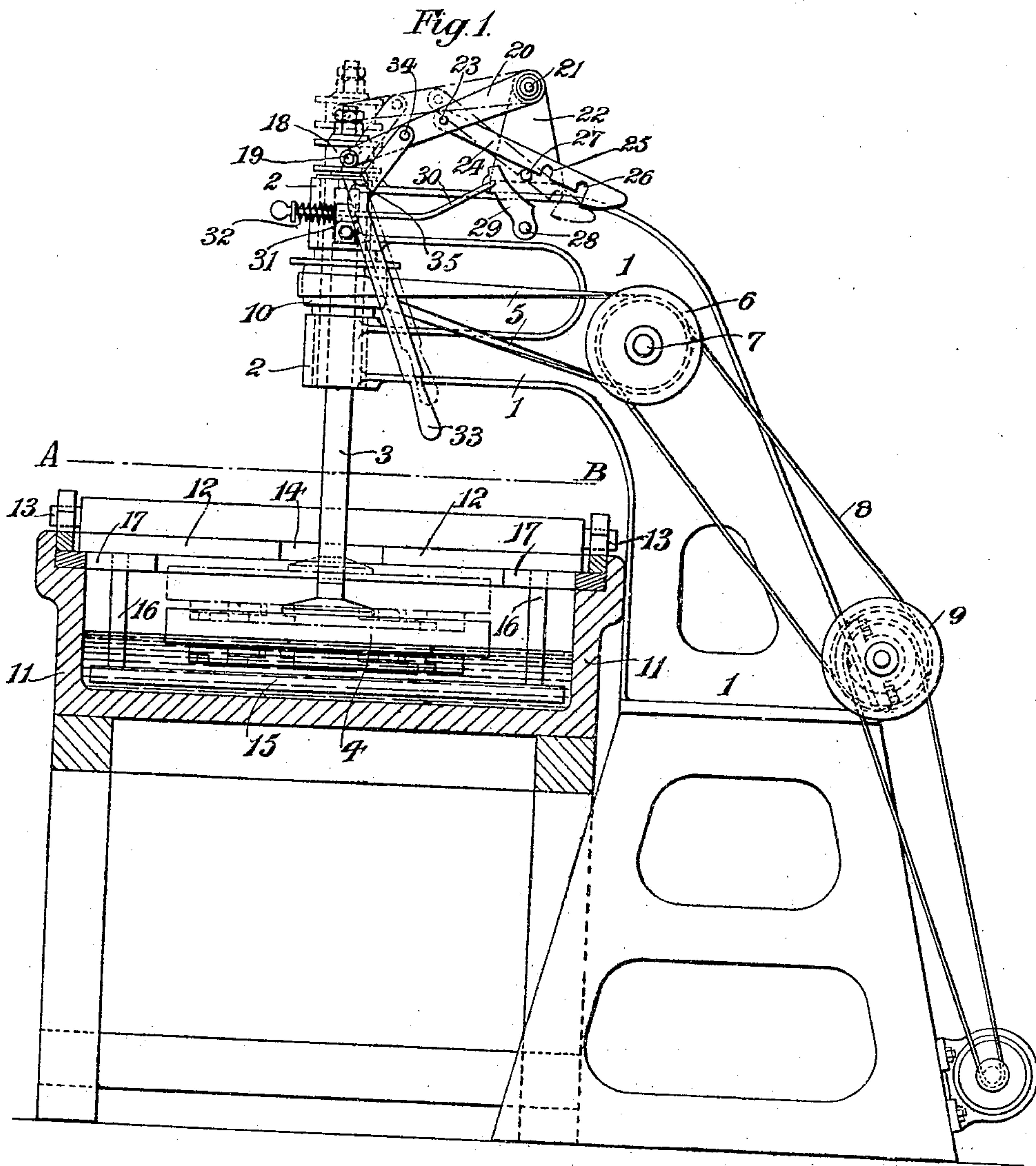


962,839.

W. J. HOLT.
APPARATUS FOR ETCHING PRINTING PLATES.
APPLICATION FILED APR. 26, 1910.

Patented June 28, 1910.

