No. 639,623. Patented Dec. 19, 1899.

W. SMITH.

APPARATUS FOR REPRODUCING BY STENCILS.

(Application filed May 21, 1898.)

(No Model.)

Fig. 1.

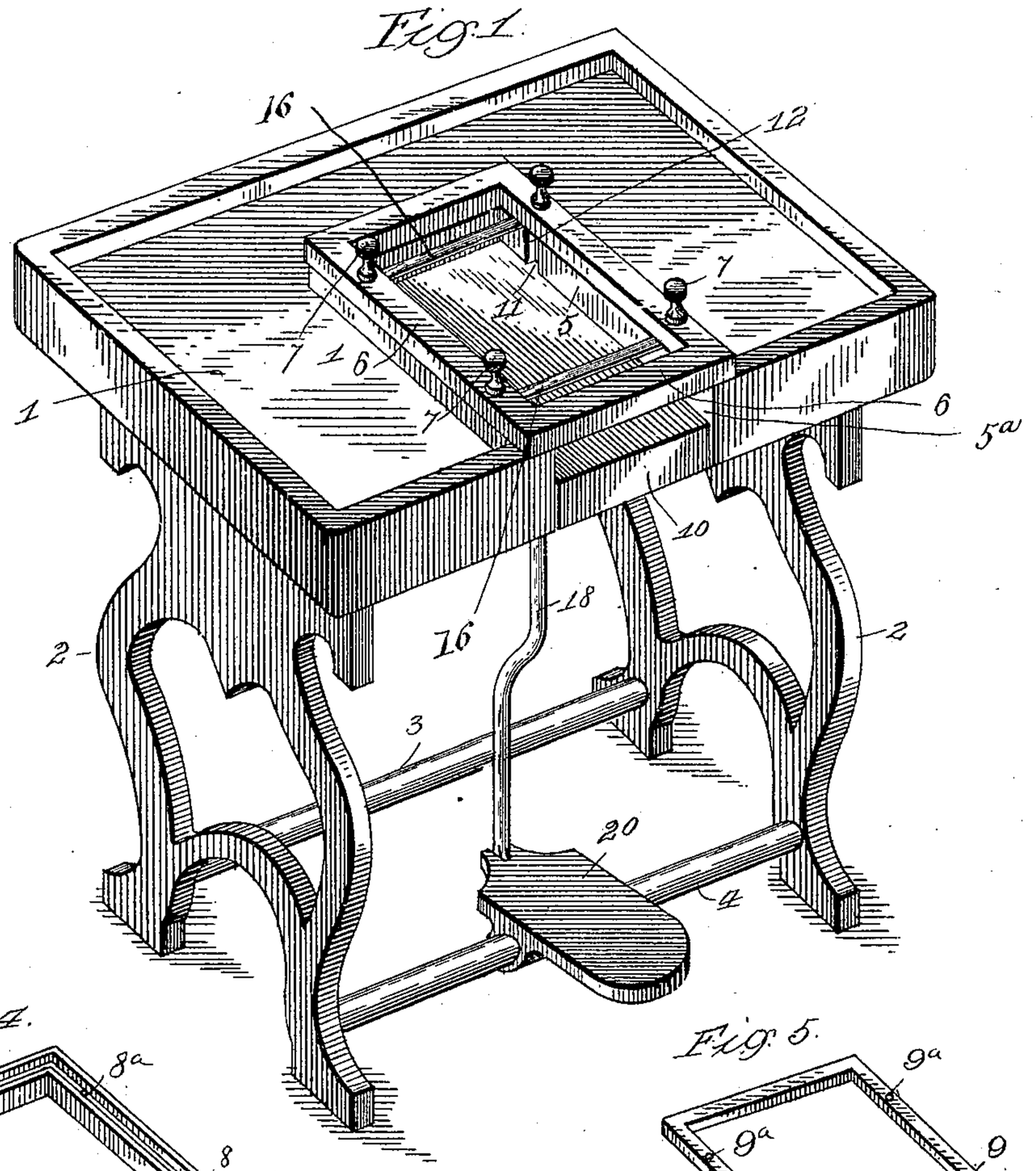


Fig. 4.

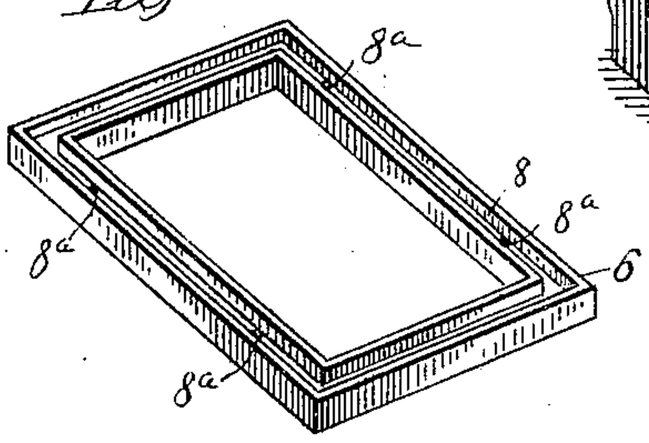


Fig. 5.

