

*J. W. Bocage,
Cotton Press.*

N^o 19,232.

Patented Feb. 2, 1858.

Fig. 2.

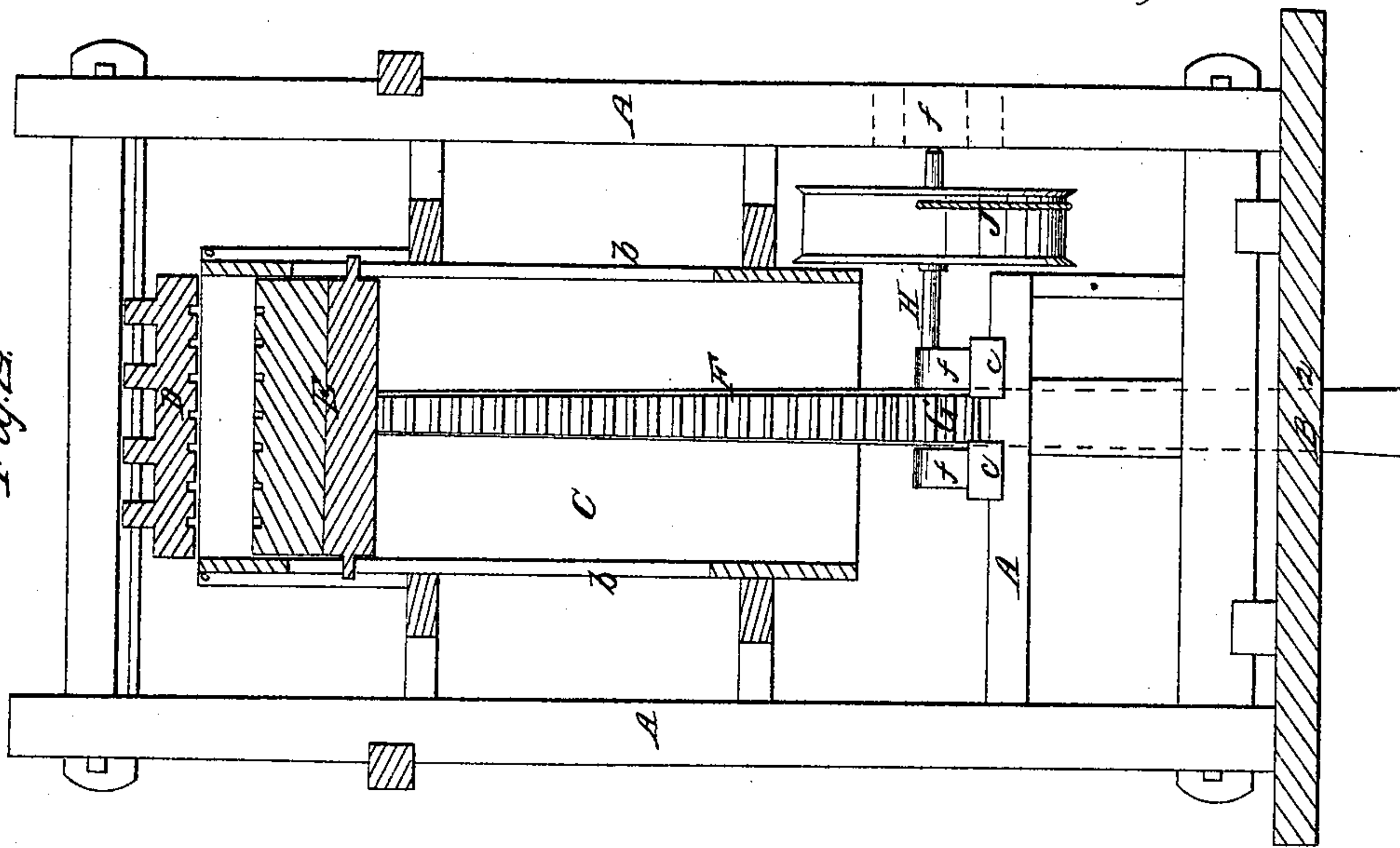
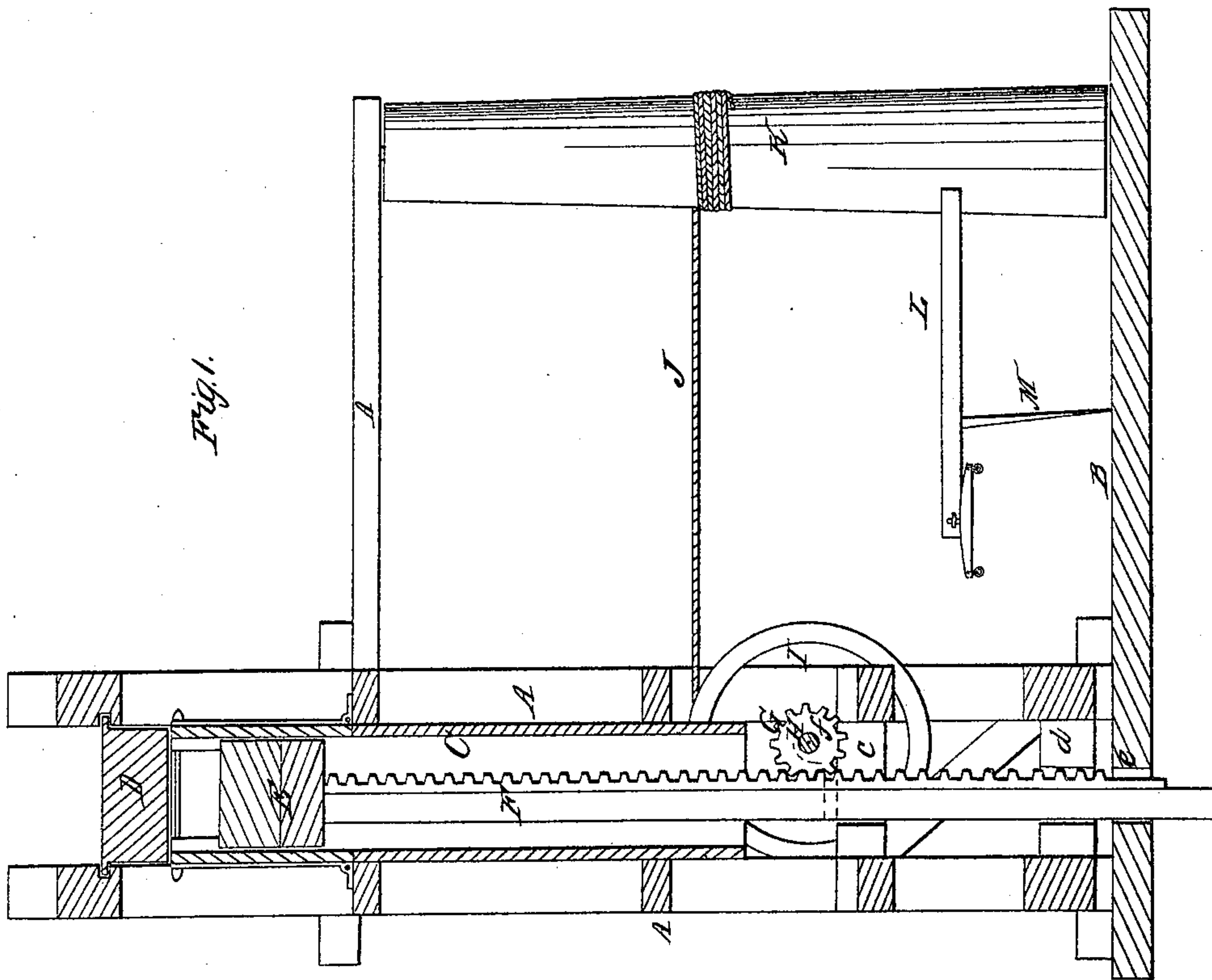


