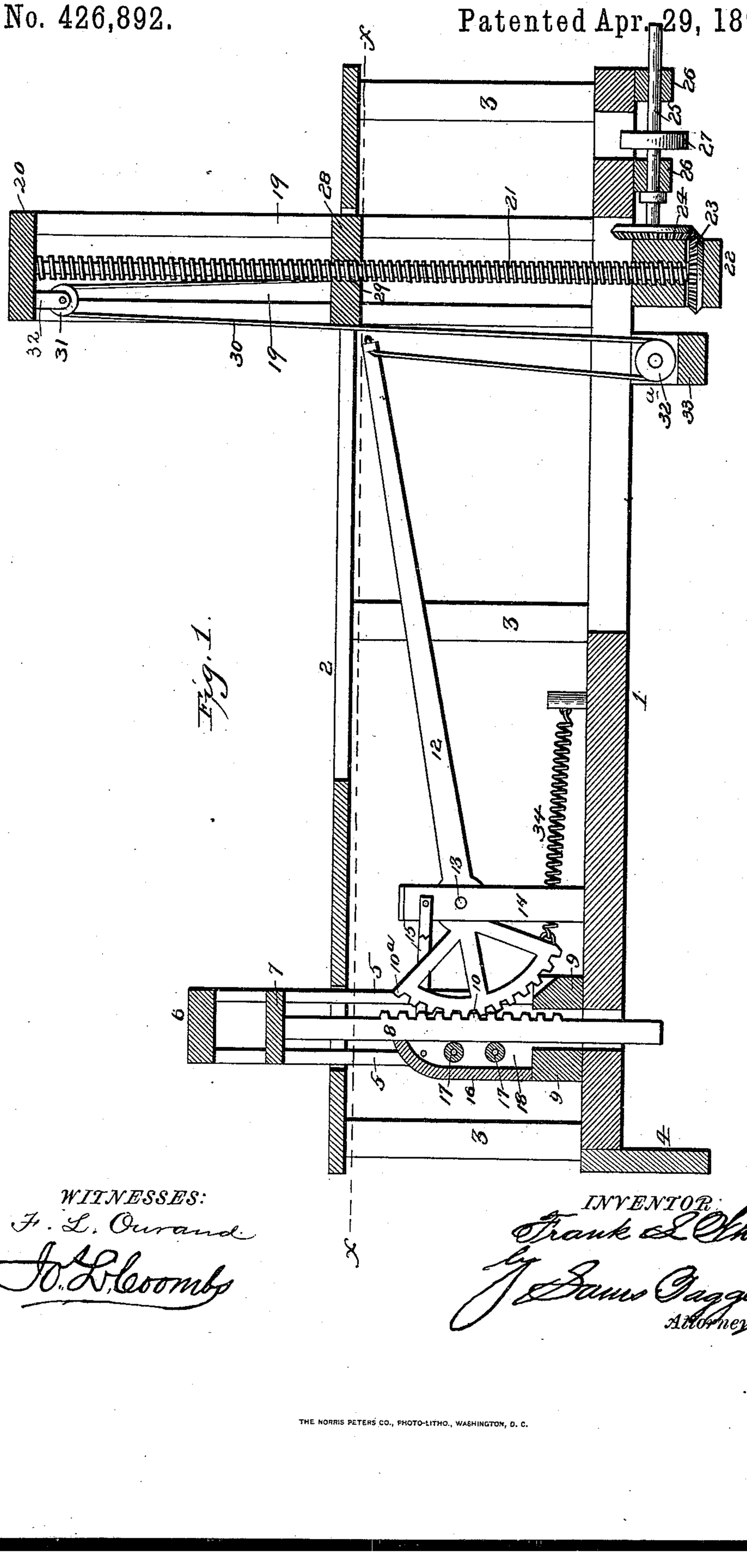

Fig. 1.

