No. 707,579. Patented Aug. 26, 1902.

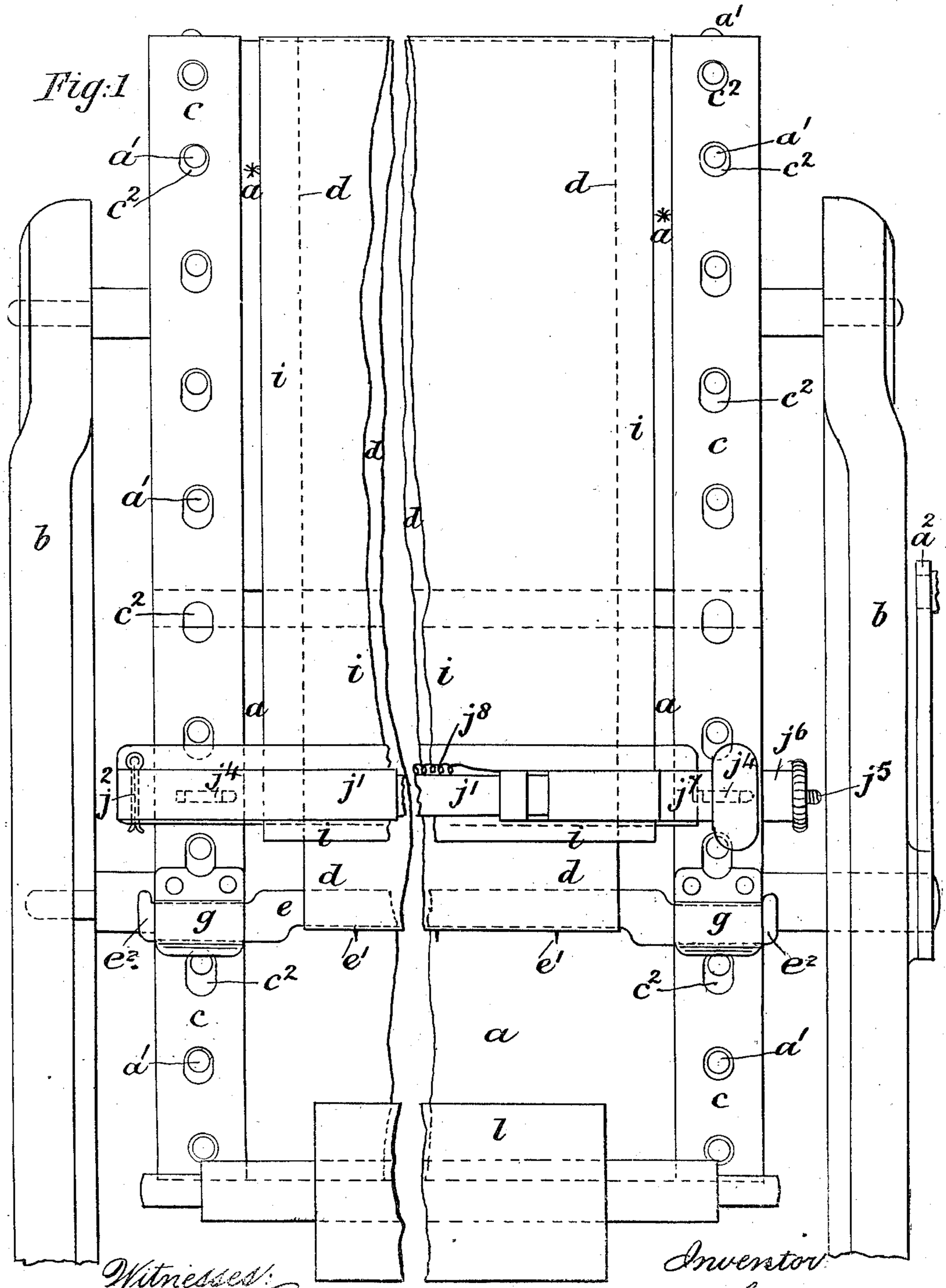
D. GESTETNER.

