

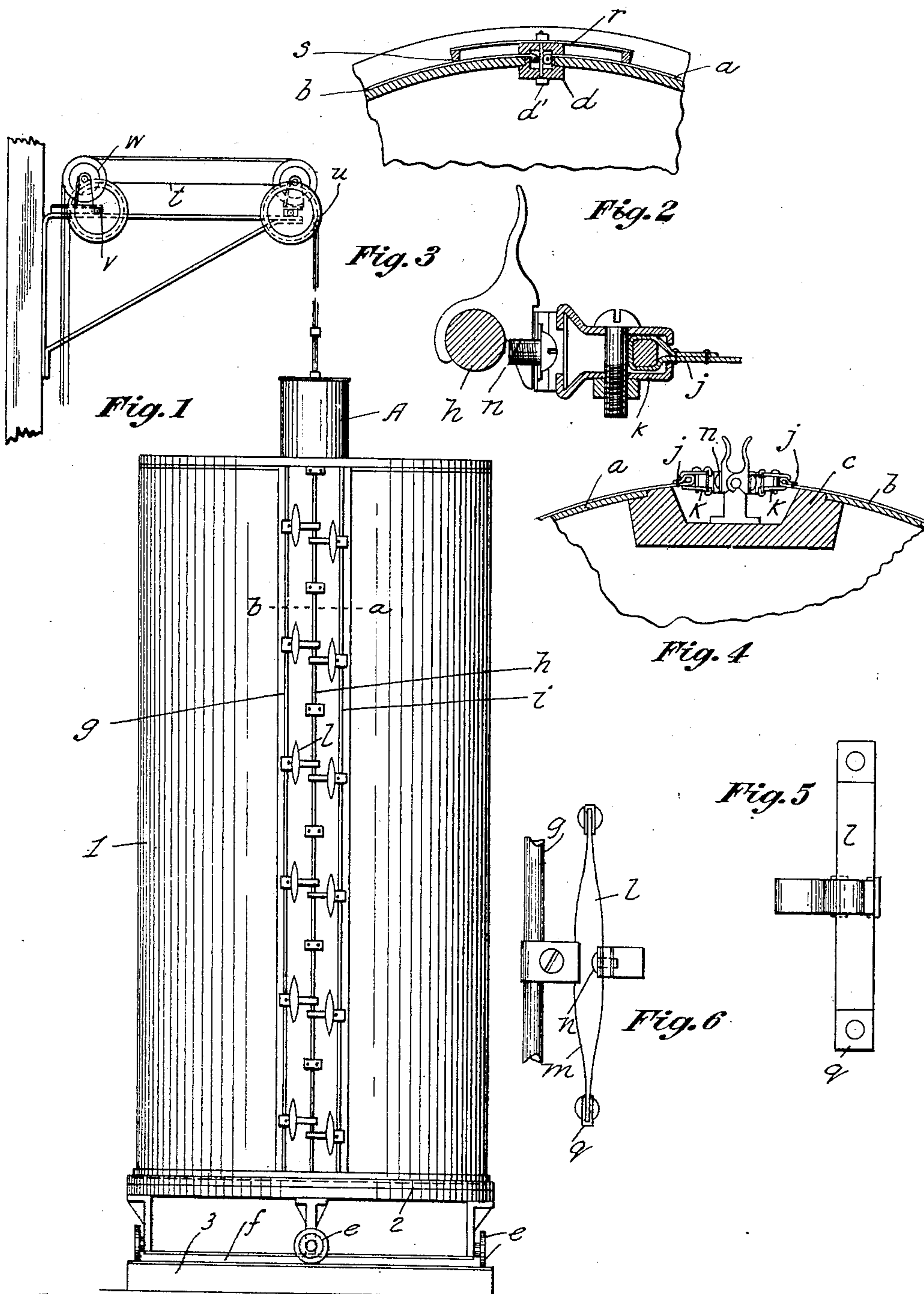
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J. M. G. FULLMAN.
APPARATUS FOR COPYING DRAWINGS, &c.

APPLICATION FILED SEPT. 11, 1902.

NO MODEL.



Witnesses
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UNITED STATES PATENT OFFICE.

JAMES M. G. FULLMAN, OF PITTSBURG, PENNSYLVANIA.

APPARATUS FOR COPYING DRAWINGS, &c.

SPECIFICATION forming part of Letters Patent No. 771,775, dated October 4, 1904.

Original application filed July 24, 1901, Serial No. 69,562. Divided and this application filed September 11, 1902. Serial No. 122,981. (No model.)