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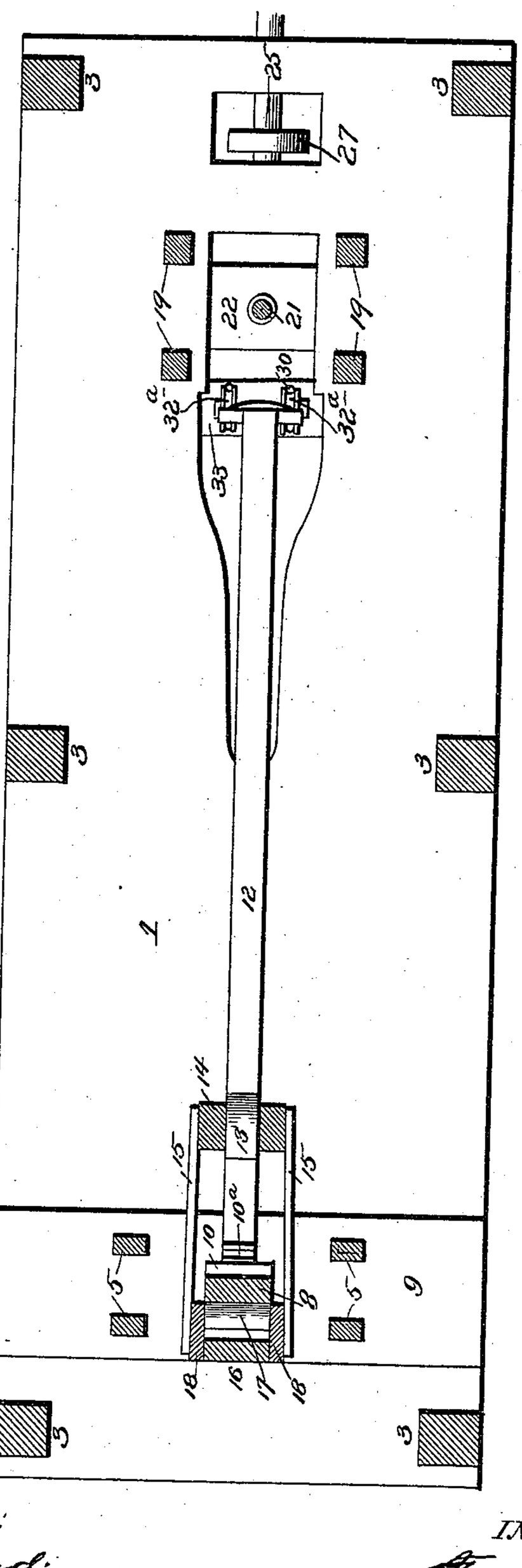
Fig. 2.



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UNITED STATES PATENT OFFICE.

FRANK LEWIS WHITE, OF MONROE, LOUISIANA, ASSIGNOR OF ONE-HALF TO JOHN B. STONE, OF SAME PLACE.

COTTON-PRESS.

SPECIFICATION forming part of Letters Patent No. 426,892, dated April 29, 1890.

Application filed January 15, 1890. Serial No. 336,980. (No model.)

To all whom it may concern:

Be it known that I, FRANK LEWIS WHITE, a citizen of the United States, and a resident of Monroe, in the parish of Ouachita and State of Louisiana, have invented certain new and useful Improvements in Cotton-Presses; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in apparatus for compressing cotton and other materials.

The object of the invention is to provide a simple and efficient apparatus of the character described, whereby I make use of the combined action of a screw and lever, thus enabling great pressure to be applied to the material or substance to be compressed.

The invention consists in the novel construction and combination of parts hereinafter more fully described, and then specifically defined and pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a central vertical sectional view of an apparatus constructed according to my invention. Fig. 2 is a horizontal section of the same on the line *x x*, Fig. 1.

