

(No Model.)

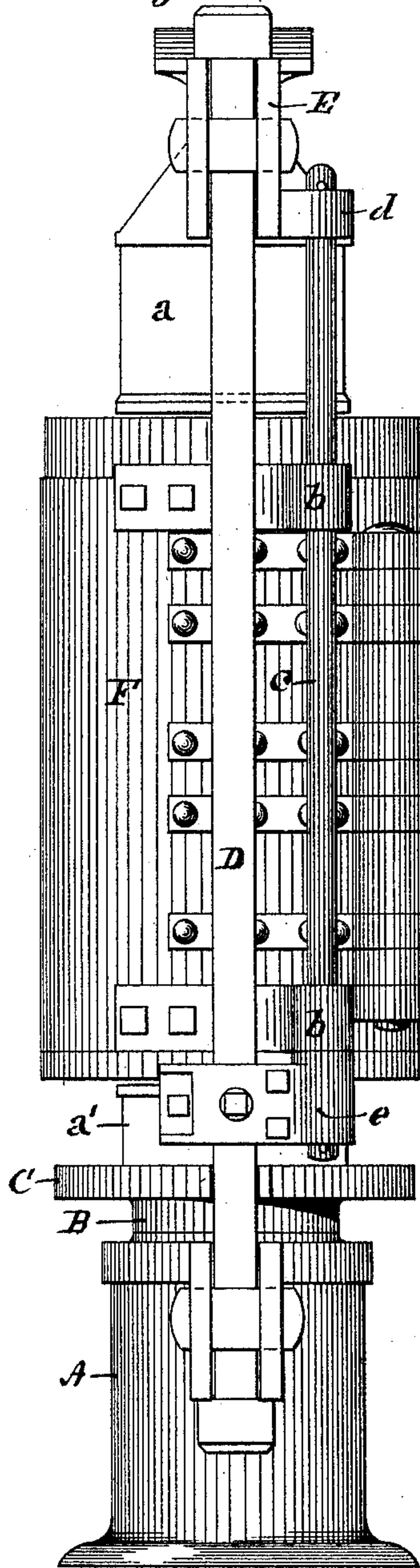
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J. H. MCGOWAN.  
FINISHER PRESS.

No. 447,003.

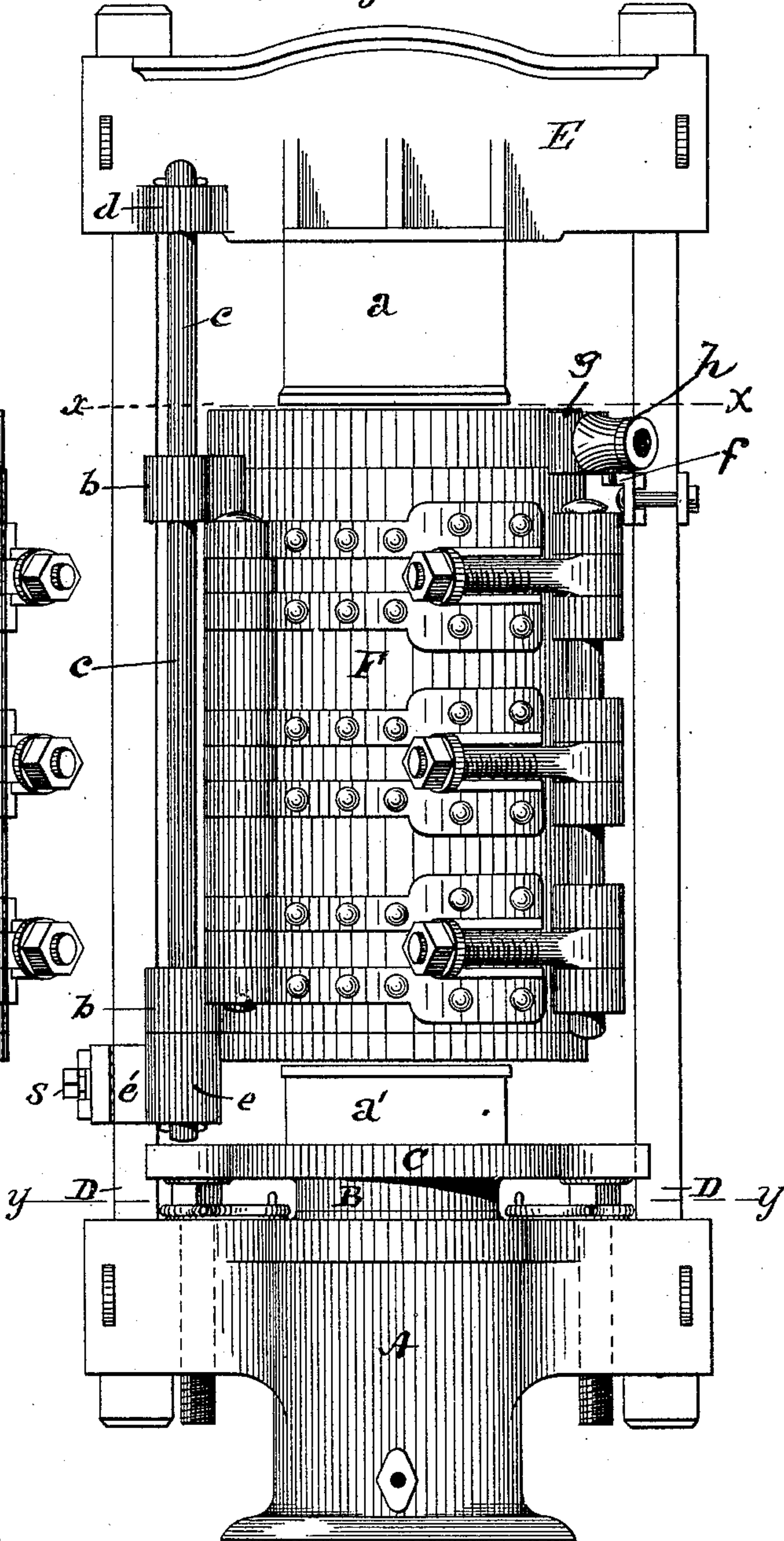
Patented Feb. 24, 1891.

