

T. J. M. JEWELL.

Cotton-Presses.

No. 158,845.

Patented May 19, 1875.

Fig 1

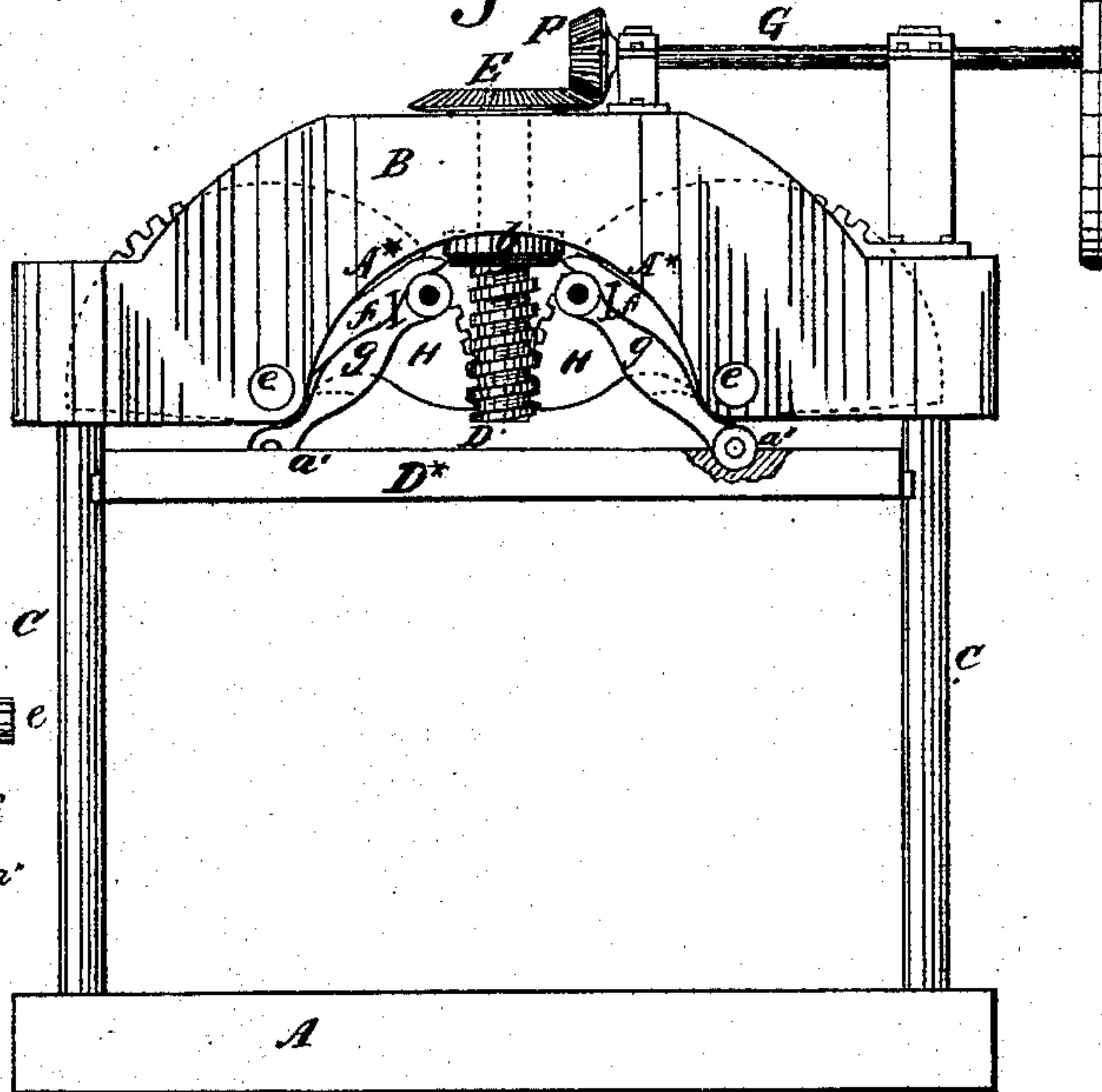


Fig 3

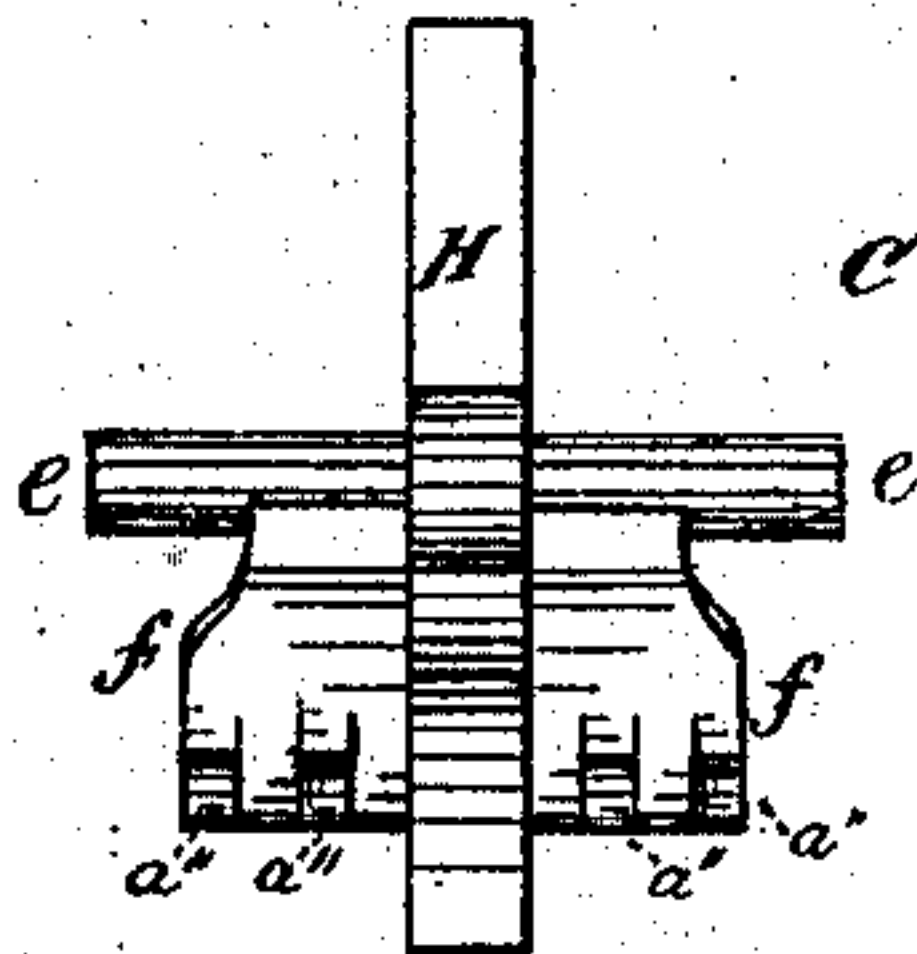


Fig 4

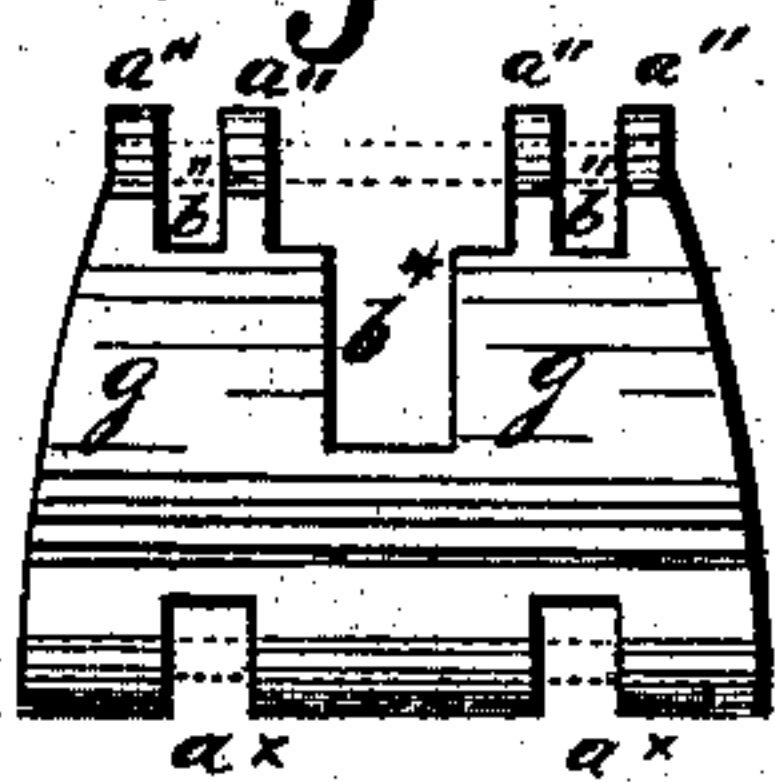
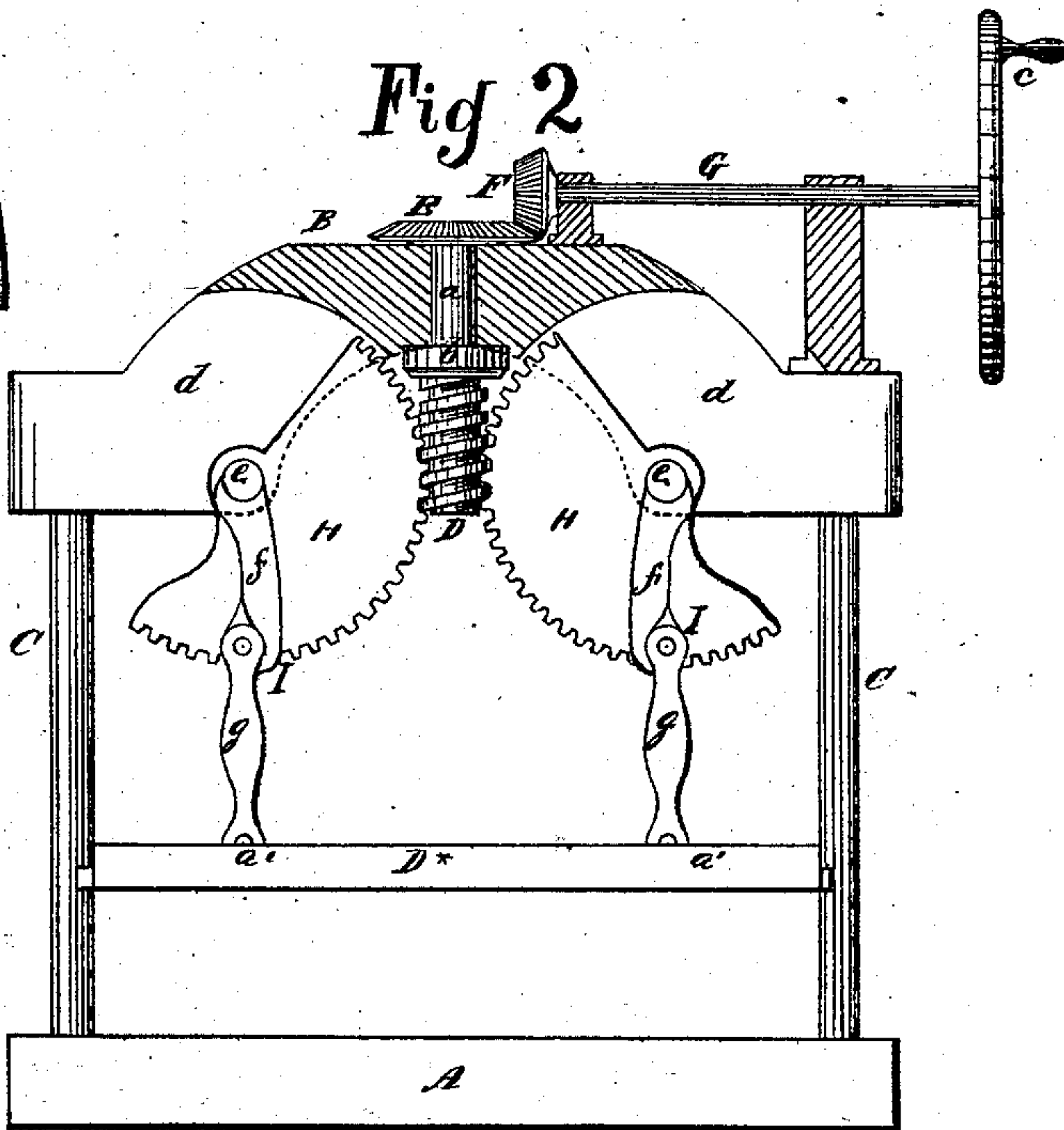


Fig 2



WITNESSES:  
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James A. Whitney.

INVENTOR:  
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# UNITED STATES PATENT OFFICE.

TRYON J. M. JEWELL, OF NEW YORK, N. Y., ASSIGNOR OF HIS RIGHT TO  
THEODORE W. BURGER, OF PLAINFIELD, NEW JERSEY, AND EDWARD  
GARDINIER, OF BROOKLYN, NEW YORK.

## IMPROVEMENT IN COTTON-PRESSES.

Specification forming part of Letters Patent No. 158,845, dated January 19, 1875; application filed  
June 16, 1874.

*To all whom it may concern :*

Be it known that I, TRYON J. M. JEWELL, of the city, county, and State of New York, have invented certain Improvements in Presses, of which the following is a specification:

This invention relates to that class of presses in which the platen receives its vertical movement from toggle-joints actuated by toothed sectors worked by a screw, and its object is to provide for the use of toggle-joints sufficiently wide to sustain the platen in a horizontal position under all the exigencies of use, and at the same time permit the lifting of the platen up to the points of suspension of the toggle-joints themselves in order to secure the greatest possible space beneath said platen for the placing underneath the same of the material to be compressed.

