

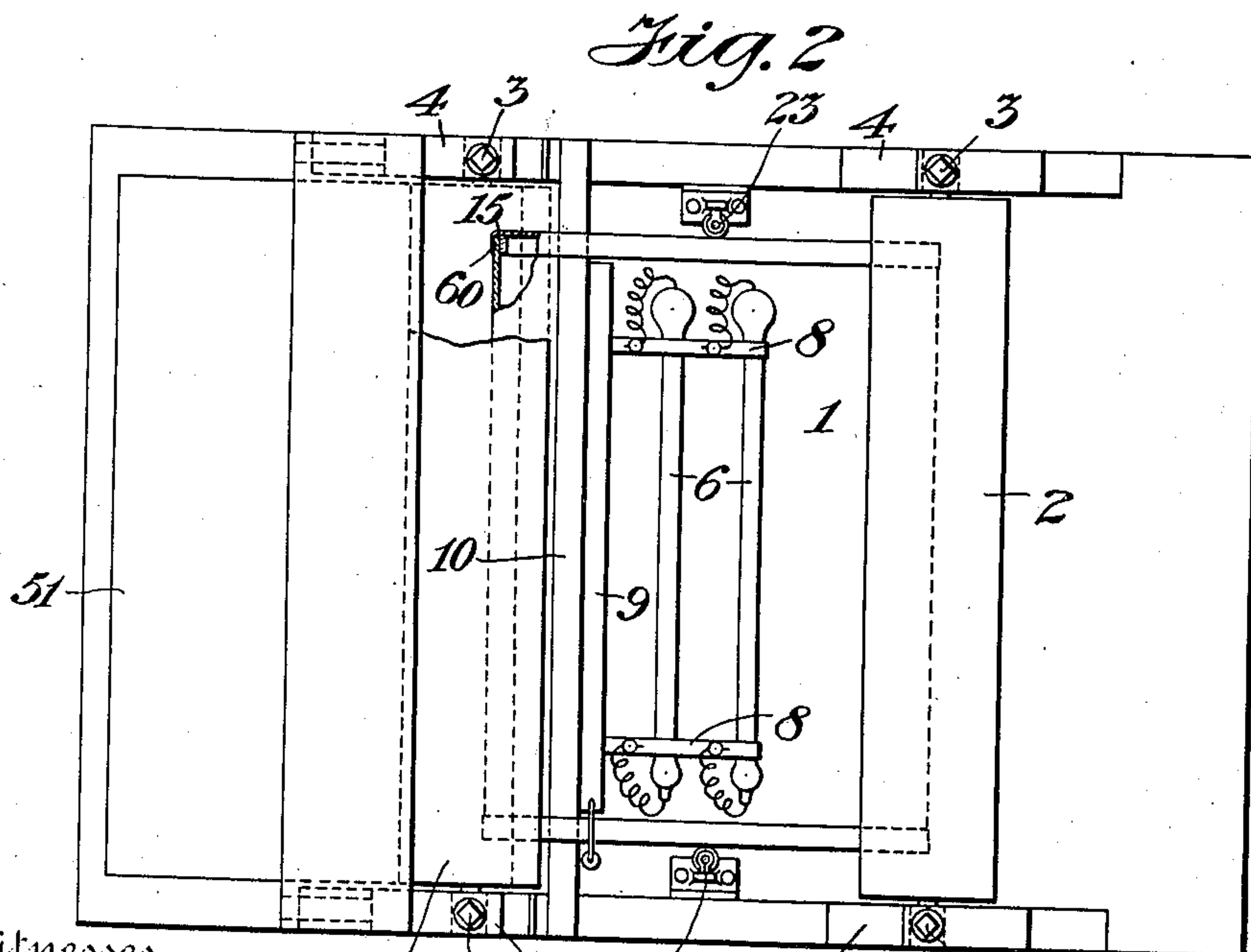
