# E. L. Morse,

## Cotton Press.

No. 63,808. Patented Apr. 16, 1867.

Fig. 1.

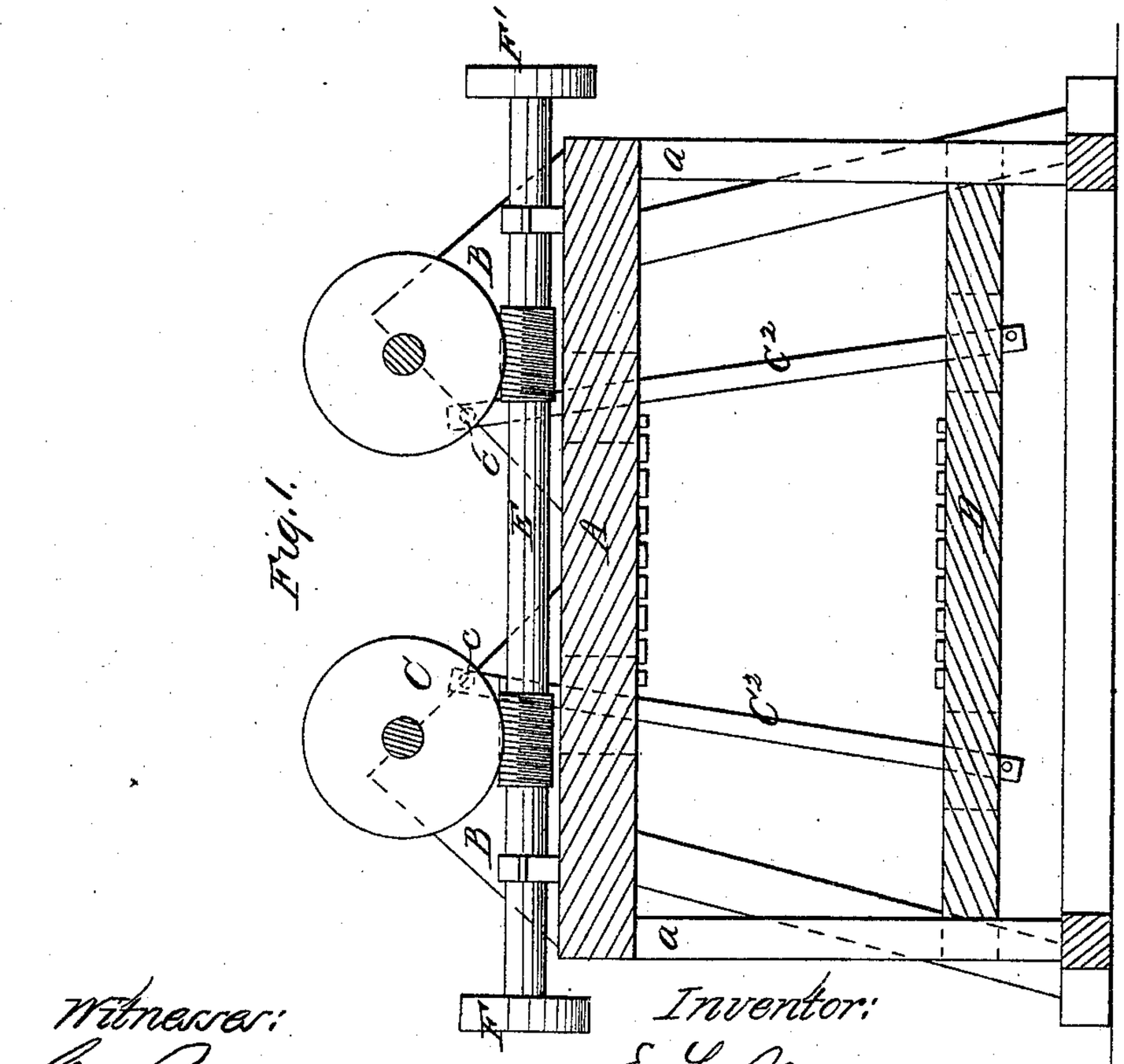
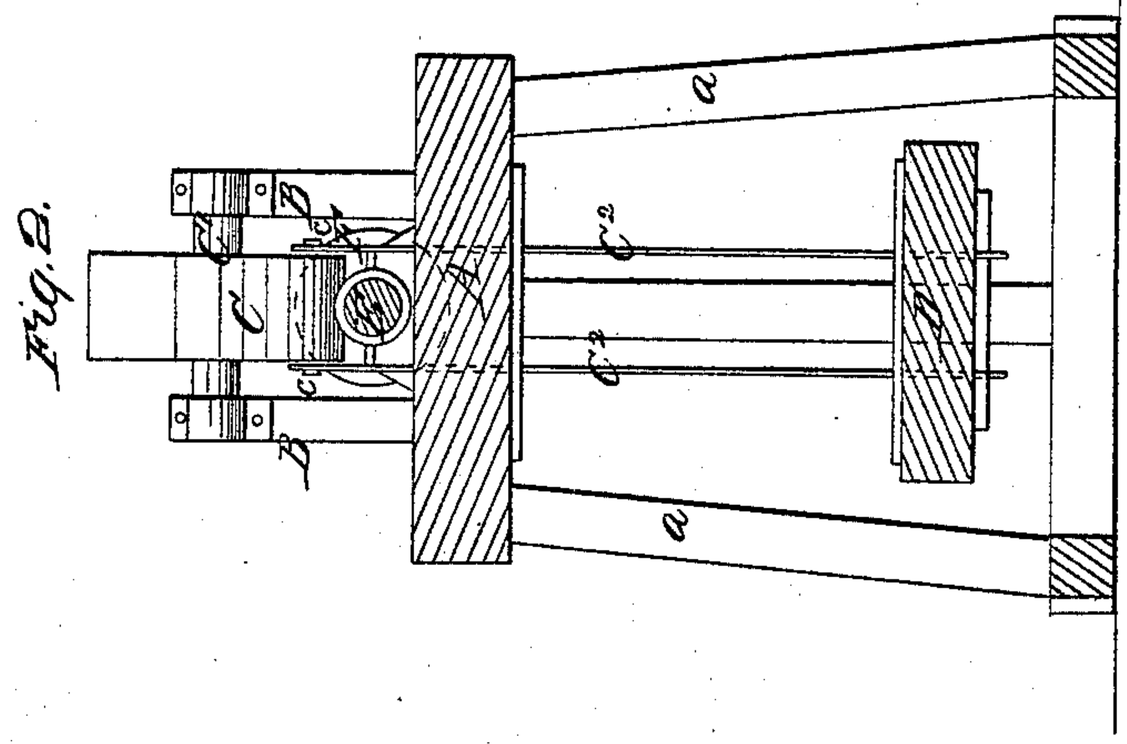



