

J. C. Colt,

Cotton Press.

N^o 4,006.

Patented Apr. 22, 1845.

Fig. 1.

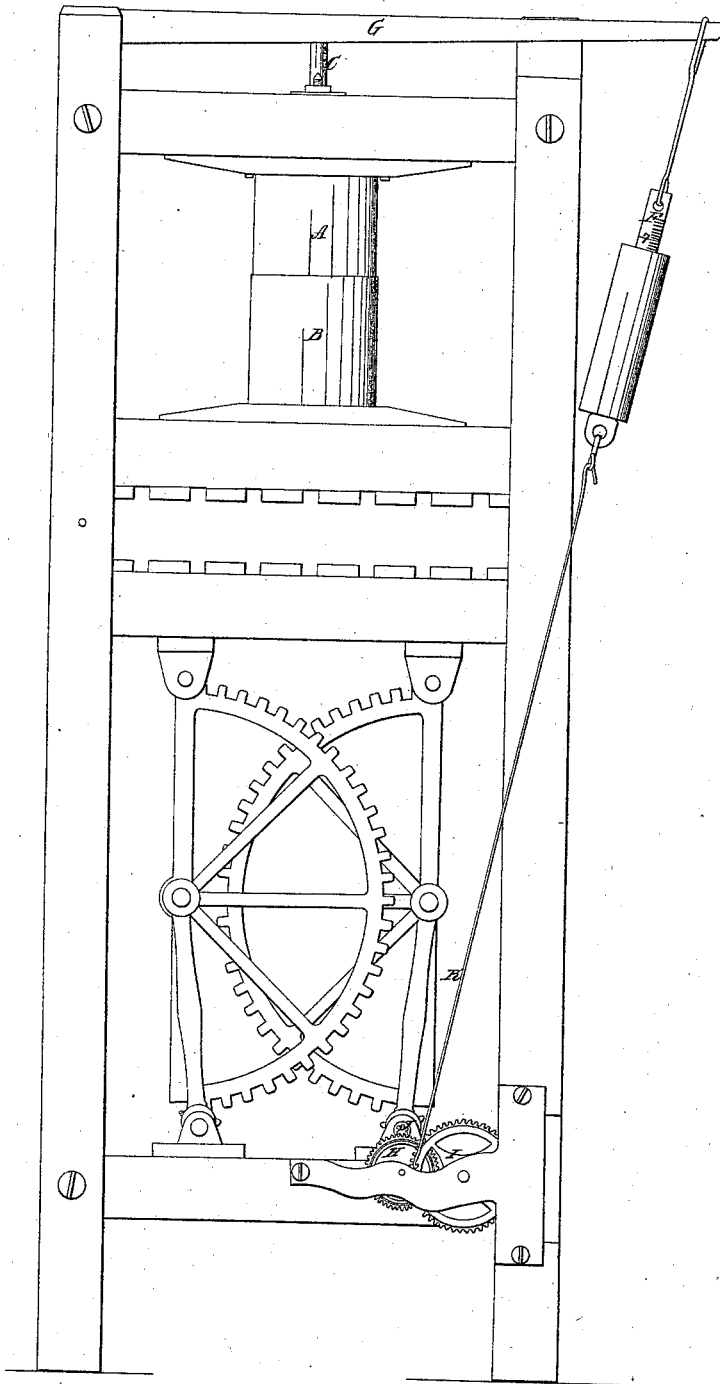


Fig. 2.

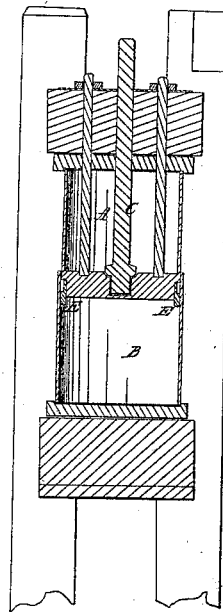


Fig. 3.

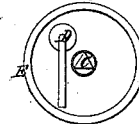


Fig. 4.

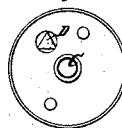
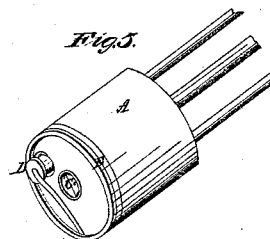


Fig. 5.



UNITED STATES PATENT OFFICE.