To all whom it may concern:

Be it known that I, JAMES M. G. FULLMAN, a citizen of the United States, residing at Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Apparatus for Copying Drawings, &c., of which improvement the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of my improved apparatus for copying drawings, tracings, negatives, &c. Fig. 2 is an enlarged sectional detail of rear post, showing application of canvas-clips. Fig. 3 is an enlarged detail in section of spring canvas stretcher or clip. Fig. 4 is a sectional view of the front post, taken on line *a b* of Fig. 1, showing application of fastener. Figs. 5 and 6 are respectively details of the spring-clip.

My present invention, which is a division of my copending application, Serial No. 69,562, filed July 24, 1901, relates to improvements in apparatus for reproducing or copying drawings, tracings, &c., and particularly to means for securing the sensitized paper, subject-matter to be reproduced or copied, and the canvas or cover in contact with the exterior surface of the cylinder during the copying operation.

The object of my invention is to produce a flexible fastening device for supporting the sensitized paper, subject-matter to be copied, and the canvas cover upon the cylinder during the printing operation, which will admit of the ends of the canvas cover being brought very close together, enabling the greatest possible area of surface to be utilized for copying; and to accomplish this purpose it consists in the novel construction, combination, and arrangement of parts hereinafter more specifically described, reference being had to the accompanying drawings, forming part hereof, in which like reference characters indicate like parts wherever they occur throughout the several views.

Referring to said drawings, 1 is a vertically-disposed glass cylinder comprising two segmental sections *a b*, the ends of which are secured in the wooden blocks or holders *c d* on

opposite sides of said cylinder and which extend the entire length thereof, the lower ends of said cylinder being secured in the revolvable base 2. The said block or holder *d* is formed in two sections secured together by bolts *d'* or in any other suitable manner. The said cylinder is mounted on said base 2 and is adapted to be carried thereby in a circle, the base being provided with wheels *e e*, adapted to travel on ways *f*, supported on the sub-base 3, to admit of this.

On one side of said cylinder is arranged three vertically-disposed rods *g h i*. The rods *g* and *i*, to which the ends of the canvas cover *j* is secured, as shown in Fig. 3, are formed of comparatively light material and are secured with the ends of the canvas therearound within the jaws of the clips *k*, the opposite ends of said clips being clamped or hooked over flat-blade bow-shaped springs *l*, similar springs *m* being secured to the hooked fasteners or clasps *p* by means of screw *n*, which are adapted to engage over the rod *h* and hold the canvas cover and the drawing or tracing against the exterior of the cylinder during the operation of reproducing the same. The ends of said springs *l* and *m* are secured in and riveted together in the U-shaped joiners or connectors *q*, the hook fasteners or clasps and the ends of the canvas cover being secured intermediate of the length of the bow-shaped spring thus formed, which insures a uniform distribution of the tension on the springs in tightening the canvas around the cylinder. The said springs are vertically disposed, whereby a flexible fastening device is obtained which will admit of the ends of the canvas being brought very close together, enabling the greatest possible area of surface to be utilized for copying.

On the side of the cylinder opposite to said fasteners are located a series of flat blade-springs *r*, which are secured to the block *d* and constitute clips or fasteners, the ends of said springs being provided with projections *s*, which engage and press upon the ends of the canvas and subject-matter to be copied for the purpose of holding the same while the

drawings and canvas are being adjusted around the exterior of the cylinder, as heretofore specified.

A is an arc-lamp suspended upon cords *t*,
5 which pass over pulleys *u*, mounted in the brackets *v*, which may be secured in any suitable manner to a standard or to the wall of the room in which the apparatus is located.

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

1. In an apparatus for copying or reproducing drawings, &c., the combination of a cylinder, an arc-lamp adapted to be lowered there-
15 in, and fasteners to hold the subject-matter to be copied or reproduced in contact with the exterior of the cylinder comprising vertically-disposed blade-springs, the ends of which are conjoined, the said conjoined springs being
20 connected to one end of the canvas and to the

hooked fingers or clasps adapted to engage a vertically-disposed stationary rod.

2. A transparent hollow printing-frame, a cover therefor provided with one or more catches, each having two members composed 25 of spring material, one secured to the cover and the other forming a clasp.

3. A transparent hollow printing-frame, a cover therefor provided with one or more catches, each having spring members secured 30 together at their ends, the intermediate portions supporting the cover and the locking part of the catch.

In testimony whereof I have hereunto signed my name in the presence of two subscribing 35 witnesses.

JAMES M. G. FULLMAN.

In presence of—

CLARENCE A. WILLIAMS,
JOHN H. RONEY.