*Fig. 2.*



Witnesses:  
W. C. Jirdinston.  
C. L. Kern.

*Fig. 1.*



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(No Model.)

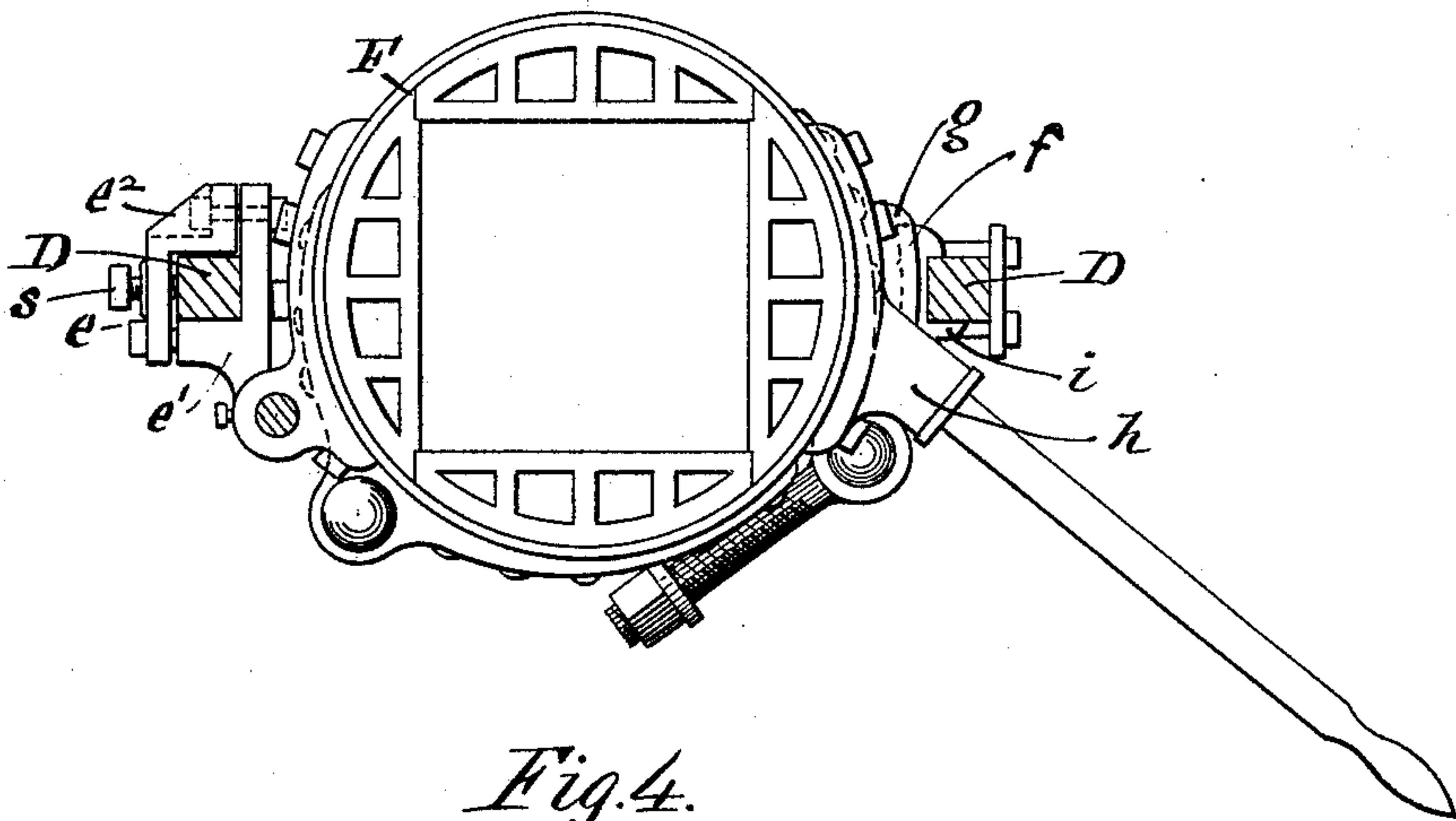