STENCIL PRINTING APPARATUS.

(Application filed July 16, 1901.)

(No Model.) 3 Sheets—Sheet 1.

Fig. 1



No. 707,579. Patented Aug. 26, 1902.

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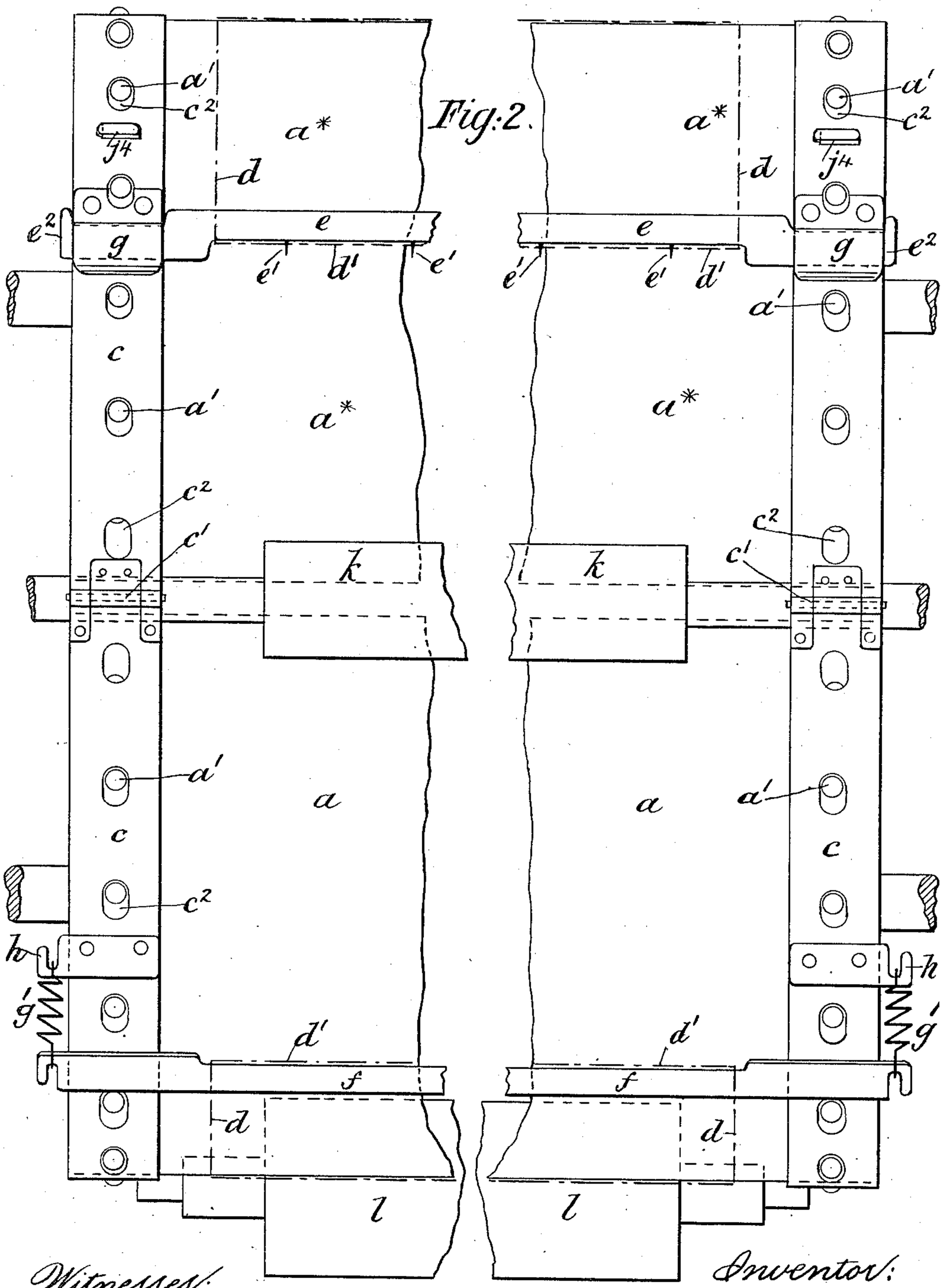
(Application filed July 16, 1901.)