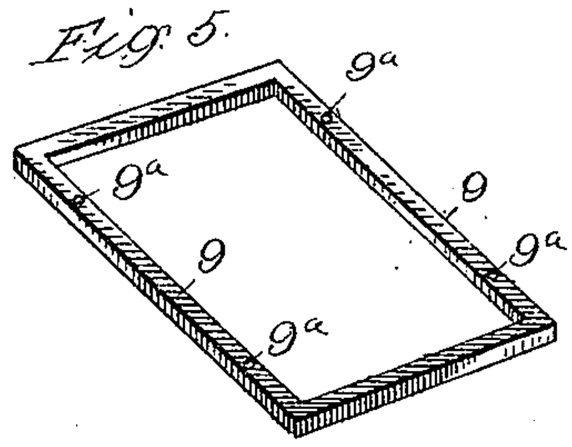


Fig. 2.

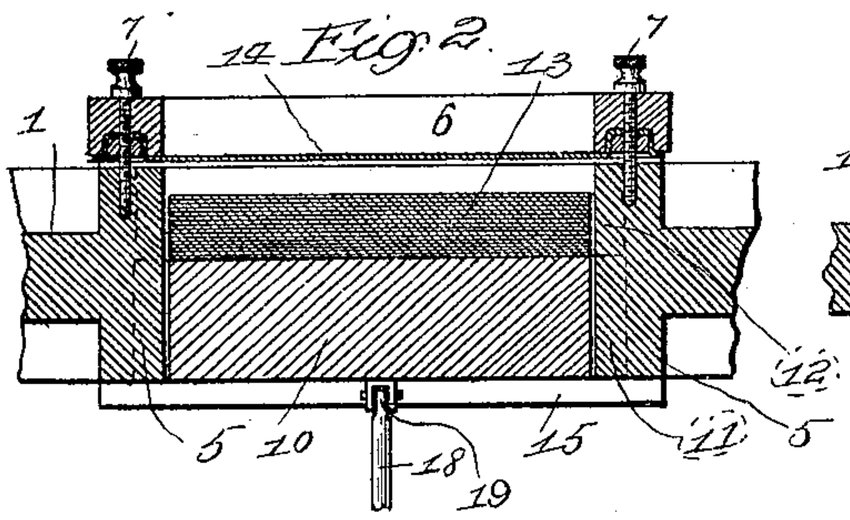
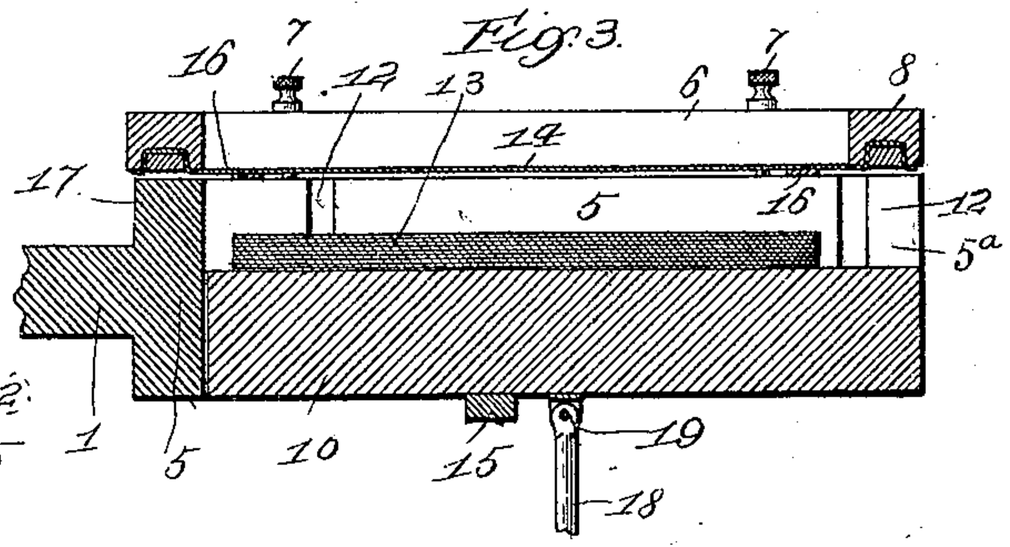


Fig. 3.



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APPARATUS FOR REPRODUCING BY STENCILS.

SPECIFICATION forming part of Letters Patent No. 639,623, dated December 19, 1899.

Application filed May 21, 1898. Serial No. 681,325. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM SMITH, a citizen of the United States, and a resident of Kirksville, in the county of Adair and State of Missouri, have invented certain new and useful Improvements in Apparatus for Reproducing by Stencils, whereof the following is a full, clear, and exact specification.

My invention relates to an apparatus to be employed for facilitating the reproducing operation of the process commonly known as "mimeographing"—that is to say, producing from a suitably-formed stencil a number of copies by applying printing-ink to a stencil beneath which is held in proper relation the paper to receive the impression.