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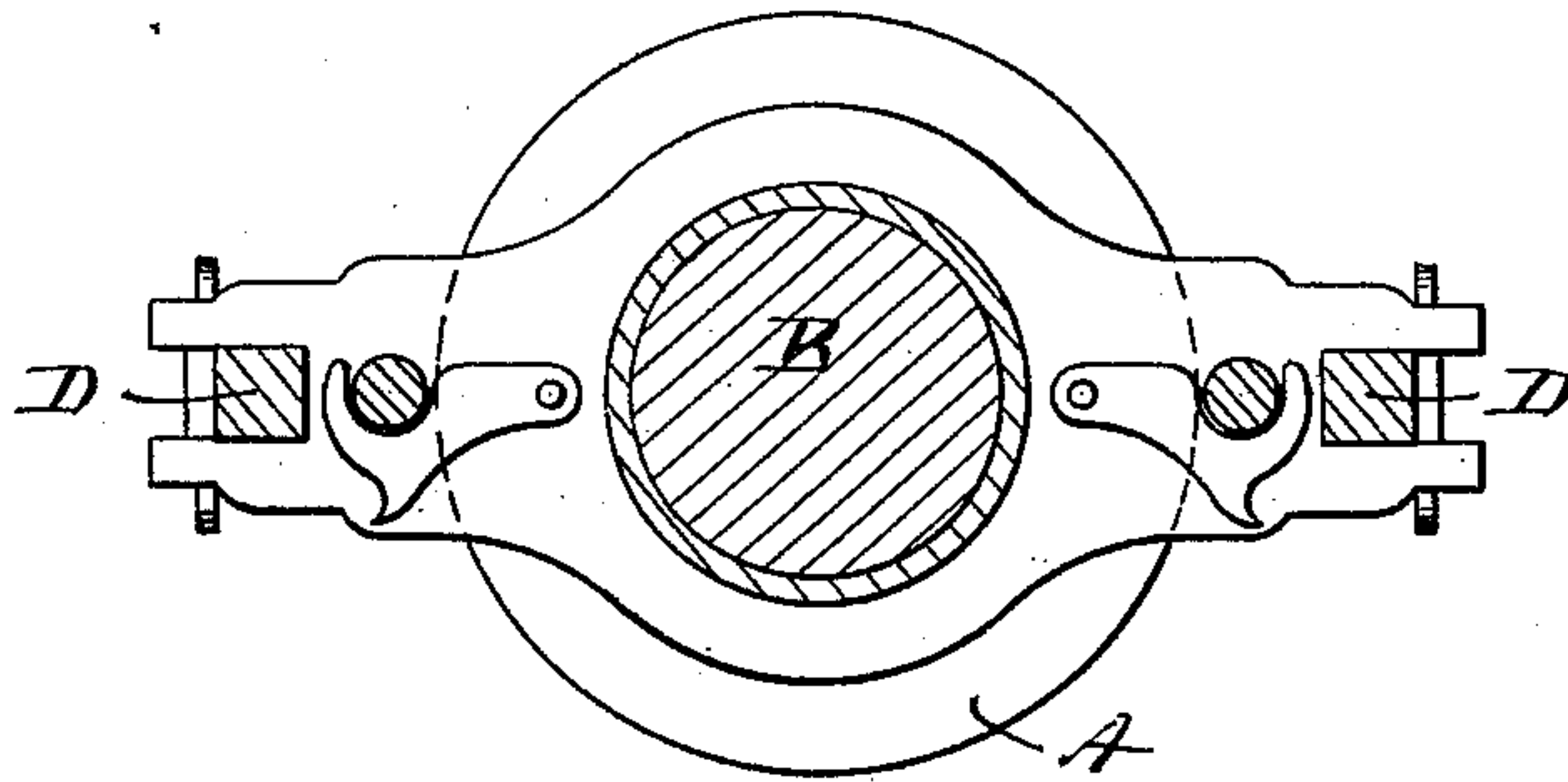
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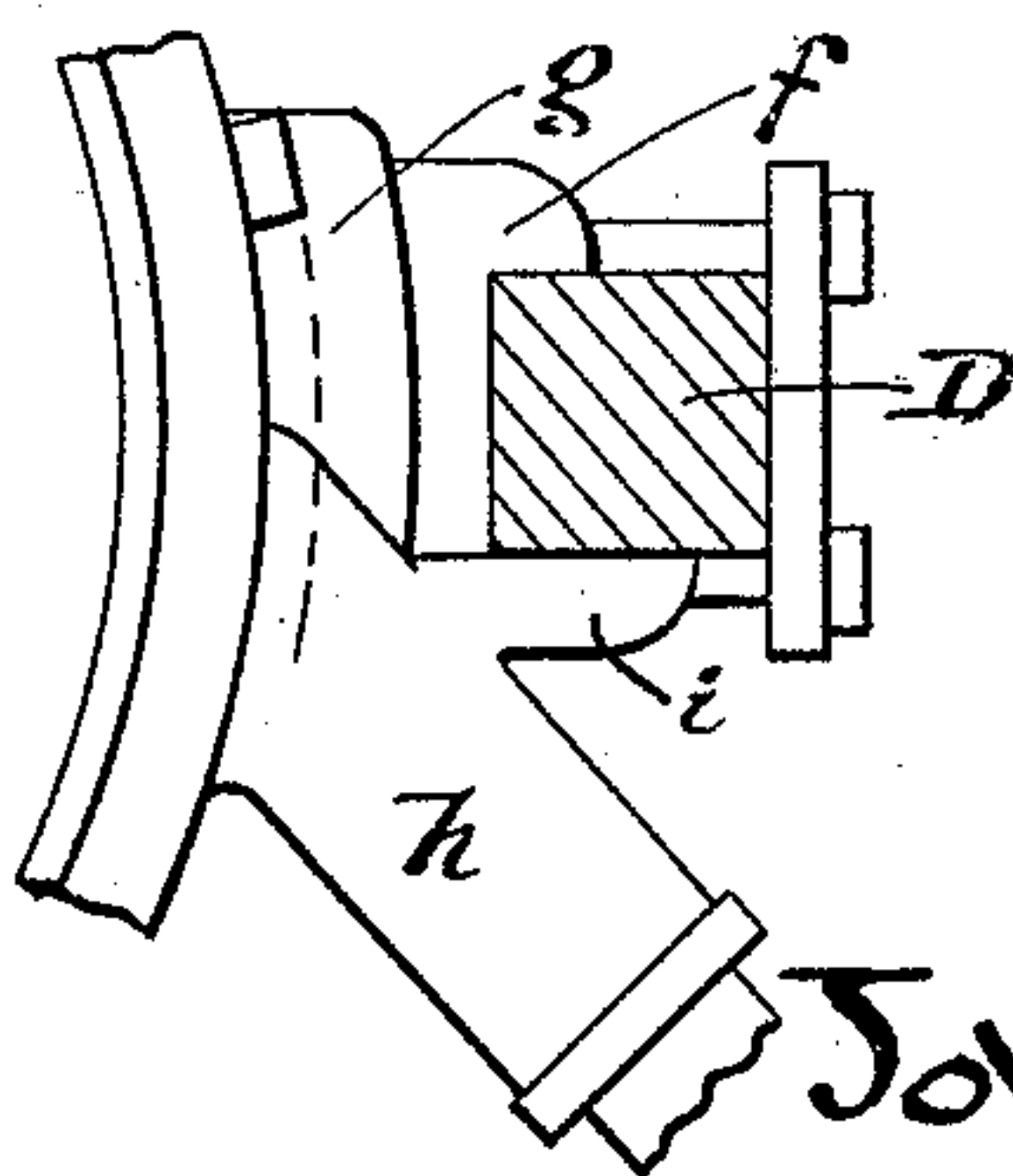
*Fig. 3.*