(No Model.) 3 Sheets—Sheet 2.

Fig. 2.



Witnesses:
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Inventor:
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No. 707,579. Patented Aug. 26, 1902.

D. GESTETNER.

STENCIL PRINTING APPARATUS.

(Application filed July 16, 1901.)

(No Model.) 3 Sheets—Sheet 3.

Fig: 3

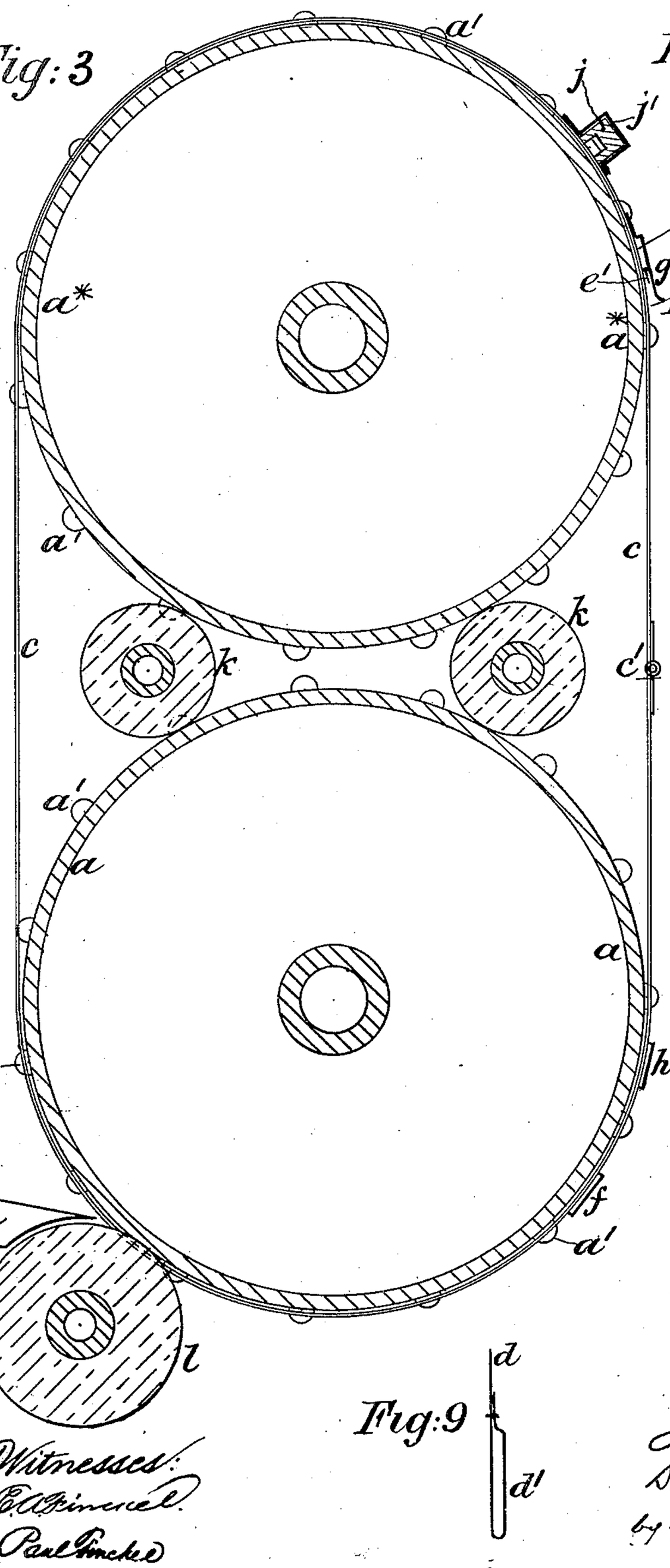

Fig: 7. Fig: 8.