My invention comprises a suitable support or table, a stencil-frame having means for conveniently mounting in it the stencil from which the imprint is to be made and constructed for ready attachment over an opening in the table, a plunger working in the table-opening beneath the stencil-frame and in position to receive in bulk the sheets of paper which are to be successively printed upon, and means for successively raising the plunger with the paper upon it into contact with the under surface of the stencil as each print is to be made and for lowering the plunger with the block of paper after completion of each imprint to permit removal of the sheet which has been printed. The table or mounting is preferably arranged to afford convenient working space for manipulating the materials, and other novel details of construction are employed, as will be hereinafter fully described and particularly pointed out and claimed.

In the accompanying drawings, Figure 1 is a perspective view of the complete apparatus. Figs. 2 and 3 are vertical sections through the apparatus in the plane of the plunger-rod, taken, respectively, from side to side and from front to rear of the apparatus. Figs. 4 and 5 are perspective views of the stencil-frame and the countersunk rim for holding the stencil in said frame.

1 represents a table, of any suitable construction, which may be supported by legs 2, with lower spacing-rods 3 4. The table 1 is provided with a well or opening 5, substantially conforming in dimensions to the opening in the stencil-frame 6, which is adapted to be secured over the opening in the table by set-screws 7 or by other conveniently-manipulated means. The stencil-frame 6 is provided with a peripheral groove or countersink 8, in which is fitted the clamping-rim 9 as a means for attaching and stretching over the frame 8 a paper or other stencil 14, which may be formed by the usual mimeograph or stencil process. After the stencil 14 is thus applied to the frame 8 the latter is inverted over the opening 5 and secured in place by the set-screws 7, said set-screws passing through openings 8^a in the frame and openings 9^a in the rim.

10 represents a plunger fitted to the well 5, extending through an opening 5^a in the front of the table, through which the sheets are withdrawn as printed, and provided with guide-lugs 11, working in vertical guide-grooves 12 in the walls of the well 5. The plunger 10 has a reciprocating movement in the well 5 sufficient to admit of a block or body of paper sheets 13 beneath the stencil 14, its reciprocation being such that it can at all times force the top of the pile of paper against the under surface of the stencil and hold it into intimate contact therewith to receive upon the top sheet a sharp imprint through the stencil from the ink-roller applied to the upper surface of the stencil. The plunger may also drop sufficiently to permit the insertion of the fingers of the operator to remove the top sheet after each imprint is made. The downward movement of the plunger is arrested by a cross-bar 15, Figs. 2 and 3.

16 represents cross-strips clamped beneath the stencil-frame across the well 5 in proper position to receive the ends of the pile of paper and to arrest the upward movement of the plunger in order to avoid bulging or destruction of the delicate stencil which may be employed. As the strips 16 are simply clamped between the frame 8 and the rim 17 of the well in the table, said strips may obviously be adjusted at will, so that any size of paper may be used in the printing process.

To impart the desired movement to the plunger 10, any suitable means may be employed. I have shown for purposes of illustration a plunger-rod 18, having pivotal connection 19 to the under side of the plunger

and connected at its lower end to a pedal 20, mounted on one of the brace-rods 4. By rocking the pedal with the foot the reciprocation of the plunger may be controlled at will. I desire it understood, however, that other means may be employed for imparting reciprocating movement to the rod 18, and the apparatus might be run by power connections, if found desirable.

From the foregoing description it will be seen that my improved apparatus offers convenient means by which to rapidly manipulate the materials in stencil-printing. While the paper is successively raised by the foot to position beneath the stencil to receive the imprint, the hands are left free, the one to manipulate the ink-roller and the other to remove the top sheet from the pile as fast as the imprint is made and the plunger is dropped to its lower position. The necessity of continuously dropping the roller and raising the stencil-frame and of placing the sheet of paper into the apparatus, as well as removing it, are avoided and the operation accordingly accelerated. Besides the increase of convenience and rapidity of operation the materials are manipulated in a way which enables the inexperienced hand to do much neater work. Moreover, the block of paper introduced upon the plunger is placed in proper position in the first instance and remains in the same position throughout the operation, so that there is not the usual liability to crooked work or the loss of time required in carefully placing each sheet.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

1. An apparatus for reproducing by stencil comprising a table having a well and a front opening to the well through which the sheets are removed, a pedal, a plunger working in the well from beneath the table, a rod supporting the plunger on the pedal, a stencil-frame, for receiving the stencil, and the cross-strips clamped beneath the stencil-frame, across the well, in proper position to receive the ends of the pile of sheets and to arrest the upward movement of the plunger; substantially as described.

2. An apparatus for reproducing by stencil comprising a table having a well, a front opening to the well, and vertical guide-grooves, a pedal, a plunger having guide-lugs working in the vertical guide-grooves, a rod supporting the plunger on the pedal, the stencil-frame having a peripheral groove, and a clamping-rim fitting within the groove flush with the under side of the stencil-frame, the cross-strips, and the set-screws, securing the stencil-frame to the table; substantially as described.

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