*Fig. 4.*



*Fig. 5.*



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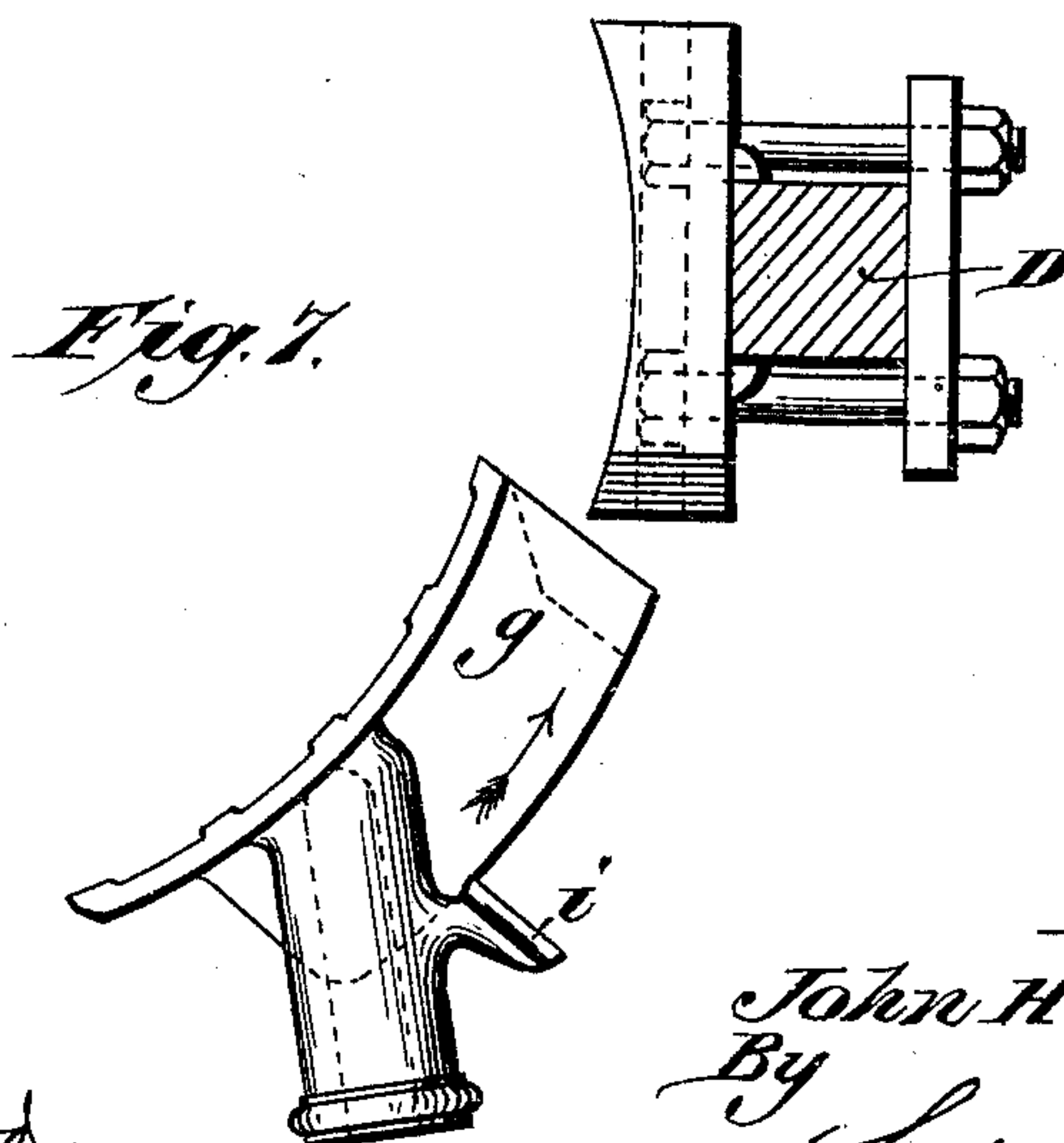