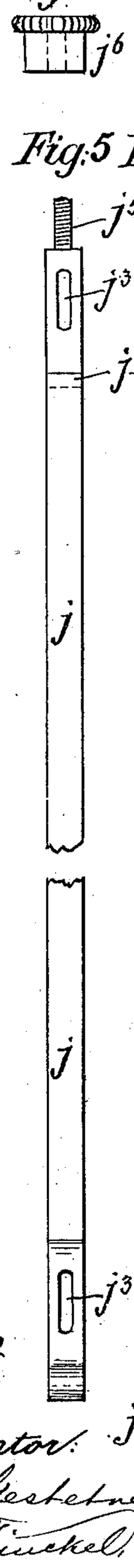

Fig: 4

Fig: 5 Fig: 6

Fig: 9

Witnesses:
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UNITED STATES PATENT OFFICE.

DAVID GESTETNER, OF LONDON, ENGLAND.

STENCIL-PRINTING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 707,579, dated August 26, 1902.

Application filed July 16, 1901. Serial No. 68,536. (No model.)

To all whom it may concern:

Be it known that I, DAVID GESTETNER, a subject of the King of Great Britain, residing at London, England, have invented certain new and useful Improvements in Stencil-Printing Apparatus, of which the following is a full, clear, and exact description, and for which I have made application for patent in Great Britain, dated the 21st of December, 1900.

The invention has for its object an improved stencil-printing apparatus of simple construction and quick and effective operation. For this purpose I employ a pair of rollers or cylinders mounted at a suitable distance apart; around these rollers or cylinders I place a sheet of silk or other gauze, or other material, through which the printing-ink can freely pass. The porous sheet is preferably made of a length of material joined at the ends to endless bands by suitable clips or fasteners. I apply ink to the rollers or cylinders by waver or distributing rollers mounted between them. When the porous sheet is saturated with ink from the rollers or cylinders, I place thereon the stencil, which is held thereon by suitable fastening means and the adhesive character of the ink. In connection with one of the rollers or cylinders I employ a pressure-roller, and between such pressure-roller and the stencil on the porous sheet the paper to be printed is passed; and in order that my invention may be clearly understood I will describe the same more fully by the aid of the accompanying drawings, in which—

Figures 1 and 2 are front and back views of so much of the improved stencil-printing apparatus as is required to explain the invention, the movable parts in the two views being in different positions in each, the clamp being omitted from Fig. 2 and the parts on the far side not being shown. Fig. 3 is a vertical cross-section of the working parts. Fig. 4 is a side view of the stencil-clamp cover. Fig. 5 is a face view, and Fig. 6 a side view, of the stencil-clamp base; Fig. 7, a cross-section of Fig. 4. Fig. 8 is an elevation of the screw employed to fix the clamp in position. Fig. 9 is a detail view of one edge of the porous sheet.

a a^* are two rollers or cylinders mounted in the framing b at a suitable distance apart. Around each end of these rollers or cylinders I place an endless band c, preferably formed of lengths of steel connected together at their ends by hinges c', and I cause these rollers or cylinders a a^* and endless bands c to move together without slip by fixing studs a' around the edges of the rollers or cylinders and by forming slots or openings c^2 in the endless bands, through which the studs a' pass. Motion is given to these rollers or cylinders and endless bands by any suitable means, a handle a^2 on the axle of the roller a being shown in the drawings for this purpose.