Fig. 2.

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E. L. MORSE, OF ST. LOUIS, MISSOURI.

*Letters Patent No.* 63,808, *dated April* 16, 1867.

## IMPROVEMENT IN COMPRESS FOR COTTON, &c.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, E. L. MORSE, of the city and county of St. Louis, and State of Missouri, have invented a new and useful Improvement in Baling Compresses; and I do hereby declare that the following is a full and clear description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of this invention consists in a new application of well-known mechanical devices. There are two wheels, or sectors, mounted on top of the upper platen beam, and connected with the lower platen beam or follower by means of connecting-rods, similar to the Tyler press construction. This arrangement secures all the advantages of progressive levers that are secured in the Tyler press. In lieu of the steam cylinder used in the last-named press, in the present instance the peripheries of the wheels or sectors are provided with cogs, fitted to gear into endless screws which are placed upon a horizontal or driving-shaft. These endless screws should be made right and left, so as to act against each other, for the purposes hereinafter more fully explained.

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

Figure 1 of the drawings is a longitudinal sectional elevation of the press.

Figure 2 is a transverse sectional elevation of it.

A is the top platen beam, which may be supported on short legs or posts, *a*, of sufficient strength to sustain the dead weight of the press and the bale resting upon it, but need not be any stronger than is required for that purpose. On top of the beam A there are four bearing-pieces, B, for the support of the axles of the wheels or sectors C. The pieces B should be of sufficient length to transmit the pressure brought to bear upon them over a considerable portion of the length of the beam A, so that the excessive strain placed upon it will not rupture it transversely. The wheels or sectors C may be constructed as shown in the accompanying drawings, or they may be only semicircular pieces. In either case they will be sustained on strong axles, $C^1$, which will have their bearings in the pieces B. To each side of the wheels or sectors C there will be attached, by means of suitable wrist-pins, *c*, connecting-rods, $C^2$, and to the lower ends of these rods will be attached, in a similar manner, the lower platen beam or follower D. By this arrangement all the advantages of progressive leverage now secured in the Tyler press will be secured in this, and the remaining portions of the machinery are so economically constructed in this press as to render it far superior to all others. Above the beam A, and resting on it by means of suitable bearings, is a longitudinal shaft, E, having right and left screws, E′, which gear into cogs properly cut to receive them on the peripheries of the wheels or sectors C. The threads cut on the screws E′ should be of the square variety, and they are to be made right and left, so as to equalize the longitudinal strain upon the shaft E, and thereby prevent its wearing the sides of its bearings or exerting an undue friction thereon, and also for the purpose of transmitting the strain from both sectors or wheels towards the centre of the beam A, where it is needed to counteract the pressure of the bale against the bottom of said beam. The screw may be driven by means of gearing applied to the wheel F, the size of which may be computed so as to transmit the required power and speed to the wheels or sectors C, and as that speed is to a certain extent limited, in view of the immense power to be transmitted, it is proposed to make the wheel F′ of such a size as to run down the press in half or even less than half the time occupied in running it up. Suitable shipping gear (not shown) will be employed to change the power from one of those driving-wheels to the other.

Having described my invention, what I claim, is—

The combination of the endless screws E′ on the power-shaft E, with the screw-guard sectors or wheels C, the lifting-rods $C^2$, and platen D, when acting substantially as and for the purpose set forth.

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Witnesses:

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