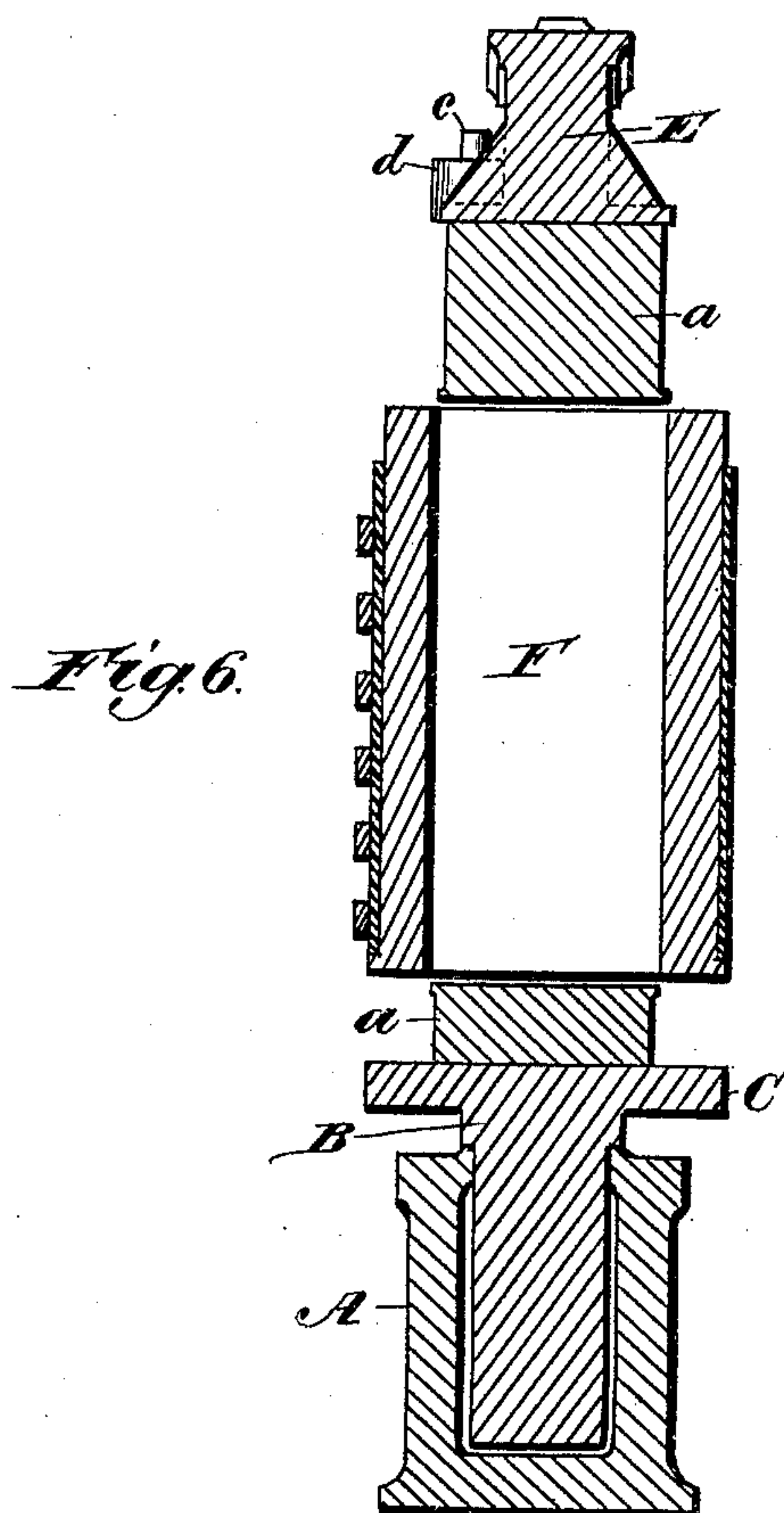
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J. H. MCGOWAN.  
FINISHER PRESS.