It will be obvious that the endless bands c may be made of other material than steel and that they may be permanently attached to the porous sheet, which latter may also be endless.

d is a sheet of porous material, preferably what is known as "yoshino paper," which is secured to the endless bands c, preferably in the following manner: Each end edge of the porous sheet d is formed, by stitching, pasting, or otherwise, with a pocket d'. (See Fig. 9.) Through one of these pockets the pin-bar e is passed, and through the other pocket a plain bar f is passed. When the bar e is in proper position in its pocket, the pins e' are forced through the material of the pocket, so as to prevent sidewise slip of the porous sheet. The pin-bar e is then secured to the endless bands c by passing its ends e^2 underneath the spring-clips g, attached to the endless bands. The porous sheet is then passed around the rollers or cylinders a a^*, and the plain bar f is attached by springs g' at its ends to fastenings h, secured to the endless bands c.

i is the stencil, which is attached at one end to a clamp carried by the endless bands. Such stencil is then placed in contact with the porous sheet d (which has been previously saturated with ink) and adheres thereto. The clamp to which the stencil is attached is constructed and removably fixed to the endless bands c in the following manner:

j is the base of the clamp.

j' is a trough-shaped cover, which is pin-jointed at j^2 to the base j. One end edge of the stencil i is passed over the base j, and the trough-shaped cover j' is then turned on its hinge j^2, so as to inclose the stencil between it and the base. The base j has a slotted

opening j^3 at each end thereof of such size as to be capable of freely passing over the projections j^4, fixed to the endless bands *c*. These projections j^4 are undercut at one end, so that when the clamp-base *j* is placed properly thereon and then moved endwise by means of the nut j^6, screwing onto the screw j^5 and bearing against the edge of one of the endless bands *c*, the material at one end of the openings j^3 will pass under the undercut portion of the projections j^4 and securely but removably fix the clamp to the endless bands.

To remove a stencil from the clamp and attach a new stencil, it is only necessary to raise the cover *j*, when the stencil can be removed and a new stencil placed in position over the base *j* and secured in position by pressing down the cover *j'*.

The cover *j'* is secured in the stencil-holding position by means of a bolt j^7, mounted thereon at one end and acted upon by a spring j^8, such bolt being capable of engaging with the undercut nose j^9 of the clamp-base *j*.

Ink is applied to the rollers or cylinders *a* *a** by waver or distributing rollers *k k* mounted between them, and ink is applied to the rollers *k k* from time to time, as may be required.

In connection with the roller or cylinder *a* I mount a pressure-roller *l*, and between such pressure-roller and the stencil on the porous sheet the paper to be printed is passed.

m is a feed-table.

The printed sheets are delivered to a table or receiving-box of any known or suitable character.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In stencil-printing apparatus, the combination of two unperforated rollers mounted in a suitable framing, endless bands passed around said rollers, a porous sheet, such as yoshino paper, carried by said bands, a stencil, means for attaching one end of the stencil to the endless bands, ink-distributing rollers in contact with said main rollers and a pressure-roller arranged outside the stencil and porous sheet, substantially as set forth.

2. In stencil-printing apparatus, the combination of a frame, two main rollers mounted in said frame, means for rotating said main rollers, studs on said rollers, endless bands carried by said rollers, holes in said bands to engage with said studs, a fixed bar and a spring-bar carried by said bands, a sheet of porous material attached to said bars, a clamp carried by said bands to which one end of a stencil is attached, a pressure-roller arranged outside of the sheet of porous material, and ink-distributing rollers in contact with the main rollers, substantially as set forth.

3. In stencil-printing apparatus, the combination of a frame, two main rollers mounted in said frame, means for rotating said rollers, studs on said rollers, endless bands carried by said rollers, holes in said bands to engage the studs, spring-clips carried by said bands, a removable bar attached to the endless bands by said spring-clips, pins fixed to said bar, fastenings carried by said bands, a plain bar removably attached to said fastenings, springs connecting the plain bar with said fastenings, a sheet of porous material carried by the said bars, undercut projections attached to the endless bands, a stencil-carrying clamp attached to said undercut projections, ink-distributing rollers in contact with the main rollers, and a pressure-roller arranged outside of the sheet of porous material, substantially as set forth.

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

D. GESTETNER.

Witnesses:

B. J. B. MILLS,

CLAUDE K. MILLS.