3 SHEETS—SHEET 1.



WITNESSES
L. H. Grote
W. E. Kier

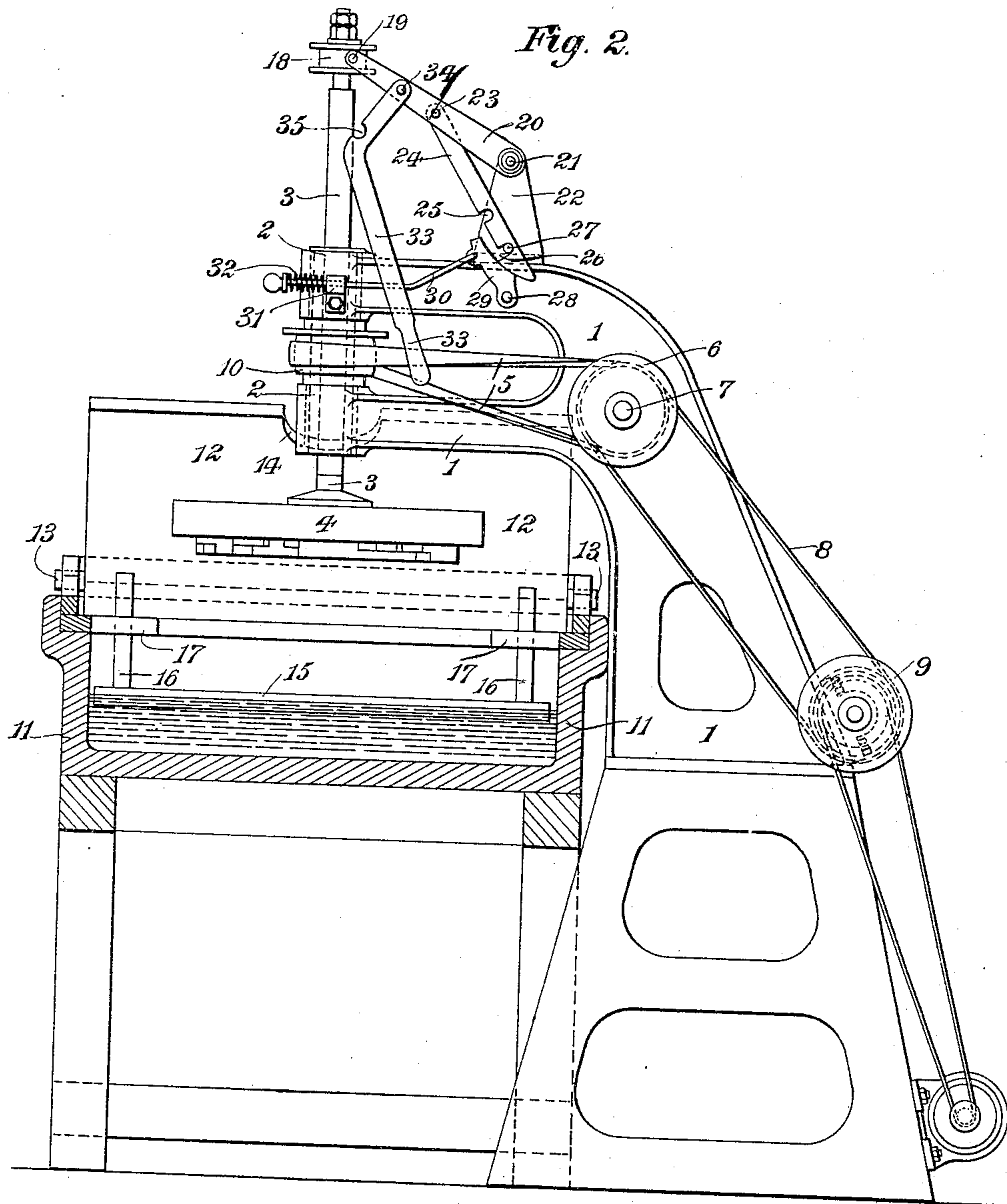
INVENTOR
William Joseph Holt
BY

Hanson and Hanson
ATTORNEYS

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3 SHEETS—SHEET 2.