3 Sheets—Sheet 3.

No. 447,003.

Patented Feb. 24, 1891.



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# UNITED STATES PATENT OFFICE.

JOHN H. MCGOWAN, OF CINCINNATI, OHIO.

## FINISHER-PRESS.

SPECIFICATION forming part of Letters Patent No. 447,003, dated February 24, 1891.

Application filed March 18, 1889. Serial No. 303,653. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN H. MCGOWAN, a citizen of the United States, residing at Cincinnati, Ohio, have invented new and useful  
5 Improvements in Finisher-Presses, of which the following is a specification.

My invention relates to hydrostatic "finisher-presses" such as employed in plug-tobacco manufactories, embodying, essentially,  
10 a hydraulic cylinder, usually placed at the bottom of a press-frame and operating a platen vertically in relation to a head-bar as an opposite abutment, and carrying a "finisher" in which is placed the substance to be com-  
15 pressed.

The general construction and arrangement of finisher-presses and their uses are fully described and illustrated by me in previous Letters Patent of the United States granted  
20 and issued to me April 6, 1880, No. 226,334 and No. 226,335, and March 8, 1881, No. 238,493, based upon what are now known as "double-end finisher-presses," and another patent granted and issued to me September 20, 1881, No.  
25 247,385, relating to improved construction and attachments of said presses. The finisher proper as used in such presses is a casing having one or more hinged doors opening laterally to remove or insert contents, and is necessarily made exceedingly strong and heavy  
30 to withstand the great pressure applied to the contents and prevent lateral expansion. The compression is effected by "sinker-blocks" of a size adapted to enter the open ends of the  
35 finisher, one of which blocks is placed upon the platen and the other suspended from the head-bar of the press-frame, the finisher being supported upon the side bars of the frame and held in place and "centered" by the  
40 sinker-blocks, which project slightly into the finisher when the ram or plunger is down. This renders it necessary to open the casing to insert additional contents. Obviously the space occupied by the contents is reduced by  
45 the compression of the sinker-blocks to a fraction of that first occupied, and it will be readily understood that in opening the casing to insert additional contents a very slight residual elasticity in the compressed contents  
50 makes it extremely difficult and in many cases impossible to reclose the casing, so that prac-

tically the capacity of the press is limited to the one pressing at a time, which forms, for example, only a small portion of an ordinary  
"butt" or "caddy" of plug-tobacco.

