

J. H. McGOWAN.  
Hydrostatic-Press.

No. 226,335.

Patented April 6, 1880.

Fig. 1

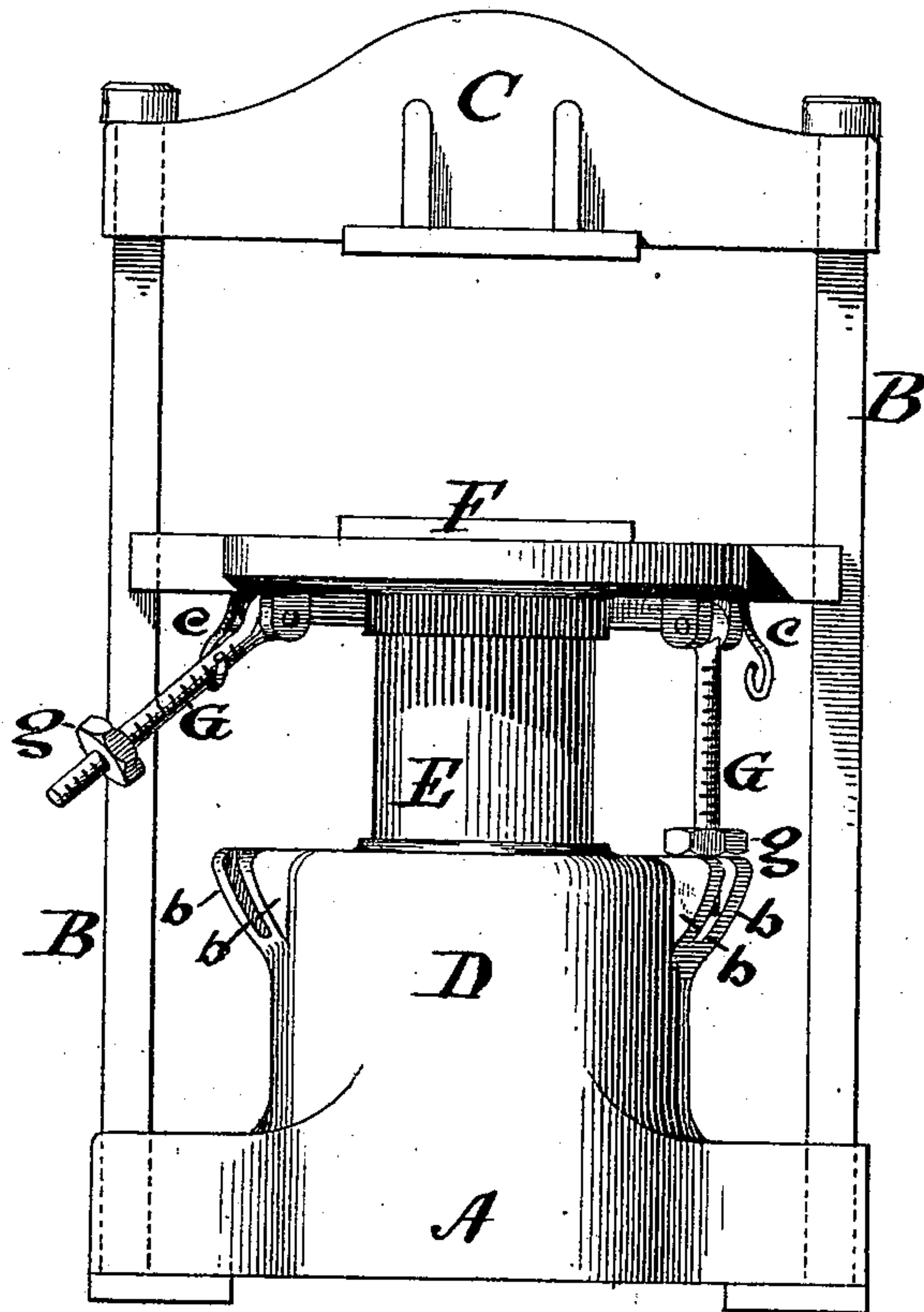
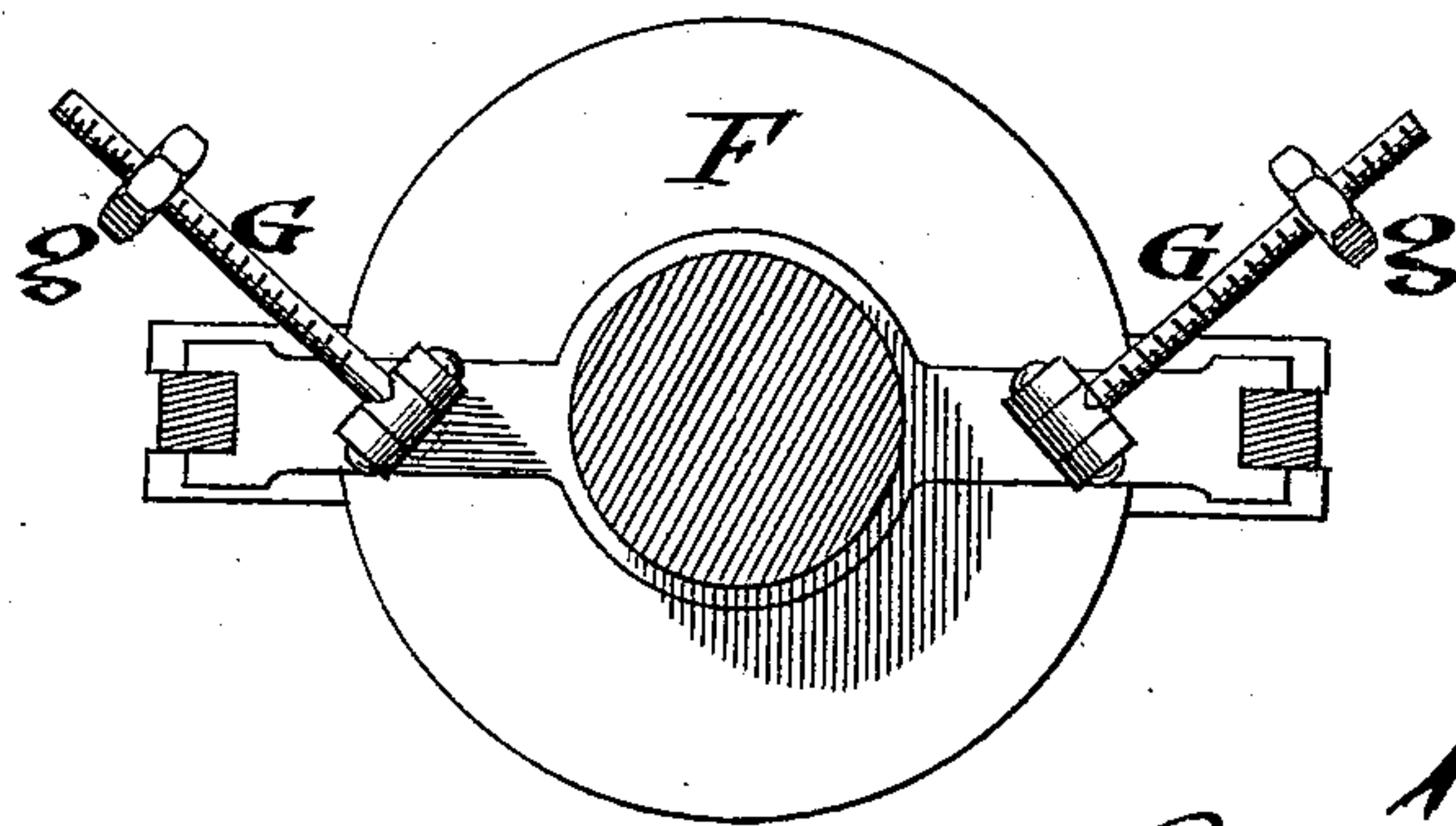