WITNESSES

L. H. Grote
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INVENTOR

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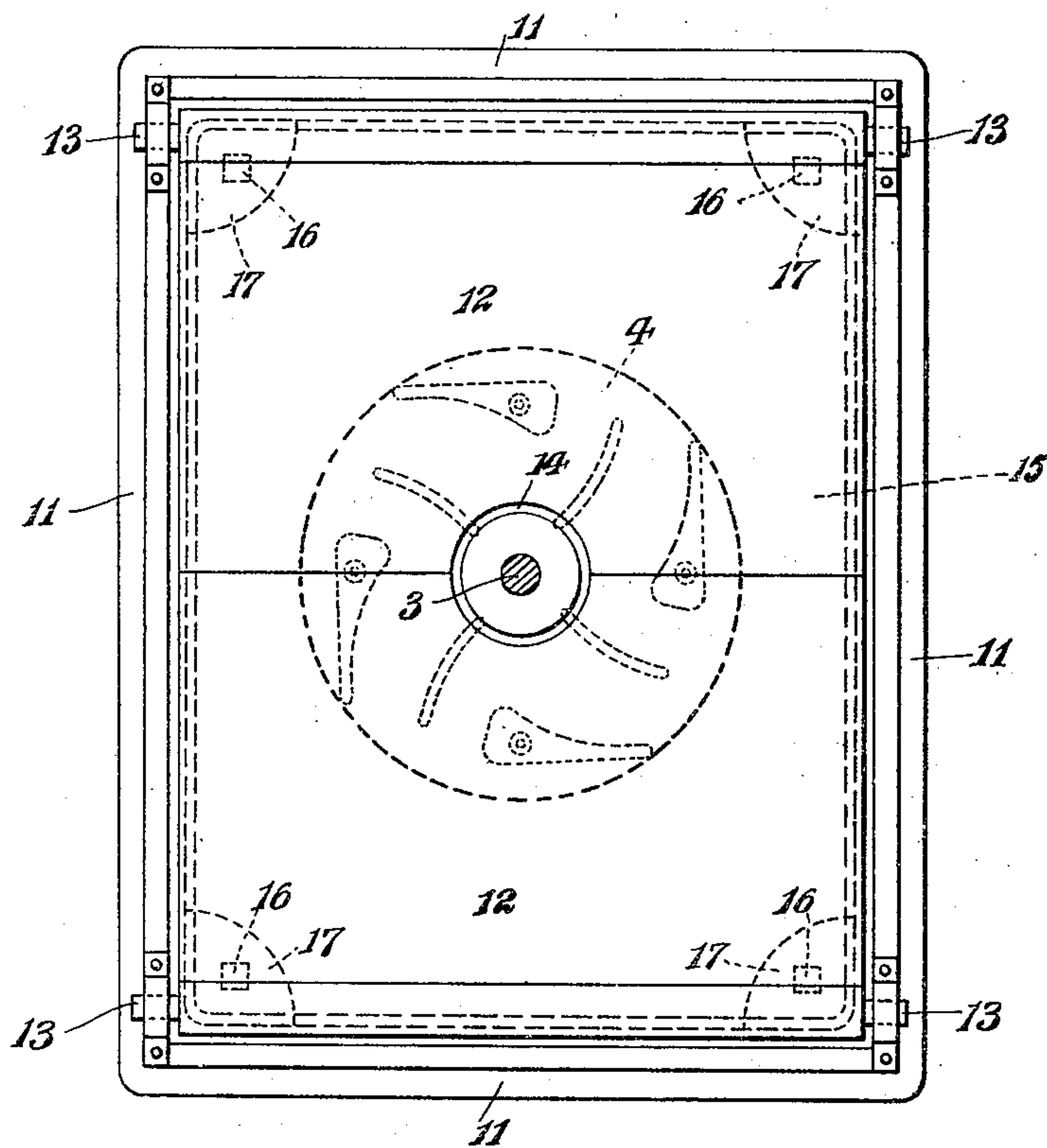
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3 SHEETS—SHEET 3.

Fig. 3.



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UNITED STATES PATENT OFFICE.

WILLIAM JOSEPH HOLT, OF HIGH BARNET, ENGLAND.

APPARATUS FOR ETCHING PRINTING-PLATES.

962,839.

Specification of Letters Patent. Patented June 28, 1910.

Application filed April 26, 1910. Serial No. 557,753.

To all whom it may concern:

Be it known that I, WILLIAM JOSEPH HOLT, a subject of the King of Great Britain, of Fairholme, High Barnet, in the county of Herts, England, have invented new and useful Improvements in Apparatus for Etching Printing-Plates, of which the following is a specification.

My invention relates to apparatus for etching printing plates, the said apparatus being of the kind in which the plates are immersed in a bath containing etching liquid which liquid is, by means of a rotating device, constantly moved in contact with the surface of the plates to be etched, and the object of my invention is to provide an apparatus which can be very readily and expeditiously manipulated without splashing of the etching liquid outside the bath.

The accompanying drawings represent an apparatus constructed in accordance with my invention.

Figure 1 is a side elevation of as much of the apparatus as is necessary to illustrate my invention, showing the parts in their operative position. Fig. 2 is a similar view showing the parts in the position assumed when the plates are being removed from, and put in place in, the machine. Fig. 3 is a horizontal section on the line A, B, Fig. 1.