My present invention, which is in the nature of an improvement upon my said former patented constructions, embodies a construction and arrangement of the finisher in its relation to the frame, platen, and sinker-blocks where-  
60 by it is permanently but adjustably secured to the frame so as to be easily and quickly removable from the axial line of the ram and sinker-blocks into a position convenient of access, and is as easily and quickly restored  
65 to its former position.

By the improvement a great saving of time and labor is attained in the ordinary manipulations of the press, its capacity for being  
70 additionally charged without opening the finisher laterally also adding to the general capacity of the press in a given time.

Other important advantages flow incidentally from the improved construction. For example, the entire removal of the finisher  
75 from the axis of the ram enables the ram to be lifted out for repairs, packing, &c., or any other repairs to be made without the delay or extra labor heretofore caused by having first to remove the finisher bodily from the press.  
80 It also facilitates the unloading of the finisher by its being swung into a position where the butt or caddy can be placed directly beneath in position to receive the entire contents  
85 ready for packing.

Mechanism embodying my invention is illustrated in the accompanying drawings, in which—

Figure 1 is a front elevation of my improved finisher-press, showing the finisher pivotally  
90 supported upon and in relation to the press-frame; Fig. 2, a side elevation of the press complete; Fig. 3, a plan or upper end view of the finisher and attachments sectioned through the press-frame in the plane  $x$  of Fig. 1; Fig. 4, a plan or upper end view of the cyl-  
95 inder sectioned on the line  $y y$  of Fig. 1; Fig. 5, a detail plan showing more fully the construction and arrangement of the operating-lever, gage-shelf, and guide-stop; Fig. 6, a  
100 vertical section of the press complete, taken through the vertical center line of Fig. 1; Fig.



7, a detail of supporting-shelf and gage-plate, showing more clearly their relation one to the other.

Referring now to the drawings, A designates the cylinder; B, the ram or plunger; C, the platen; D D, the side stanchions or standards supporting the head-brace or "press-bar" E in the usual type of finisher-press, and F the finisher proper, consisting of a stout casing, usually of cylindrical exterior and rectangular interior section, one segment being pivotally secured to the remaining portion and adapted to open apart for charging or discharging the contents.

In practice the sinker-blocks  $a a'$ —one carried upon the platen C and the other at the under side of the press-bar E—are by the elevation of the platen and finisher against the press-bar forced into the upper and lower openings of the finisher, compressing the contents between their corresponding surfaces and the inner walls of the finisher.

In former constructions the finisher rested upon supporting-lugs attached to the side bars of the press, was held centered by the constant projection of the sinker-blocks above and beneath slightly into the open ends of the finisher, and in order to add to the charge after compression it was necessary to open the finisher laterally. This, as will be readily seen, involves delay and extra labor, and was attended with great difficulty and uncertainty in reclosing the finisher, owing to the residual elasticity of the compressed contents and consequent expansion upon opening. For this reason the reclosing always brought great strain and destructive wear upon the screw-threads and pintles of the fastening-bolts, and, in fact, it was practically impossible in most cases to insert additional charges in this manner, so that as a practical result only a small portion of the caddy or butt of tobacco could be pressed at a time, and this must be entirely removed before recharging the finisher. To obviate these difficulties I suspend the finisher F by a pivotal connection at one side of the press-frame, by which it may be swung out of the way of the platen and sinker-blocks and recharged without loss of time or difficulty. In the preferred construction here illustrated I accomplish this by pivotally mounting the finisher-casing by means of loops  $b b$ , embracing a vertical cylindrical bar  $c$ , secured in and between a lug or projection  $d$  upon the press-bar, and a corresponding lug or socket-piece  $e$ , secured to the adjacent standard D. The pintle-bar  $c$  remains permanently in position; but the sliding fit of the loops  $b b$  upon the bar  $c$  allows the finisher to be carried up or down, as impelled by the movements of the ram and platen, and perfectly guided at all times.

The details of the construction here shown have been somewhat controlled by existing conditions of the manufacture; but the essential principle of my invention may be carried out in various other methods of construction.