In the said drawings the working parts of the apparatus are shown as carried by a supporting-frame, consisting of a base 1, platform 2, and uprights 3. The base has secured on its under side supports 4, which rest upon the ground. At one end of said base are secured or mounted four uprights 5 5, which pass up through an opening in the platform and project above the same. These uprights are united at their upper ends by means of a cross-head 6, which forms the stationary platen of the compress. The movable platen 7 is carried by a vertically-reciprocating bar 8, which works through an aperture in the base, and also between the cross-pieces 9, in which the lower ends of the uprights are secured. On its inner side the bar 8 is provided with a series of rack-teeth 10, which mesh with a number of corresponding teeth 10^a on the segmental end of the operating-lever 12. This lever is fulcrumed at 13 in the uprights 14, secured to the base 1. To the upper ends of the uprights 14 are secured the backwardly-extending connecting-rods 15, which connect with the upper part of the vertical piece 16 in rear of bar 8. This piece 16 is provided with rollers 17, journaled in the sides 18 thereof, and against which the bar 8 works, thus diminishing friction.

The lever 12 extends inwardly or forwardly toward the opposite end of the apparatus, which carries the means for operating the same, as follows: The numerals 19 designate a number—preferably four—of uprights joined together at their tops by means of the cross-piece 20, and secured at their lower ends to the base 1, forming a vertical supporting-frame. Centrally within this frame is mounted the vertical screw rod or shaft 21, having its upper end journaled in the cross-piece 20, while its lower end is stepped in the bracket 22, secured to the under side of the base 1. Near the lower end said screw-shaft is provided with a bevel gear-wheel 23, meshing with a bevel-pinion 24 on a shaft 25, journaled in bearings 26 on the under side of base 1. This shaft is also provided with a driving-pulley 27, by which motion may be transmitted in any suitable manner from a steam-engine or other motor.

Mounted within the supporting-frame formed by uprights 19 is a vertically-movable cross-head 28, having each end notched or cut away so as to form ways for said uprights. This cross-head is provided with a central screw-threaded aperture, the threads 29 of which correspond with those of the screw-shaft 21, so that revolution imparted to said shaft will cause the said cross-head 28 to be raised or lowered according to the direction of revolution of the shaft. Secured to said cross-head are ropes or chains 30, which extend upwardly and around sheaves 31, journaled in brackets 32, depending from cross-head 28. These ropes then pass downwardly and around similar sheaves 32^a in cross-piece 33, and then upwardly to the end of lever 12. A coiled spring 34 may be connected with base 1 and the segmental end of lever 12, if desired, for the purpose of assisting the downward movement of the movable press-platen.

The operation of the apparatus is as fol-

lows: The cotton or other material is placed between the stationary and movable platens, and the screw-shaft 21 rotated by means of bevel-gear 23 and connections, causing cross-head 28 to be forced downward, which, by means of ropes or chains 30, will depress the end of lever 12, with which they are connected, causing said lever to turn on its fulcrum, and by means of the teeth 10^a on the segmental end thereof engaging with the rack-teeth on bar 8 the latter will be moved upwardly, carrying with it platen 7, and compressing the material between it and the stationary platen 6. A reverse movement of the screw-shaft will cause platen 7 to recede from platen 6, as will be obvious, which movement may be assisted by coiled spring 34.

While my invention is designed principally for compressing cotton, it is obvious that it may be applied to baling and compressing purposes generally with equal facility and with equally good results.

Having thus described my invention, what I claim is—

1. In a compressing apparatus, the combination, with a supporting-frame, a stationary platen, a reciprocating bar provided with rack-teeth, and a movable platen carried by said reciprocating bar, of a lever having a segmental end provided with rack-teeth engaging with the teeth on said bar, a vertical screw-shaft, a cross-head movable upon said screw-shaft, and ropes or chains connected with said cross-head and lever, substantially as described.

2. In a compressing apparatus, the combination, with a supporting-frame, a stationary and a movable platen, a rack-bar, and a vertical piece provided with friction-rollers engaging with said bar, of a fulcrumed lever having a segmental end provided with rack-teeth, a vertical screw-shaft having a bevel gear-wheel, a driving-shaft provided with a pinion gearing with said bevel gear-wheel, a cross-head working on said screw-shaft, and ropes or chains connecting said cross-head and lever, substantially as described.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

FRANK LEWIS WHITE.

Witnesses:
W. M. MURPHY,
J. M. LEE, Jr.