

No. 622,389.

Patented Apr. 4, 1899.

N. PONSOLLE.

APPARATUS FOR COPYING DOCUMENTS, DRAWINGS, &c.

(Application filed Sept. 21, 1898.)

(No Model.)

2 Sheets—Sheet I.

Fig. 1.

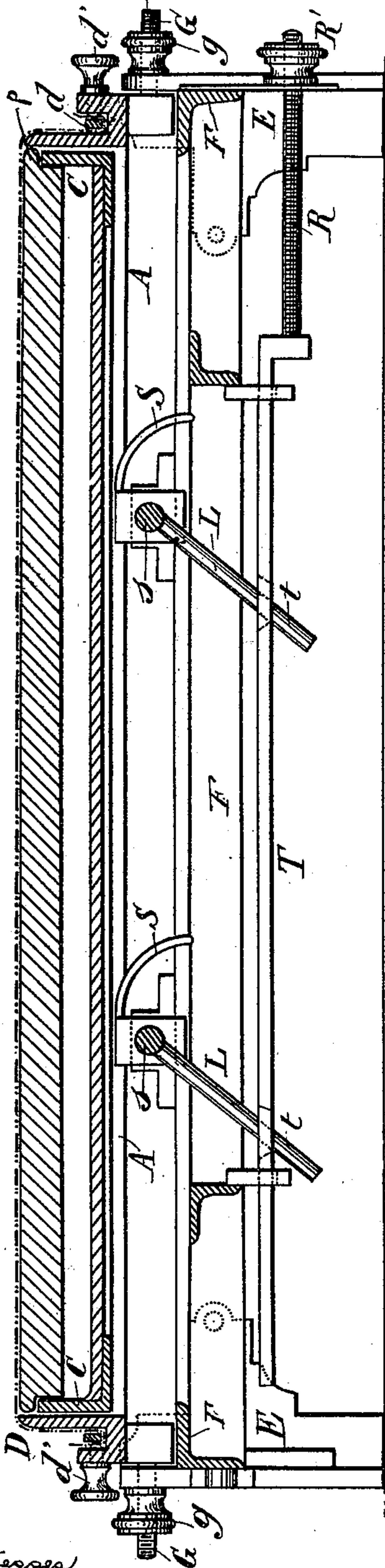
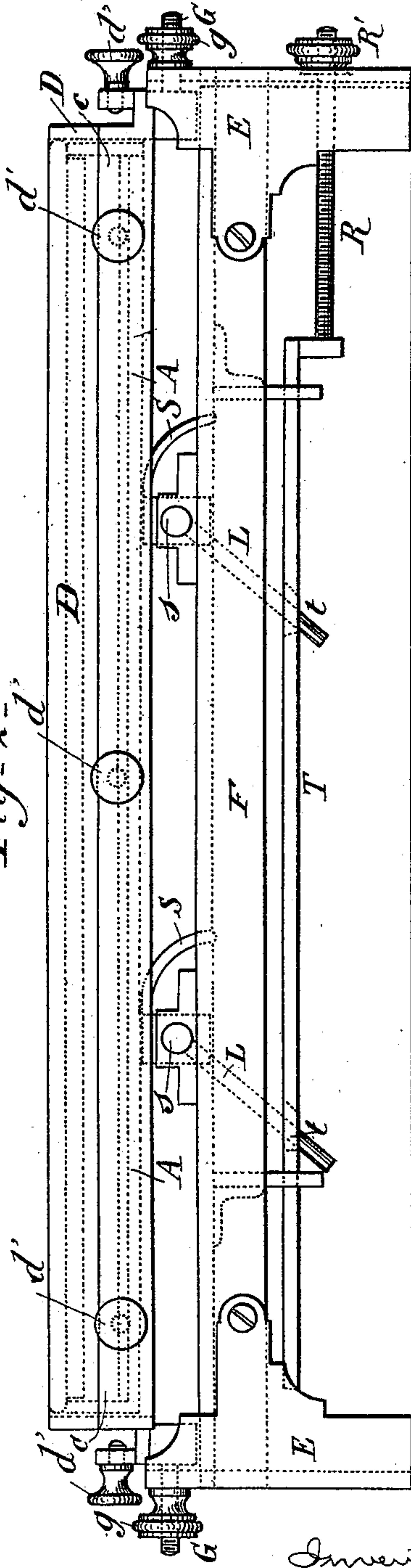


Fig. 2.