As these presses are usually built with rectangular-sectioned side standards D, I prefer to make the lower holding-lug  $e$  of the pintle-bar an adjustable attachment upon said bar  $c$ . As shown in Fig. 3, it consists of a plate or cap  $e'$ , cast with a perforated extension for the reception of the pintle-bar  $c$ , and fitting the standard D at two sides, and a corresponding plate or cap  $e''$  fitting the standard at the remaining two sides. The two plates or caps are bolted together, clamping and embracing the standard to form the lug  $e$ , supporting the entire weight of the finisher F when swung out of the press-frame. The clamp thus formed fits two of the sides of the standard D closely; but in the general cross-plane of the press-frame a space for adjustment is provided, and a set-screw  $s$  is inserted through the cap  $e''$ , bearing against the standard D. By manipulating this set-screw the true vertical alignment of the axis of the finisher with that of the ram and sinker-blocks is always preserved or readjusted when lost through wear or lost motion in the pintle connections. The general construction also affords a convenient means of adjustment vertically to take up lost motion due to wear, &c.

To the opposite standard D, near the upper end of the finisher, I attach a supporting-shelf  $f$ , also adjustably secured by bolts to the press-bar. It is operative in connection with the corresponding gage-plate  $g$ , attached to and projecting from the finisher in proper relations to the shelf  $f$ , as a means of determining and correcting the alignment of the finisher with reference to the sinker-blocks. To facilitate the proper engagement of the shelf and plate, their corresponding surfaces are slightly beveled at the engaging edges.

The gage-plate  $g$  is cast with a lever-socket  $h$  projecting angularly above and at one side, and a guide-stop  $i$  arranged to impinge against the press-standard D. The lever-socket is for the reception of a handle or bar  $h'$  for the rotation of the finisher upon its pintle connection, and the stop  $i$  limits said rotation by coming in contact with the standard D as an abutment. Thus a means of bringing the finisher into exact relations with the ram and sinker-blocks is provided, requiring no skill to operate.

It will be seen that by proper vertical adjustment of the shelf  $f$  in relation to the plate  $g$  the weight of the finisher and contents is divided between the lug  $e$  and the shelf  $f$  when the parts are in closed position and the friction of the plate serves to hold the parts in position.

It will be obvious that instead of employing a separate bar  $c$  in addition to the two guide-bars D as a pintle upon which the finisher is swung, one of the guide-bars D may be made cylindrical and employed for this purpose; but the construction shown is preferable as one available in common for existing presses and for new ones constructed according to my present improvement.



The finisher is normally held at a height to clear the lower sinker-block *a'* when swung out, and for the same reason the upper sinker-block is gaged at a proper height to clear the finisher.

My invention is not necessarily confined to tobacco-presses, but may be applied to all presses where similar conditions exist.

I claim as my invention and desire to secure by Letters Patent of the United States—

1. In a hydraulic press, the combination of the press-frame, a sinker-block attached to the head-bar of the frame, a finisher-casing open at both ends and pivotally secured in parallel relations with and movable vertically in the axis of the ram, and a ram extended into a platen and arranged to elevate the finisher around the upper sinker-block, substantially as set forth.

2. In a hydraulic press, the combination of the press-frame and operative parts, an open-ended finisher pivotally secured in parallel relations with and free to move vertically in the general axis of the ram movement, and an adjustable stop for supporting the finisher at its lower limit of movement, substantially as set forth.

3. In a press of the character described, a vertically-pivoted finisher swinging into and out of the general axis of the press movement, an adjustable supporting-shelf upon the press-frame in the horizontal path of the finisher, and a gage-plate on the finisher engaging said adjustable supporting-shelf to guide and hold the finisher in proper position axially in relation to the sinker-blocks, substantially as set forth.

4. In a finisher-press, in combination with the ram, press-frame, and sinker-block, a fin-

isher provided with side loops, a fixed pintle embraced by said loops, upon and by which the finisher is held and permitted to swing horizontally and permitted to be moved and guided vertically as lifted by the platen, substantially as set forth.

5. In a finisher-press of the character described, in combination with the presser-frame, the pintle-bar and the finisher carried pivotally thereon, the supporting-lug *e*, clamped adjustably to the side bar and forming a holding-socket for the pintle-bar, and an adjustable bearing for the finisher, substantially as set forth.

6. In a finisher-press of the character described, in combination with the press-frame, pintle-bar and finisher carried pivotally thereon, a gage-plate carried upon the finisher, and a corresponding supporting shelf or plate adjustably secured to the standard, substantially as and for the purpose set forth.

7. The combination, in a finisher-press of the character described, of the finisher pivotally hung to swing into and out of the axis of press movement, a guide-stop upon the finisher, and the opposite standard against which said guide-stop impinges to limit its swinging movement and retain the same in proper axial relations with the sinker-block and ram and align the finisher with the sinker-block, substantially as set forth.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

JOHN H. MCGOWAN.

Witnesses:

L. M. HOSEA,  
E. L. KERR.