

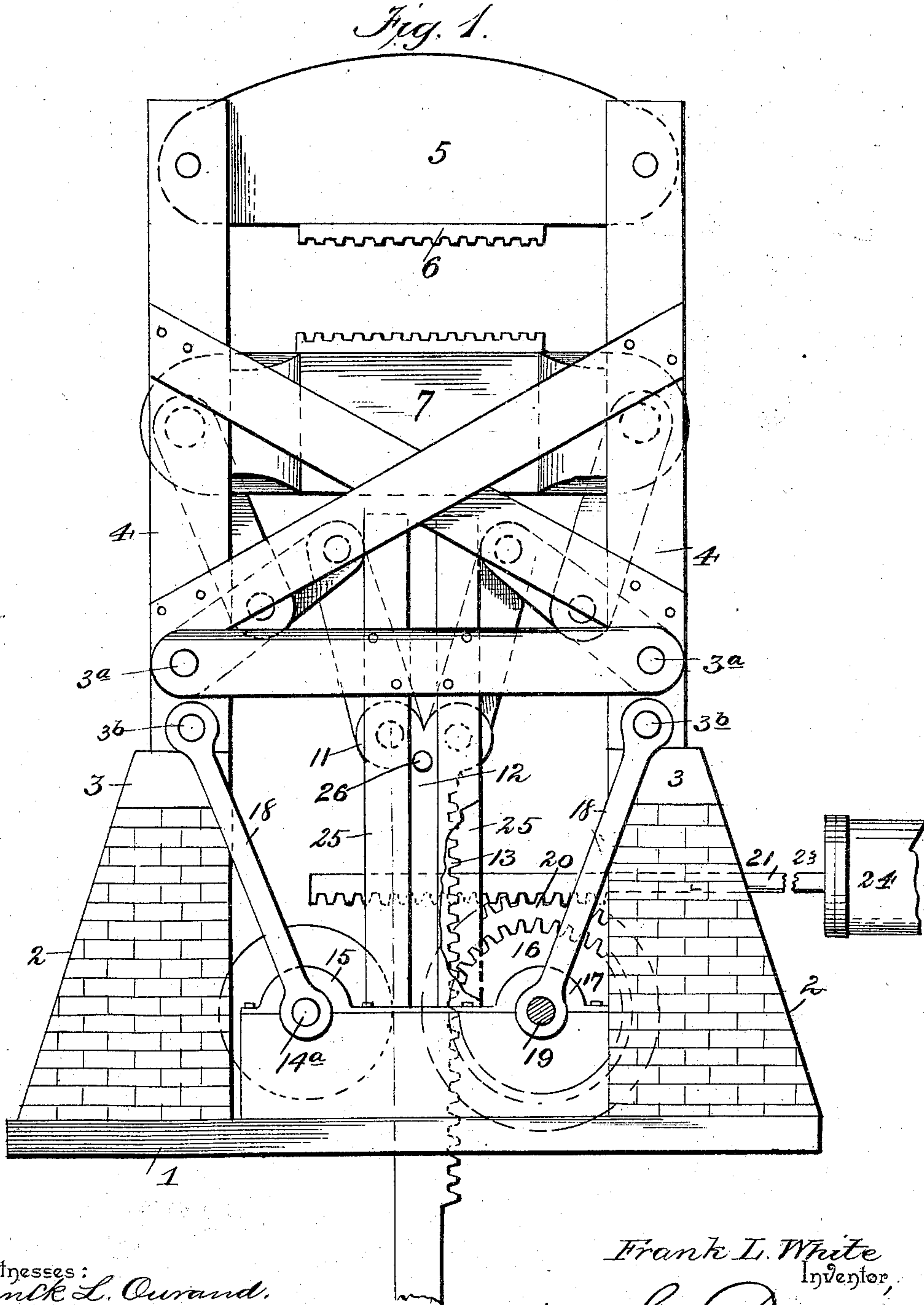
No. 704,998.

Patented July 15, 1902.