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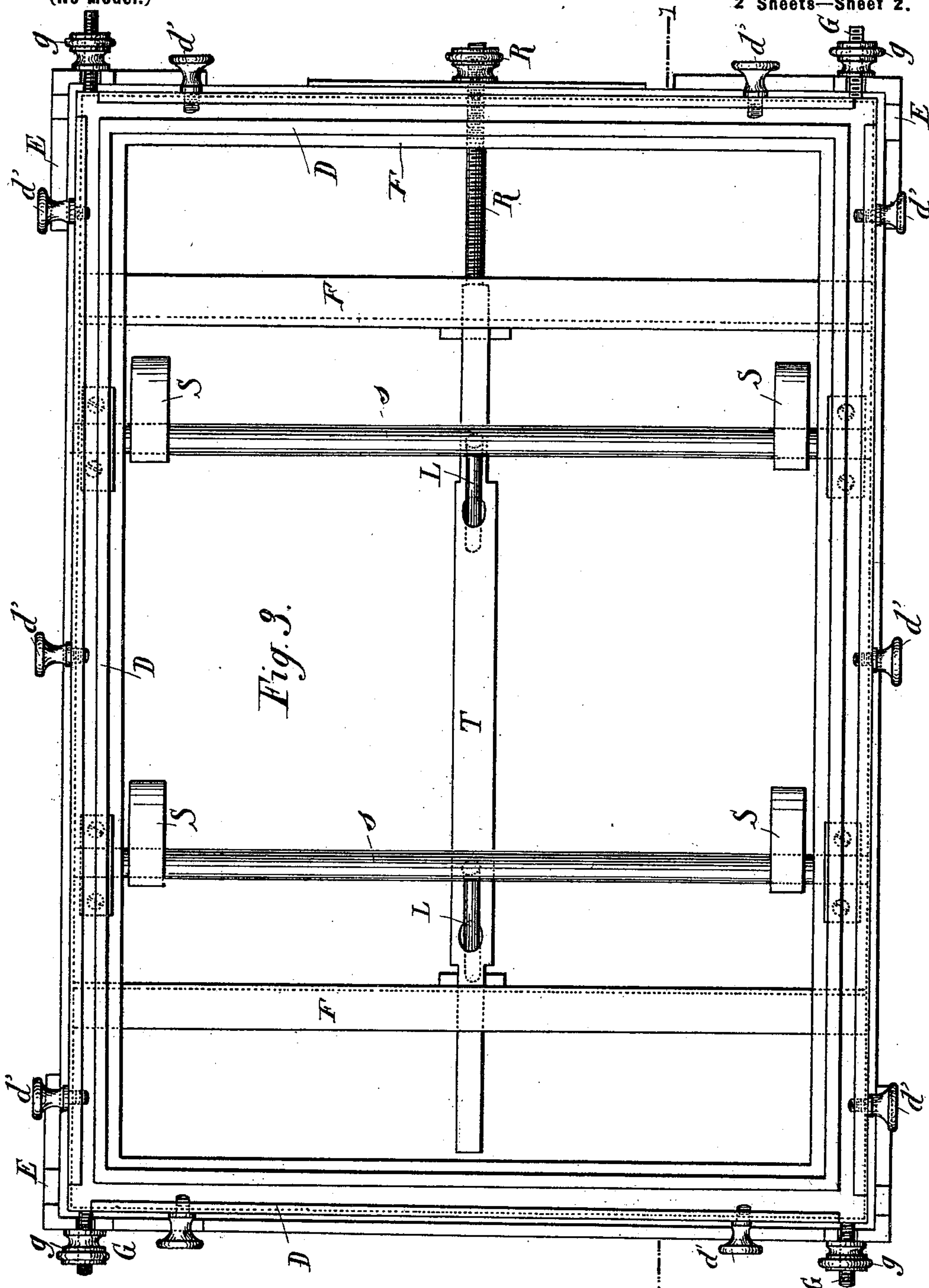
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2 Sheets—Sheet 2.



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# UNITED STATES PATENT OFFICE.

NOËL PONSOLLE, OF PARIS, FRANCE.

## APPARATUS FOR COPYING DOCUMENTS, DRAWINGS, &c.

SPECIFICATION forming part of Letters Patent No. 622,389, dated April 4, 1899.

Application filed September 21, 1898. Serial No. 691,518. (No model.)

*To all whom it may concern:*

Be it known that I, NOËL PONSOLLE, a citizen of the Republic of France, residing at Paris, in the Department of Seine, France, have invented certain new and useful Improvements in and Relating to Apparatus for Copying Documents, Drawings, and the Like, of which the following is a full, clear, and exact description.

This invention relates to copying apparatus of that type in which a sheet of damp gelatin or similar substance is used to effect the printing or multiplication of the documents or the like. One of its chief objects is to provide means for keeping the gelatin constantly and uniformly damp.

The improved apparatus is provided with a tank or cistern to contain water. Fitted within the upper part of the cistern, so as to be in contact with the water underneath, is a slab of porous stone, composition, or other suitable material, which absorbs the water constantly and becomes soaked, the supply of water being maintained in the cistern in any suitable manner. A suitable stone or composition which may be employed consists of a mixture of ninety parts of plaster-of-paris, three parts of sulfate of baryta, five parts of sodium chlorid, and two parts of silicate of alumina. The porous slab and the tank with which it is combined are mounted upon a suitable framework within the apparatus and are capable of having a limited vertical motion imparted to them—as, for example, by means of cams mounted upon rods extending across the apparatus below the movable frame, these rods having angular motion imparted to them in any convenient manner.