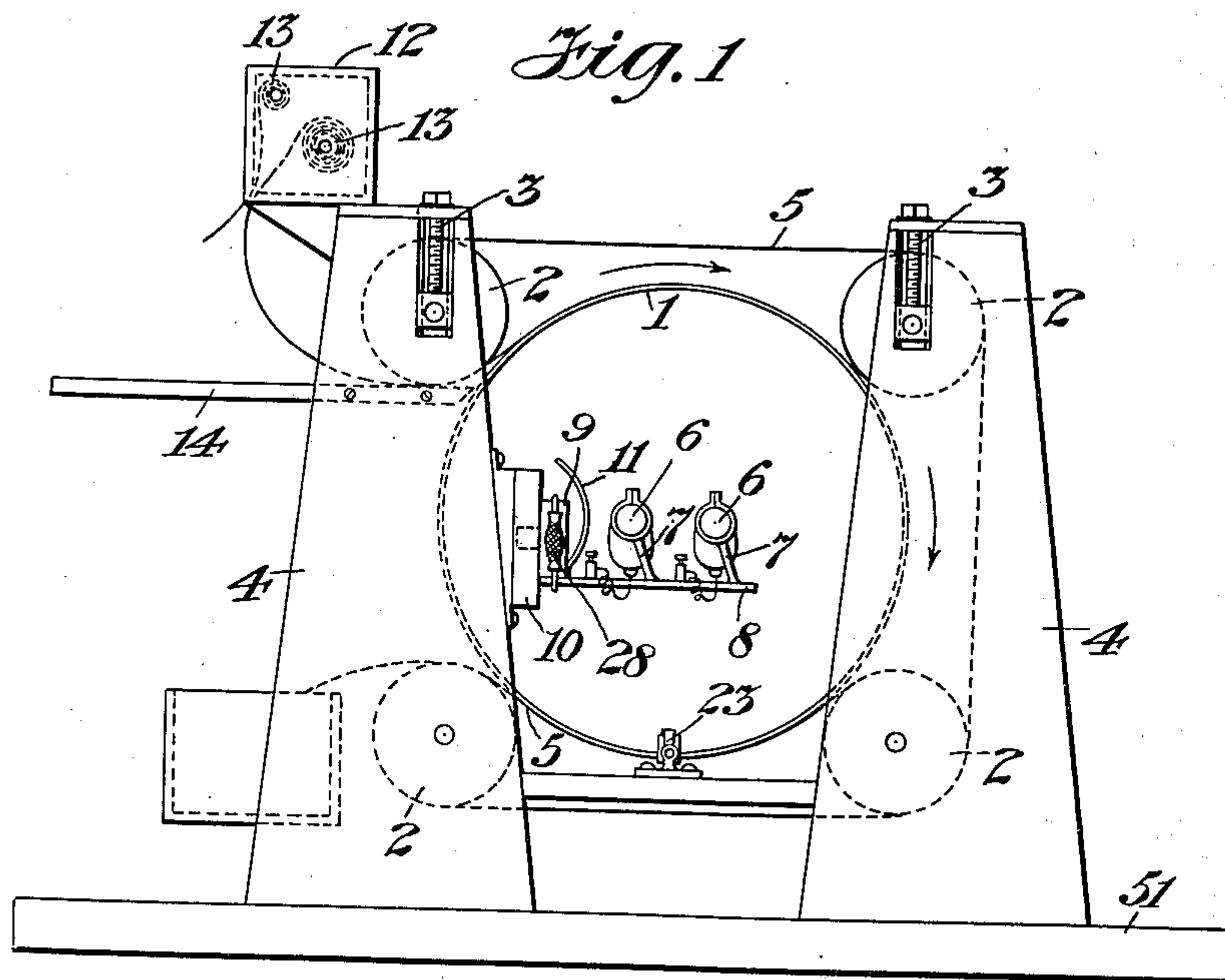
No. 847,567.