The invention consists in a centrally-arched head-block carrying a vertical screw, in combination with toggle-joints arranged to sustain the platen against tilting from uneven resistance from the article compressed, pivoted to the lower corners of the central arch, and provided with sectors, which gear into and are operated by the screw, having their lower arms made solid or in one piece, this combination of parts permitting the utmost lift of the platen, notwithstanding the extreme width required in the toggle-joints, in order to insure stability in the platen, as hereinbefore indicated, and which otherwise would very much limit the upward movement of the platen, and materially derogate from the utility and practical value of the press.

Figure 1 is a front elevation of a press made according to my invention, and showing the platen in an elevated position. Fig. 2 is a front elevation and partial vertical section of the same, showing the platen in a depressed position. Figs. 3 and 4 are detached views, showing the construction of the toggle-joints and their attached or connected sectors.

A is the bed-plate of the press, and B the head-block, the latter being sustained above the former by the corner-posts C, the just-named parts constituting the frame of the press, within which works the platen or follower D. The head-block B is bored vertically

at its center to provide a bearing for the neck *a* of the vertical screw D, which, to hold it against upward thrust, is furnished with the collar *b* at the under side of the head-block. Upon the upper end of the screw is a bevel-wheel, E, which gears into a bevel pinion, F, on a horizontal driving-shaft, G, having its bearings upon the head-block, and furnished, at its outer end, with a crank, *c*, when the press is to be operated by hand, or a band wheel or pulley when it is to be worked by steam or other motive power. The end portions of the head-block are slotted or recessed, as shown at *d* in Fig. 2, to permit the play of the toothed sectors H, which are solidly formed in one with the upper arms, *f*, of the toggle-joints I, the said arms *f* and sectors H being pivoted in the head-block by the transverse pivots *e*. The lower arms, *g*, of the toggle-joints are pivoted to the platen, as indicated at *a'*. The under side of the head-block is of arched form, as shown at A\* in Figs. 1 and 2, in order to permit the sectors and toggle-joints to play upward until the lower end of the lower toggle-arms, *g*, are brought nearly or quite as high as the pivots *e*, as in Fig. 1, nearly the entire space below the head-block being thereby made available for access underneath the platen when the same is raised. The toggle-arms *f g* are of peculiar construction, being made solid to extend their bearing upon the platen nearly or quite across the same in order to give stability thereto against tilting or tipping, irrespective of the guiding action of the corner-posts C, the lower arm *g* of each toggle-joint furthermore being recessed at *a\** to permit the access of ears or lugs provided upon the platen to allow the pivoting of the arm thereto, while the upper end of the arm is recessed at *b\** to permit the play there-through of the sector H of the upper arm, *f*. The innermost ends of both arms *f g* are constructed with alternate lugs *a''* and recesses *b''*, which interplay in such manner that they may be and are connected to joint the arms together by means of a transverse bolt, the position and place of which are indicated in dotted outline in Fig. 4.

This construction of the toggle-joints (the



two toggle-joints acting to raise and lower the platen, as presently herein set forth, acting in concert, and therefore constituting a system) gives great stability to the movement of the parts, enables them in the manufacture of the press to be put together with comparatively little labor, and insures great strength as well.

By turning the shaft G in one direction the sectors H, and consequently the upper arms, *f*, of the toggle-joints, will be turned upward around the pivots *e*, bringing the parts more or less to the position shown in Fig. 1, and lifting the platen. By a reverse motion of the shaft the sectors, &c., are turned in a downward direction, the toggle-joints are straightened, and the platen depressed with great power.

It will be particularly noted that without the extreme width given to the toggle-joints they would be incapable of retaining the platen in its horizontal position in those cases where the resistance to its descent is unequal; and this for the reason that a merely central attachment of the toggle-joints, either above to the head-block or below to the platen, would permit the tilting of the platen sidewise, which would spoil the bale in process of formation, and in many cases lead to the breaking of the toggle-joints; but without the arched head-block having the toggle-joints suspended from the lower corners of the arch these broad tog-

gle-joints would be estopped from rising more than, say, one-half the distance, which is provided for in this my improved press, the arched form of the head-block, moreover, giving the requisite bearing for the screw which actuates the toggle-joints without projecting the screw so far down as to itself interfere with the here-before-described upward movement of the platen. Furthermore, the lower arm of each toggle-joint being made solid—that is to say, of the requisite breadth, but in one piece—gives a strength and permanence to the working of the press that could not otherwise be obtained.

What I claim as my invention is—

The combination of the centrally-arched head-block B, carrying the vertical screw D, with the toggle-joints I, having their lower arms made solid, and arranged to sustain the platen against tilting sidewise from uneven resistance during its downward movement, pivoted to the lower corners of the arch in the said head-block, and provided with the sectors which gear into and are worked by the afore-said screw D, the whole arranged for operation substantially as and for the purpose set forth.

TRYON J. M. JEWELL.

Witnesses:

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