

(No Model.)

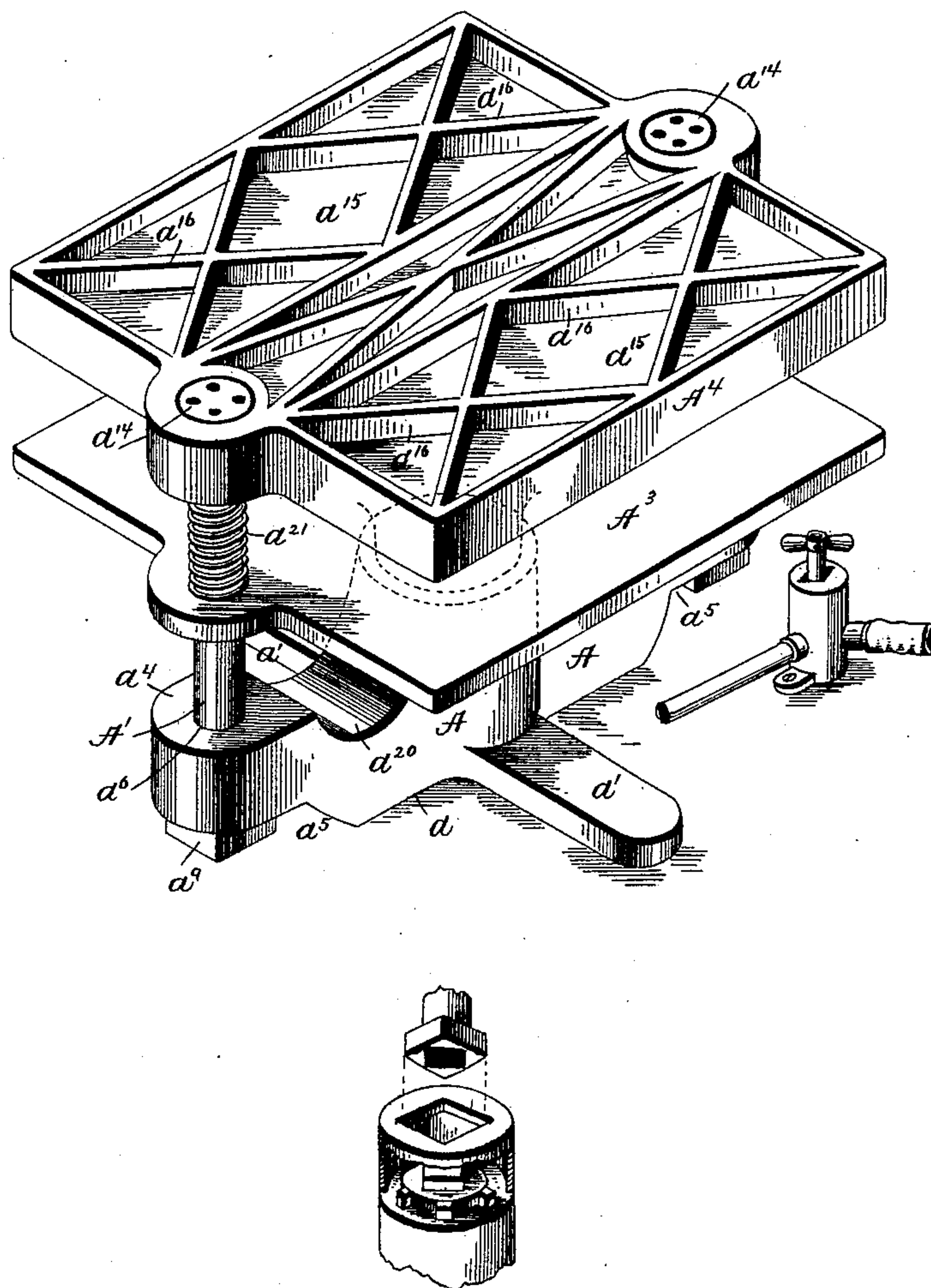
2 Sheets—Sheet 1.

J. W. JONES.
COPYING PRESS.

No. 435,309.

Patented Aug. 26, 1890.

Fig. 1.