F. L. WHITE.  
COTTON COMPRESSOR  
(Application filed Apr. 25, 1902.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses:  
*Frank L. Ourand.*  
*Frank G. Radelfinger.*

*Frank L. White*  
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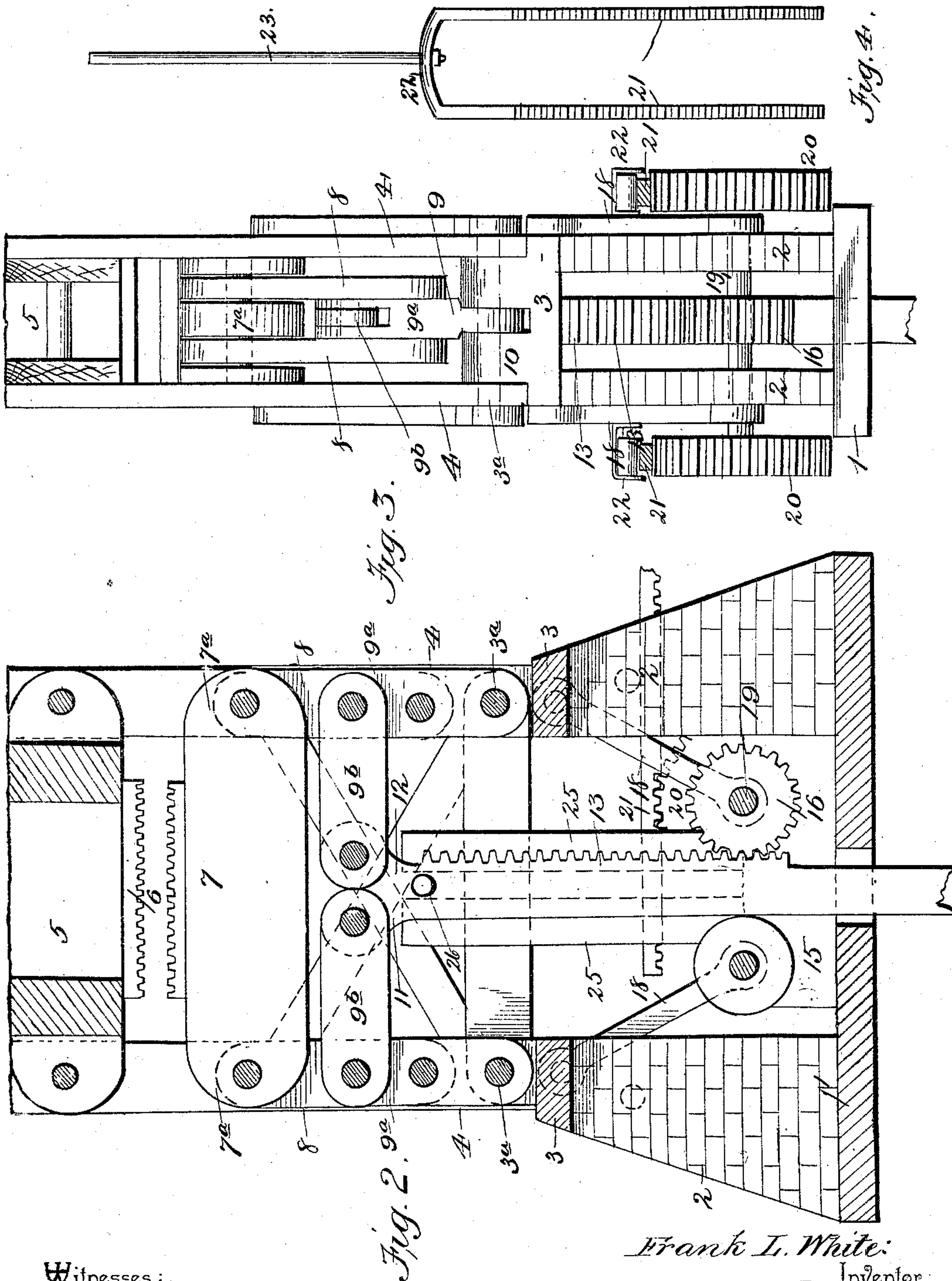
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# UNITED STATES PATENT OFFICE.

FRANK L. WHITE, OF PINE BLUFF, ARKANSAS, ASSIGNOR OF ONE-HALF TO  
WILLIAM B. HOWEL, OF PINE BLUFF, ARKANSAS.

## COTTON-COMPRESSOR.

SPECIFICATION forming part of Letters Patent No. 704,998, dated July 15, 1902.

Application filed April 25, 1902. Serial No. 104,707. (No model.)

*To all whom it may concern:*

Be it known that I, FRANK L. WHITE, a citizen of the United States, residing at Pine Bluff, in the county of Jefferson and State of Arkansas, have invented new and useful Improvements in Cotton-Compressors, of which the following is a specification.