Fig. 1.



UNITED STATES PATENT OFFICE.

JOSEPH W. BOCAGE, OF PINE BLUFF, ARKANSAS.

IMPROVEMENT IN JACK-SCREW PRESSES.

Specification forming part of Letters Patent No. 19,232, dated February 2, 1858.

To all whom it may concern:

Be it known that I, JOSEPH W. BOCAGE, of Pine Bluff, in the county of Jefferson and State of Arkansas, have invented a new and useful Improvement in Jack-Screw Presses; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a vertical transverse central section of my improved press. Fig. 2 is a vertical longitudinal section of the same.

Similar letters of reference in each of the several figures indicate corresponding parts.

My improvements only have reference to the jack-screw press, and are designed, first, to simplify the same so that negroes may superintend its management; second, to render the follower of the same capable of self-lowering; and, third, lessen the weight of the toothed rack-bar, which carries the follower without impairing the strength at the point where the greatest strain comes upon it.

The nature of the first feature of my invention consists in the arranging of the follower on the upper end of the toothed rack-bar, and having said bar arranged to press upward, instead of downward, by means of a toothed pinion, large grooved pulley, and windlass with sweep, arranged conveniently for applying horse-power for performing the pressing operation, said toothed bar, after having pressed the bale, being capable, owing to its arrangement, of descending rapidly by its own gravity through a passage in the floor or platform, and thus is avoided the necessity of slowly running it away from the cotton-bale by hand or other power. It is by this arrangement also that the press is rendered very simple.

The second feature of my invention consists in giving the toothed rack-bar a gradual taper on each edge from bottom to top, so that it shall contain less metal and require less power in raising it. By thus shaping the bar the lightest or narrowest portion comes into action when the pressing first commences, or when the least strain comes upon it, and the strongest or broadest portion when the pressing is nearly completed or when the greatest strain comes upon it.

The saving in expense for metal and the re-

duction of power for operating the presses by shaping the bar, as above stated, and the speed gained and labor saved in having the follower self-lowering, are items of considerable importance in a large press, although they may appear of little moment when seen on the small scale represented.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A A represent the framing of the press; B, the flooring or platform upon which it rests.

C is the pressing-box; D, the platen, against which the cotton is pressed.

E is the follower, furnished with guides *a a*, which play in the grooves *b b* of the box C as the follower moves up and down. The guides *a a* also serve as stops to control the extent of the downward movement of the follower.

F is the toothed rack-bar, with the follower E on its upper end. This bar is of taper form on each edge from top to bottom, as shown in Fig. 2, being about eight inches broad at its base and five inches at its top. It is guided in its up and down movement by guides *c d*, and has freedom to descend to the full extent of its movement through the flooring or platform by an opening, *e*, in the same, which also serves as a guide to it.

G is a pinion-wheel for gearing into the teeth of the bar, as shown. This wheel is arranged on a shaft, H, situated below the pressing-box, being furnished with suitable bearing-boxes, *f f f*, of the frame A A.

I is a large grooved pulley arranged on the same shaft with the pinion.

J is a rope attached to and wound around the periphery of the pulley, and carried to and attached to a windlass, K, which is pivoted in the flooring or platform, as shown in Fig. 1. The windlass K has a horizontal sweep, L, attached to it, and said sweep has a stop-pawl, M, which, when the horse stops or backs, takes a hold into the platform or flooring, and prevents the follower descending. This pawl can be thrown up and retained alongside the sweep when it is desired to have the follower descend.

In operating the press, the rope unwinds from the pulley and winds round the windlass, and consequently turns the pulley and pinion, and causes the latter to raise the toothed rack-

bar and follower. By having the follower press upward greater convenience is secured, as the pressing-box can be situated in the picking or ginning room, and thus time and labor of transporting the cotton down to the press are avoided.

Thus having the pressing-box and follower arranged, I am aware it is not new in toggle and other lever presses, but in presses employing a rack and pinion such arrangement of the same has never been attained, I believe.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The arrangement and combination of the

follower E, toothed rack-bar F, pinion G, grooved pulley I, and windlass L, in the position and manner specified, for the purpose of rendering the follower capable of pressing upward and self-lowering, as set forth.

2. Giving the toothed rack-bar a gradual taper on each edge from bottom to top, so that it shall contain less metal, and require less power to raise it, substantially as set forth.

JOS. W. BOCAGE.

Witnesses:

G. YORKE ATLEE,
H. H. YOUNG.