Fig. 2



Attest

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# UNITED STATES PATENT OFFICE.

JOHN H. MCGOWAN, OF CINCINNATI, OHIO.

## HYDROSTATIC PRESS.

SPECIFICATION forming part of Letters Patent No. 226,335, dated April 6, 1880.

Application filed January 23, 1880.

*To all whom it may concern:*

Be it known that I, JOHN H. MCGOWAN, of Cincinnati, Hamilton county, Ohio, have invented a new and useful Hydrostatic Press, of which the following is a specification.

My invention relates to improvements in presses in which a platen, on which is placed the substance to be compressed, is elevated by a plunger operating in a water-cylinder, or other means of forcing the platen upward; and it consists, mainly, in the combination, with the platen of a hydrostatic or other press, of two or more screw-threaded retaining-braces pivoted to said platen and provided with adjustable nuts, said braces being adapted to swing to vertical positions by gravity, in order that their nuts may pass to a position over suitable brackets projecting from a fixed support. When the braces have assumed the vertical position the nuts may be run down snugly against the brackets, whatever the height of the article between the platen and the top plate of the press, and the pivot at which the platen is supported may be varied indefinitely within a given range of movement.

It also consists in certain details of construction by which the braces may be left to hang freely when the platen is down, and automatically moved to bring their nuts to position above their support, all as hereinafter more fully described.

My invention is embodied in mechanism illustrated in the accompanying drawings, in which Figure 1 is an elevation of my improved press, and Fig. 2 is a plan of the under side of the platen.

Similar letters refer to similar parts in the several views.

A base, A, side uprights, B, and upper press-bar, C, constitute the frame of the press. A water-cylinder, D, is secured upon the base, in which operates a piston, E, carrying a head or platen, F, which is usually extended to and guided upon the side uprights, B.

G G are screw-threaded braces pivoted to the under side of the platen and arranged to swing outward clear of the side uprights, as shown in Fig. 2. The screw-threaded braces are provided with set-nuts *g*. Vertically beneath and in line with the screw-threaded braces G are lugs or brackets *b b*, on each side

of the cylinder, inclined outward at right angles to the swing-bolt pivots, and spread apart sufficiently to allow the braces to pass between, but form a support when the set-nuts *g* rest upon their upper surface, as shown in the right-hand bolt in Fig. 1.

Retaining-hooks C are provided to hold the braces G outward, so as to clear the supporting-brackets, as shown in Fig. 1.

The operation is as follows: The plunger and platen being elevated to the position it is desired to retain, the braces G are allowed to drop by gravity between the brackets *b* when the nuts *g* are run down upon the surface of the supports, and the desired elevation thus retained independent of the plunger.

When it is desired to relieve the pressure the set-nuts *g* are loosened, the braces drawn aside, and the plunger allowed to descend.

Should the plunger be started upward from its lowest position with the braces hanging vertically between the brackets, the inclined under surfaces of the latter act as cams to swing the braces outward, allowing the nuts to pass around and swing in above them, and thus the locking may be automatically accomplished whenever the platen reaches a given elevation.

Among the special advantages of my improvement it will be observed that a very slight movement of the nuts will be sufficient to relieve the pressure upon them, and it is not necessary to move the nuts farther, in order to allow the platen to be depressed, since the bolts may be instantly thrown out of position and so retained by the hooks.

As it is usual to employ a number of these presses together in tobacco factories and other similar places, this convenience of manipulation is a decided advantage. Besides this, as for a portion of the time the retaining devices are not needed, at such times the swing-braces may remain out of gear, and as the nuts remain in any desired position on the braces, the retaining devices may be placed in position with the same facility by simply detaching them from the hooks. A considerable gain in economy of time and labor is thus realized in attending to a series of presses in the various arts in which they are employed over other retaining devices in which screws and



set-nuts are used, which latter have to be moved along the retaining-screws a considerable distance in order to permit the movement of the plunger.

5 Having fully described my invention, I claim and desire to secure by Letters Patent—

1. In combination with the platen of a hydrostatic or other press, two or more screw-threaded retaining-braces pivoted to said  
10 platen and provided with adjustable nuts, said braces being adapted to swing to vertical positions by gravity, in order that their nuts may pass to a position over suitable brackets projecting from a fixed support, substantially  
15 as described.

2. The combination of the platen F, having

the screw-threaded braces G, pivoted to the under side thereof and provided with the nuts *g* and the suitably-supported stationary brackets *b b*, substantially as described. 20

3. The combination of the platen F, pivoted screw-threaded braces *g*, provided with nuts *g'*, and the brackets *b*, projecting from the cylinder and having the oblique lower faces, substantially as and for the purpose set forth. 25

In testimony whereof I have hereunto set my hand this 8th day of January, 1880.

JOHN H. MCGOWAN.

Witnesses:

L. M. HOSEA,  
EDGAR J. GROSS.