My invention relates to improvements in cotton-compressors; and the object of the same is to construct a device of this character which will give a very high degree of compression with small expenditure of steam-power.

The 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 front elevation of my press with the plunger part way down. Fig. 2 is a longitudinal section of the same with plunger up. Fig. 3 is a side elevation of the same. Fig. 4 is a detail of the rack-bars and piston-rod.

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

The numeral 1 designates a base for supporting my compressor, and footed thereon are standards 2, surmounted by pillow-blocks 3. Parallel guides 4 are bolted to the blocks 3, and mounted on the upper ends of the guides 4 is a rounded head-block 5, which is rigidly bolted thereto. The lower face 6 of said head-block serves to coöperate with a plunger 7 to press the cotton. The plunger 7 is slidingly mounted between the guides 4 and bears ears 7<sup>a</sup>, to which are pivoted parallel link-bars 8, which are oppositely pivoted to one member 9<sup>a</sup> of a pair of toggles 9.

The member 9<sup>a</sup> is pivoted to a knuckle 10, formed integral with the pillow-blocks 3, by a cross-bolt 3<sup>a</sup>. The other member of each of the pairs of toggles 9 is designated 9<sup>b</sup> and is pivoted to ears 11, formed on a head 12, carried by the upper end of a rack-bar 13, which extends down and through an aperture in the base 1. A roller 14 is mounted in boxes 15 and bears against the smooth back of the rack-bar 13, and a pinion 16 is mounted in boxes 17 and is located to mesh with the rack 13. Brace-rods 18 are con-

nected to the cross-bolts 3<sup>b</sup> and to the outer ends of the spindles 14<sup>a</sup> of the roller 14 and of the shaft 19, which carries the pinion 16. Gears 20 are keyed on the shaft 19 and mesh with rack-bars 21, mounted in guides 22, supported on the base 1. The racks 21 are connected by a cross-bar 23, which is connected to a piston-rod 23, which fits a cylinder 24, constructed to be connected to some source of steam-power. (Not shown.)

Guides 25, footed on the base 1, engage pins 26, seated in the rack-bar 13, and thereby hold the rack in line.

In operation a bale of cotton is placed on the plunger 7, and steam is turned into the cylinder 24 and the rack-bar 13 actuated to raise the plunger, through the medium of the toggles 9, to compress the bale. When the plunger has reached its uppermost position, the links 8 and toggle members 9<sup>a</sup> are vertical and parallel to the guides 4, while the toggle members 9<sup>b</sup> are horizontal and extend at right angles to the reactive force on the plunger. By this arrangement the plunger is locked, and there is no downward thrust on the rack-bar 13, all the force being carried by the blocks 3.

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

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

1. In a cotton-compress, the combination of parallel guides, a head-block mounted intermediate said guides, a plunger slidingly mounted between said guides, knuckles mounted intermediate said guides, a rack-bar, toggles pivoted to said rack-bar and said knuckles, link-bars pivoted to said plunger and to one member of said toggles intermediate the ends of said member, a shaft bearing a pinion located to mesh with said rack-bar, a pair of pinions keyed on said shaft, parallel racks meshing with said pair of pinions and connected by a cross-bar, guides for said racks, and a cylinder provided with a piston connected to said cross-bar, substantially as described.

2. In a cotton-compress, the combination

of a plunger, a rack-bar, means for connect-  
ing said plunger and said rack-bar, a pinion  
engaging said rack-bar, a roller mounted to  
bear on said rack to hold it in engagement  
5 with said pinion, gears mounted to turn in  
unison with said pinion, racks engaging said  
gears, and a cylinder bearing a piston con-  
nected to said last-mentioned racks, sub-  
stantially as described.

10 3. In a compress, the combination with a  
base, guides mounted on said base, a plun-  
ger slidingly mounted in said guides, a rack-  
bar, means for connecting said rack-bar and  
said plunger, a shaft journaled in said base,

a roller keyed on said shaft and bearing on 15  
the back of said rack, a shaft bearing a gear  
meshing with said rack, a rack meshing with  
said gear, means for driving said rack to op-  
erate said plunger, diagonal brace-rods con-  
nected to the outer ends of said shafts and 20  
to said base, substantially as described.

In testimony whereof I have hereunto set  
my hand in presence of two subscribing wit-  
nesses.

FRANK L. WHITE.

Witnesses:

J. E. BOYER,  
H. C. HOWEL.