Witnesses:
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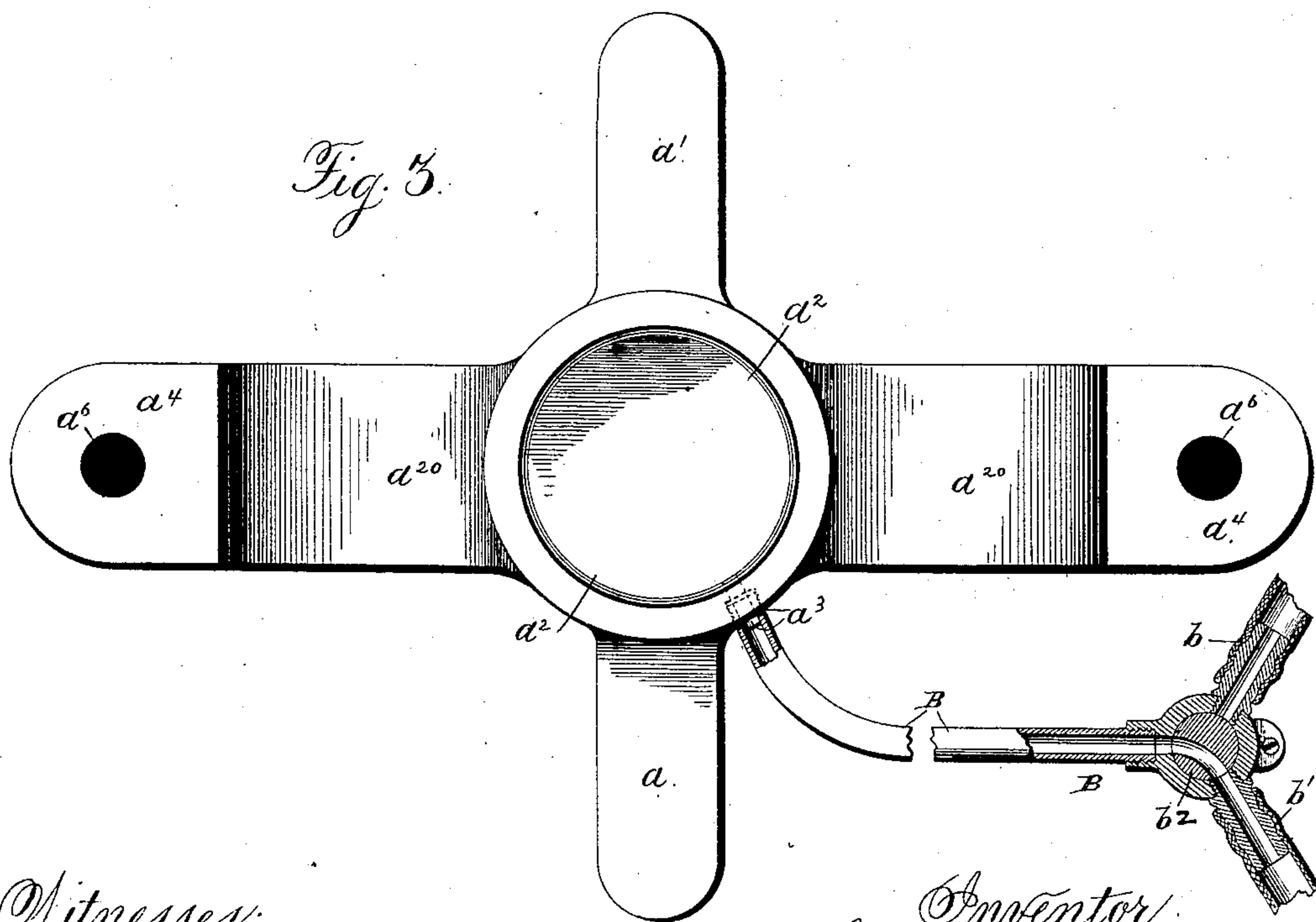
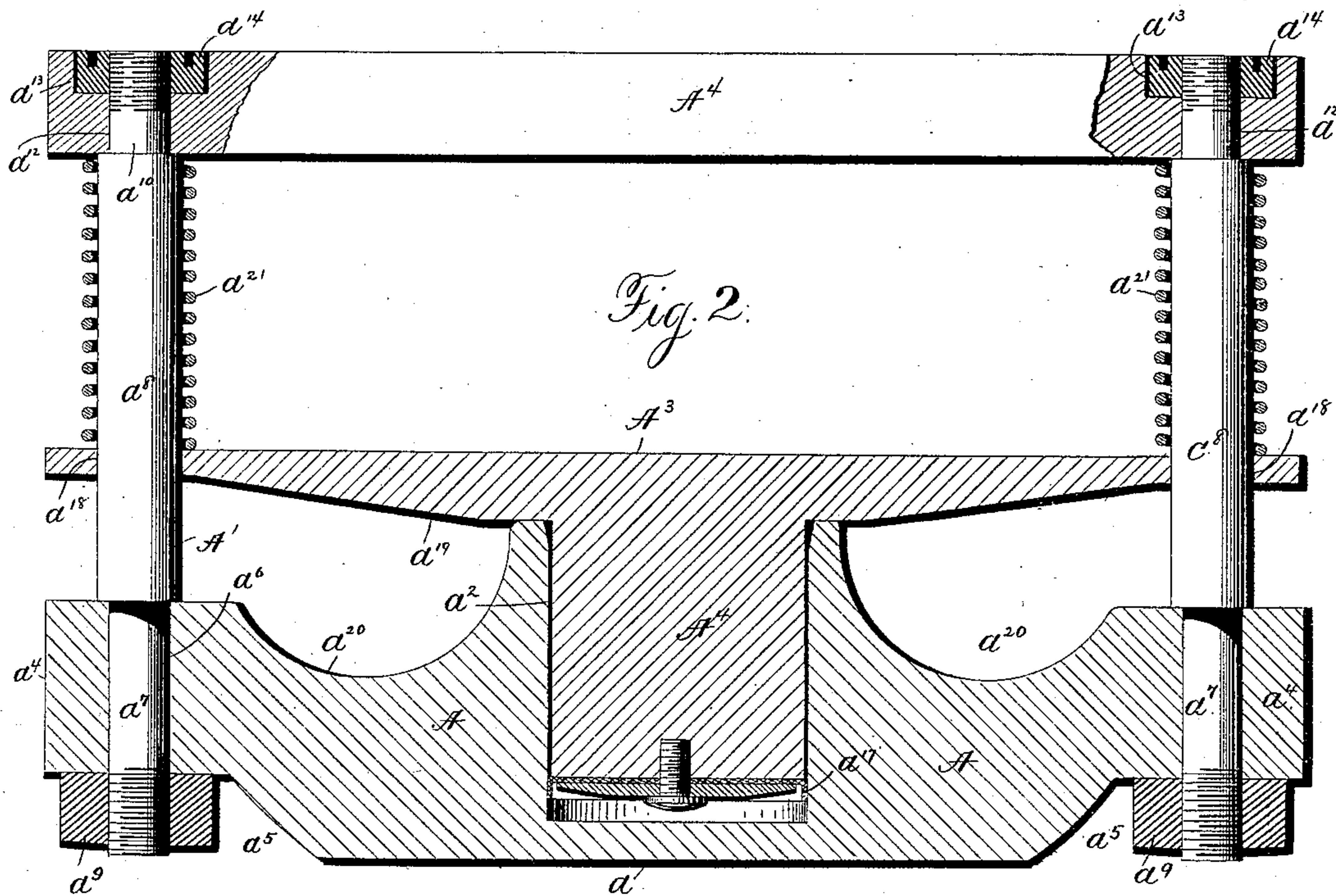
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2 Sheets—Sheet 2.