Surrounding the porous stone or slab and attached to the apparatus in any suitable manner is a frame for carrying the sheet of gelatin which extends across the stone. This latter may be forced up against the gelatin to any desired extent and give any required degree of tension. The sheet of gelatin may be secured in its carrying-frame in any suitable way and by means of any suitable devices. For example, its edges may fit within grooves or recesses in the frame and be held by bars or rods secured in place by screws, or the edges of the sheet may be thickened or beaded and provided with their own retaining de-

vices. The frame is so attached to the apparatus as to be capable of easy removal.

Convenient marks, guides, or indicators may be combined with the gelatin-holding frame or other convenient part of the apparatus to facilitate the printing and to insure it being in the proper position. Such a guide may consist of a movable rod or ribbon capable of being moved to and secured in any desired position.

In the accompanying drawings, Figure 1 is a longitudinal cross-section on line 1 1, Fig. 3; Fig. 2, a side elevation, and Fig. 3 a plan, of an apparatus embodying my invention.

The slab P, of porous stone or composition, is preferably provided with a projecting flange *p*, by means of which it is supported upon the upper edge of a shallow tank or tray C, which is capable of vertical movement inside of a frame D. The stone resting in contact with the water will because of its capillarity become saturated with moisture, which is thus fed or supplied to the gelatin sheet stretched upon the upper surface of the stone and maintains the necessary damp condition of the sheet for the desired number of impressions. The frame D constitutes the holder for the sheet of gelatin or other ink-absorbent material—such as gelatinized parchment, paper, or tissue—and is supported upon a stationary framework composed, preferably, of angle-bars F, secured to legs E at the corners. The two legs at each end may be united in one structure, as shown. The legs project above the framework to receive the sheet-holder within them and are provided with notches to receive screws G, projecting from the sheet-holder and carrying clamping-nuts *g*, by means of which the holder can be firmly fixed in position on the framework.

The sheet-holder is provided with means for retaining a sheet of gelatin or the like, (lettered B.) To this end I prefer to provide the holder with upturned flanges A, forming grooves in which are placed bars *d*, under which the edges of the sheet are passed. The bars are then firmly clamped against the sides of the holder by means of set-screws *d'*, passing through the flanges A. Other modes of fastening may be used, if desired.

In order to lift the damp stone up against the gelatin, I provide means for raising and



lowering the tank C. This consists, preferably, of cams S S, fixed upon rock-shafts s, extending across the framework and journaled in bearings thereon. The cams bear  
 5 against the underside of the tank, as clearly shown in Fig. 1. Means are provided for rocking the shafts simultaneously—such, for instance, as rock-arms L on the shafts engaged by holes t in the bar T, which is capable of  
 10 longitudinal motion. It is preferably moved by means of a screw R and nut R', the latter bearing against the outside of the framework F. By means of this screw the pressure upon the sheet of gelatin can be very nicely regu-  
 15 lated.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

20 1. In a copying apparatus, the combination with means for holding a sheet of ink-absorbent material, of a plate of moisture-absorbent material, and means for moving said plate against and away from said sheet, substantially as described.

25 2. In a copying apparatus, the combination with a frame, of clamping-bars and set-screws, a tank vertically movable inside the frame, a slab of absorbent material carried by said tank, and means for lifting said tank, sub-  
 30 stantially as described.

3. In a copying apparatus, the combination with a frame, of means for clamping thereon a sheet of gelatin or the like, a vertically-

movable tank below said sheet, a slab of porous composition carried by said tank, and  
 35 means for lifting said tank, substantially as described.

4. In a copying apparatus, the combination with means for holding a sheet of gelatin or the like, of a slab of porous composition, a  
 40 tank carrying said slab, rock-shafts having arms on which said tank is supported, and means for actuating said rock-shafts simultaneously, substantially as described.

5. In a copying apparatus, the combination 45 with the frame and its clamping devices, of the tank, the porous slab thereon, the rock-shafts having arms supporting said tank, the slide engaging with arms on said shafts, and the screw and nut for moving the slide, substan-  
 50 tially as described.

6. In a copying apparatus, the combination with the framework, having notches, of the frame D, screws G projecting therefrom at each end near the corners and received in  
 55 said notches, upturned flanges A, set-screws d' passing through the same, and bars d received in the grooves between the flanges and the frame, substantially as described.

In witness whereof I subscribe my signature in presence of two witnesses.

NOËL PONSOLLE.

Witnesses:

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 EDWARD P. MACLEAN.