JOSEPH C. COLT, OF NEW YORK, ASSIGNOR TO DANIEL GOSS, OF CATSKILL,
N. Y.

IMPROVEMENT IN SELF-ADJUSTING PLATENS FOR COTTON AND OTHER PRESSES.

Specification forming part of Letters Patent No. 4,006, dated April 22, 1845.

To all whom it may concern:

Be it known that I, JOSEPH C. COLT, of the city, county, and State of New York, have invented a new and useful Method of Adjusting the Followers of Toggle-Joint and other Presses; and I do hereby declare the following to be a full and exact description.

The nature of my invention consists in attaching one or more hydraulic cylinders to the platen or follower of the press, and providing them with valves, so as to allow the plunger to work out and in the cylinder according to the pressure on the platen, the valve to be operated upon by the movement of the press, so that the platen will resist an increasing force as the power of the press increases more or less.

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

I construct my press in any of the forms known as "lever toggle-joint" or other progressive power-presses.

The drawings accompanying this, and to which reference is made, are as follows:

No. 1 is a side elevation of Bullock's progressive power-press with my improvement attached to the follower or platen. No. 2 represents a section of the cylinders. No. 3 shows the bottom of the upper cylinder or reservoir. No. 4 shows the cap of the upper cylinder. No. 5 is a perspective view of the cylinder A, No. 1.

I make a hydraulic cylinder, as shown at B, No. 1, of a size suited to the press, which I screw onto the upper platen of the press, with the open end upward. I then make another cylinder, A, which is fitted into B, and is packed at the upper end of B, so as to serve as a ram or plunger, and also as a reservoir, in the center of the bottom of which is a valve, C, as shown in No. 2, opening upward, and valve D in No. 3 opening down or outward. The cylinder A is bolted to the press-frame by rods or bolts, as in No. 2. The stem of valve C passes up through the cap of cylinder A a convenient distance to receive a lever, as shown in No. 1, letter G, which is attached at one end to the beam of the press passing over and resting on the valve C. To the other end I apply a spring, F. The weight is thrown upon this

spring, and consequently upon the valve, by the movement of the wheels H I, No. 1, through the medium of a rod attached to the wheel I at the rim.

Operation: Preparatory to the use of this machine in connection with a cotton-press, as shown in No. 1, I fill the cylinder B with water or other liquid, then run down the lower platen or follower of the press to receive the bale of cotton. Now, as the press is run up, the bale will press against the platen which is attached to the cylinder B, which platen is not fixed in the press-frame, but allowed to slide freely up and down between the posts as the bale moves upward by working the press, which it will do as soon as the elastic force of the bale becomes greater than the gravity of the platen, cylinder, water, &c., attached to it, and will raise the cylinder B, which slides over the cylinder A, the water escaping through the valve C into the cylinder A. Now, as the power of the press is continually augmenting in its use, I place the wheel H, Fig. 1, in gear with the pinion-wheel J on the main shaft of the press, letter J, Fig. 1, which revolves in using the press. This gives an eccentric or crank motion to the pin, on which one end of the rod K is attached. The other end is fastened to the spring F, Fig. 1, so as the pin moves downward the rod draws down upon the spring F, and, through the medium of the lever G, throws an increasing weight or load upon the valve C, and, as the press moves on, the load on the valve is continually augmenting, and the elastic force of the bale is continually increasing, by being compressed more and more dense. The press having arrived to its maximum power, the motion of the machine is reversed, and as the bale leaves the follower the weight of platen, cylinder, &c., will cause it to slide down to its former position, and the water that has been forced out of the cylinder B will flow back through the valve D when all is back to the point of starting.

The hydraulic cylinders may be arranged in various ways longitudinally as well as vertical, so as to produce the same effect upon the follower or platen of the press.

Having thus fully described my application

of the self-adjusting platen and shown its operation, what I claim therein as new, and desire to secure by Letters Patent, is—

The application of the hydraulic cylinders to the platen of toggle-joint and other progressive power-presses, whether it be by applying the cylinders direct to the platen or through the medium of screws or wedges, racks and pinions, or other analogous devices, so that through the medium of the spring and gearing attached

to the press an increasing weight is thrown upon the valve, so as to produce the desired effect upon the platen, the whole being combined and operating in the manner herein set forth.

JOSEPH C. COLT. [L. S.]

Witnesses:

SAML. H. GREEN,
GEO. STARR.