J. W. JONES.
COPYING PRESS.

No. 435,309.

Patented Aug. 26, 1890.



Witnesses:
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UNITED STATES PATENT OFFICE.

JOSHUA W. JONES, OF HARRISBURG, PENNSYLVANIA.

COPYING-PRESS.

SPECIFICATION forming part of Letters Patent No. 435,309, dated August 26, 1890.

Application filed September 18, 1889. Serial No. 324,338. (No model.)

To all whom it may concern:

Be it known that I, JOSHUA W. JONES, a citizen of the United States, residing at Harrisburg, in the county of Dauphin and State of Pennsylvania, have invented certain new and useful Improvements in Copying-Presses; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates, generally, to copying-presses, and particularly to that class in which hydraulic pressure is used to operate the movable platen.

The object of my invention is to provide a simple and cheap press to be operated by hydrostatic pressure, either from mains or other source, or where such connection cannot be made to be operated by a pump placed in such position that the water can be repeatedly used, if desired.

One form of construction last referred to is shown, described, and claimed in a separate application filed on even date with this application.

The invention consists of constructions and combinations, all as will hereinafter be described in the specification, and pointed out in the claims, reference being had to the accompanying drawings, in which—

Figure 1 represents a perspective of my improved press; Fig. 2, a longitudinal section, and Fig. 3 a plan of the base.