The framing 1, carries bearings 2, in which the shaft 3, of the stirring device 4, can be rotated and moved longitudinally. The rotation may be effected in any convenient way, such, for example, as by a band 5, from a pulley 6 on a shaft 7, which is driven from any suitable source of motive power by the band 8, passing over the pulley 9. The band 5, passes over a pulley 10, on the shaft 3, the said pulley 10 engaging the shaft by means of a groove and feather arrangement, so that the pulley 10 can rotate the shaft while the shaft can move longitudinally in the pulley which is confined between the bearings 2 against longitudinal movement.

The bath 11 for the etching liquid is provided with covers 12, hinged to the bath at 13, and with an opening between them at 14, for the passage of the shaft 3. In the bath 11, is a floatable table 15, with upward projections 16, passing through holes in guide pieces 17, fixed at each corner of the bath. The upper end of the shaft 3, carries a collar 18, in the groove in which engage the trunnions 19, on a lever 20, centered at 21, to a bracket 22, fixed to the framing 1.

Jointed, at 23, to the lever 20, is a strut 24, with two notches 25 and 26, in it to engage a pin 27, on the bracket 22. Centered at 28, to the framing 1, is a releasing piece 29, connected to a rod 30, passing through a guide 31, and provided with a spring 32, which presses the rod 30, outward. A hand-lever 33, is centered at 34, to the lever 20, and is provided with a notch 35 to engage with the projecting end of the trunnion 19.

When the parts are in the position shown in Fig. 1 and the machine is at work, the stirring device 4 is rotated in the liquid above the plate carried upon the table 15. When the plate is to be withdrawn the hand-lever 33 is operated and the stirring device 4 is thereby raised in the bath 11 so as to be above the liquid in the bath and, as the said device continues to rotate, the acid is thrown off therefrom into the bath. The stirring device 4 is held in the said position (which is shown in dotted lines in Fig. 1) by the notch 25 in the strut 24 engaging with the pin 27. When the acid has been sufficiently removed from the stirring device the hand-lever 33 is further operated so as to fully raise the stirring device from the bath, as shown in Fig. 2, the rod 30 being pressed inward, against the action of the spring 32, so that the releasing piece 29 moves the strut-piece 24 out of engagement with the pin 27 the notch 26 then engaging with the said pin 27 so that the stirring device is supported in its fully elevated position. As the stirring device is raised it moves back the hinged covers 12 and the table 15, with the plate upon it, floats up upon the liquid in the bath till the plate is clear of the liquid. When the plate has been removed and returned to its place, if to be further etched, or another plate has been placed on the table, the rod 30 is pressed inward so that the releasing piece 29 disengages the strut 24 from the pin 27 and the stirring device 4 descends and the covers 12 act on the projections 16 from the table 15 and press the table, with the plate upon it, down into the liquid.

What I claim is—

1. In an apparatus for etching printing plates, a bath containing a floatable support for the plates, and provided with hinged covers with an opening between them for the passage of the shaft of the stirring device, and extending over the said device, so that, when the device is raised out of the bath, the

said covers will be opened and allow the support to float up, with the plate upon it, the said support being provided with projections by which it is held down when the covers are closed.

2. In an apparatus for etching printing plates, a bath containing a floatable support for the plates and provided with hinged covers with an opening between them for the passage of the shaft of the stirring device and extending over the said device, so that, when the device is raised out of the bath, the said covers will open, and allow the support to float up with the plate upon it, the said support being provided with projections by which it is held down when the covers are closed the said projections sliding through guide pieces at the upper part of the bath and beneath the covers.

3. In apparatus for etching printing plates, the combination with a bath with covers adapted to be opened by the raising of the stirring device and to allow the table to float up with the plate upon it, of means for holding the stirring device first in a position beneath the covers above the liquid in the bath so that the liquid from the said stirring

device is thrown off into the bath and thereafter to be held in a fully elevated position while the plate is being removed and replaced, or another plate put on the table; substantially as hereinbefore described.

4. In apparatus for etching printing plates, the combination with a bath with covers adapted to be opened by the raising of the stirring device and to allow the table to float up, with the plate upon it, of a hand-lever jointed to a lever engaging with a groove in a collar on the shaft of the stirring device, the said lever having jointed to it a strut adapted to engage a pin both when the stirring device is in the bath above the liquid and when the said stirring device is in its fully elevated position and a spring device for releasing the said strut from the said pin; substantially as hereinbefore described.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses.

WILLIAM JOSEPH HOLT.

Witnesses:

EDWD. GEO. DAVIES,
GILBERT FLETCHER TYSON.