A represents the base of the press, the bottom a of which is level, so that the press can be seated upon any desired place. It is also provided with wings a' , which extend at right angles to the longitudinal axis of the base. By placing these wings in this position much metal can be saved in making the press, as the base can then be made very narrow, and any tendency to tip sidewise is prevented by the wings. The base is hollowed out to form a cylinder a^2 , which is supplied by water through the nipple leading to the bottom of the cylinder. The under sides of the ends a^4 of the press-base are recessed at a^5 , and have vertical openings a^6 for the rods A' . The ends a^7 of these rods, which enter the openings a^6 , are of less diameter than the main

part a^8 , so that the larger parts will act as a shoulder to rest upon the upper part of the base, to which they are clamped by the nuts a^9 in the recesses a^5 , which are of sufficient height to prevent the nuts from interfering with the proper seating of the base. The upper ends a^{10} of these rods are also reduced in diameter, and enter opening a^{12} in the upper platen A^2 . The upper part a^{13} of these openings is enlarged in diameter to receive the nuts a^{14} , which when in place are flush with the top of the press, and are provided with proper recesses for the insertion of the locking-tool. The top of this platen is made flat to be used as a table, so that the book in which the matter is to be copied can be placed thereon during the necessary manipulations of the book preparatory to and after the copying has been done. The top is preferably provided with depressions a^{15} , leaving ribs a^{16} , which are of sufficient width and number to support the books, while the depressions render it easy for the operator to get his fingers under the edges of the books, an operation often difficult when the books are heavy.

The movable platen A^3 is provided with a piston A^4 , having suitable packing a^{17} , to prevent the water passing between the piston and cylinder. The ends of the platen are provided with suitable apertures a^{18} for the rods A' , which form guides for this platen. The under side a^{19} of this platen is made inclined from the piston to the outer ends, and these inclines, with the hollows or depressions a^{20} in the top of the base, form chambers in which copying material may be placed and thus dispense with a separate stand for that purpose, when desired. On these rods and between the platens are placed compressible coiled springs a^{21} , which are compressed when the movable platen is raised by the pressure of water, and when this water-pressure is released forces the lower platen back to its place, and also assists in expelling the water from the cylinder, so as to be ready for the next operation.

Any suitable means for supplying water to the cylinder may be used. In the present instance I show a pipe B , the flow of water back and forth in the same being controlled by suitable valves or cocks of any description.

A three-way cock b^2 is shown in the drawings placed at the meeting points of the pipe B and branches b and b' , so that the water can be admitted through one pipe and the cock into the pipe B and withdrawn through the other by shifting the cock in the well-known manner to cut off the supply from the first pipe and connect the second pipe with pipe B. In the device shown I admit the water by pipe b and withdraw it through pipe b' . The pipe B is secured to the reservoir in any suitable manner, preferably to a nipple a^3 on the casting.

The operation of the device shown is as follows: The book or other article to be pressed or have matter copied therein is manipulated in the ordinary manner and then placed upon the lower platen. Water is now admitted from pipe b , pipe b' being closed to pipe B, from which it enters the reservoir and forces the platen upon which the book rests toward the upper platen. When sufficient pressure has been developed, it can be maintained by closing the cock so that no water will escape from pipe B. If desired, the cock shown, or any other form of cock or valve used, may be supplied with a lock, or what is known as a "lock-key cock" b^3 , so that the book can be locked overnight in the pressor for any desired period to prevent access to the book by impertinent or prying people. When it is desired to release the book from the press, the cock is turned so that the pipes B and b' will communicate with each other and the water will be free to run out, its movement being accel-

erated by the pressure of the spring upon the lower platen. By this construction of press I can make any form of connection desired without necessitating any changes in the castings, which are made as light as is consistent with the work to be done.

What I claim as new is—

1. The combination of a base having a cylinder, the upper platen, the uprights or rods for rigidly securing the base and upper platen together, the lower platen having the piston in the cylinder and openings for the uprights or rods to pass through, the spring coiled around the uprights or rods to force the water out of the cylinder, and an inlet and outlet pipe connected with said cylinder and having branches for connection with the water-supply and the waste pipe.

2. In a hydraulic copying-press, the combination of the base having the cylinder, the recesses at the ends, and vertical opening, the fixed platen or table-top having depressions in its upper surface to form ribs, the uprights or rods connecting the base and fixed platen, nuts for clamping the rods, base, and fixed platen together, the nuts for the upper platen being countersunk below the upper face, and the movable platen having the piston for the cylinder and openings for the rods or uprights.

In testimony whereof I affix my signature in presence of two witnesses.

JOSHUA W. JONES.

Witnesses:

GEO. R. BYINGTON,
W. R. B. ATKINSON.