PATENTED MAR. 19, 1907.

S. E. FLICHTNER.  
BLUE PRINTING AND SIMILAR APPARATUS.

APPLICATION FILED JULY 28, 1904.

2 SHEETS—SHEET 1.



Witnesses  
Chas. Clagett  
Wm. H. Capel

Inventor  
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By his Attorney  
Charles A. Tamm.

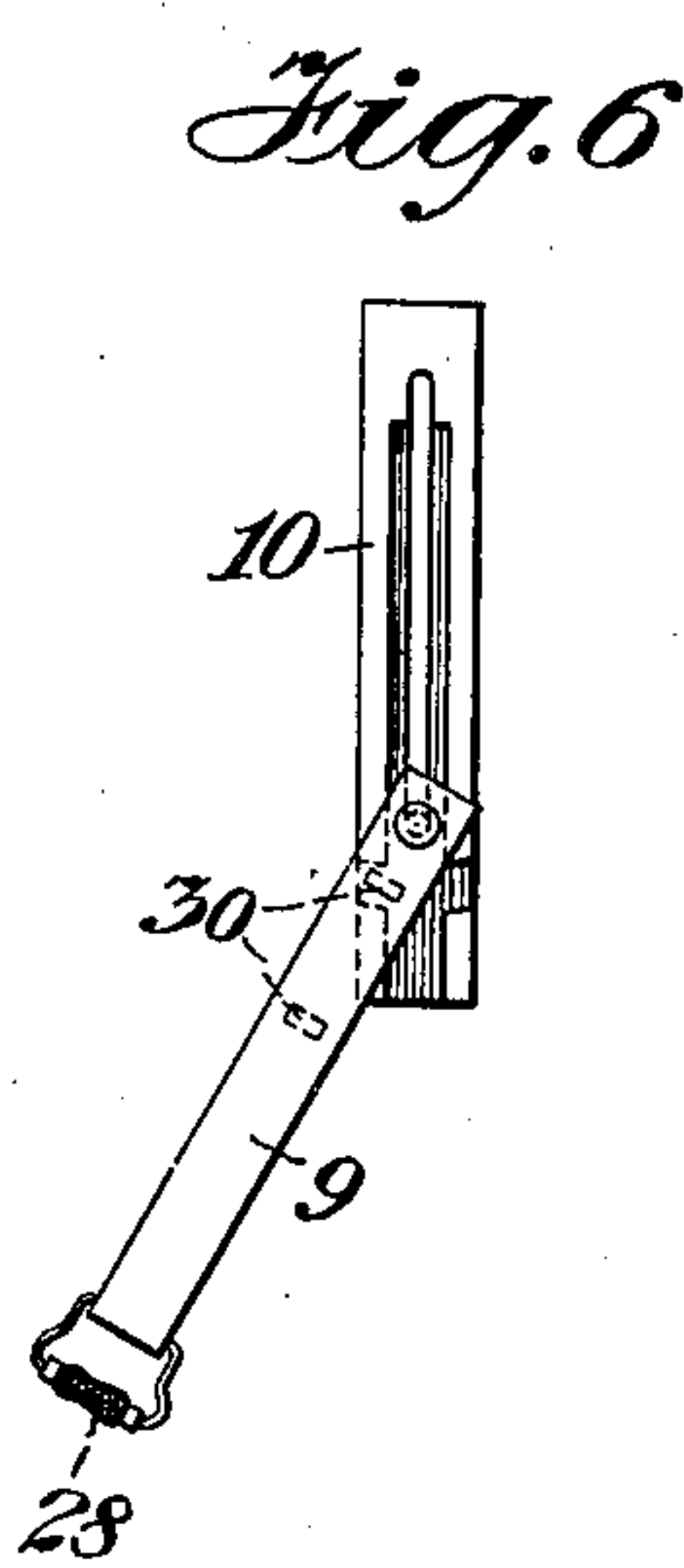
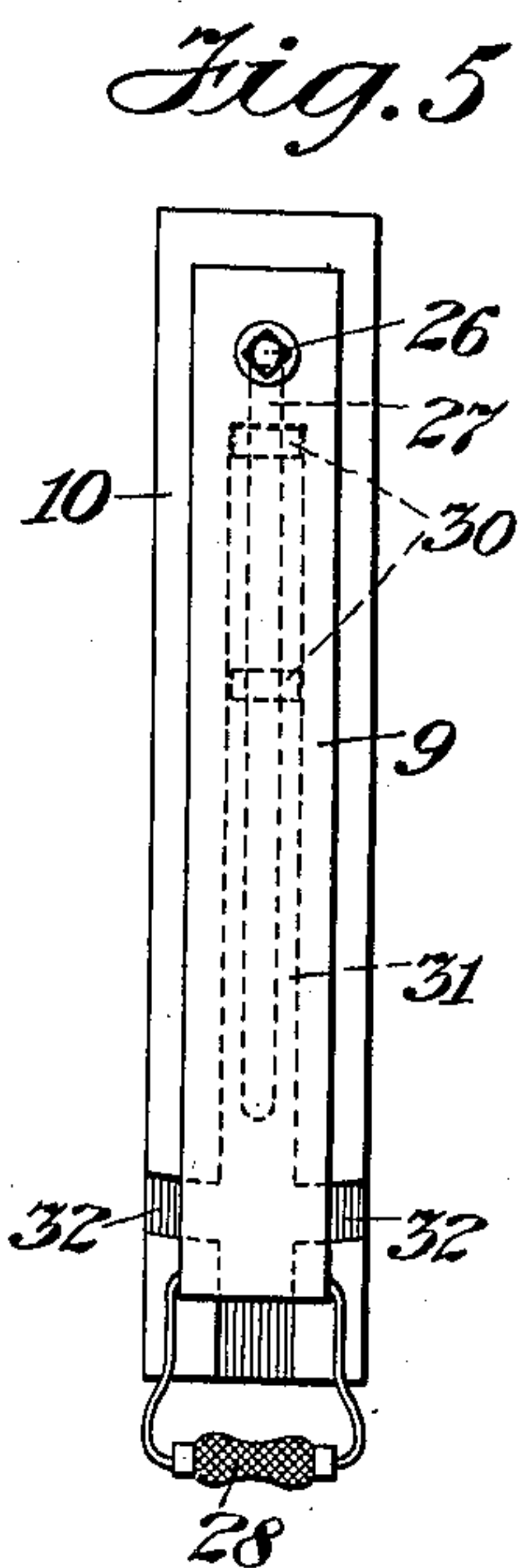
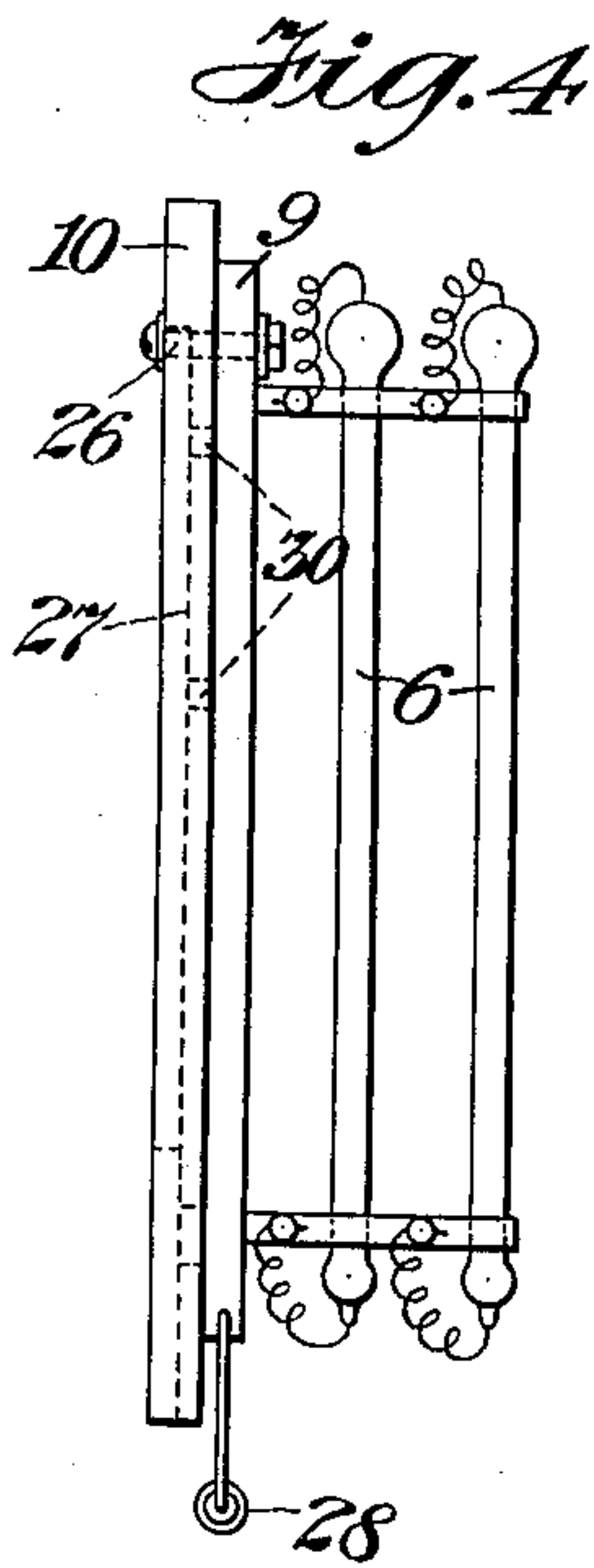
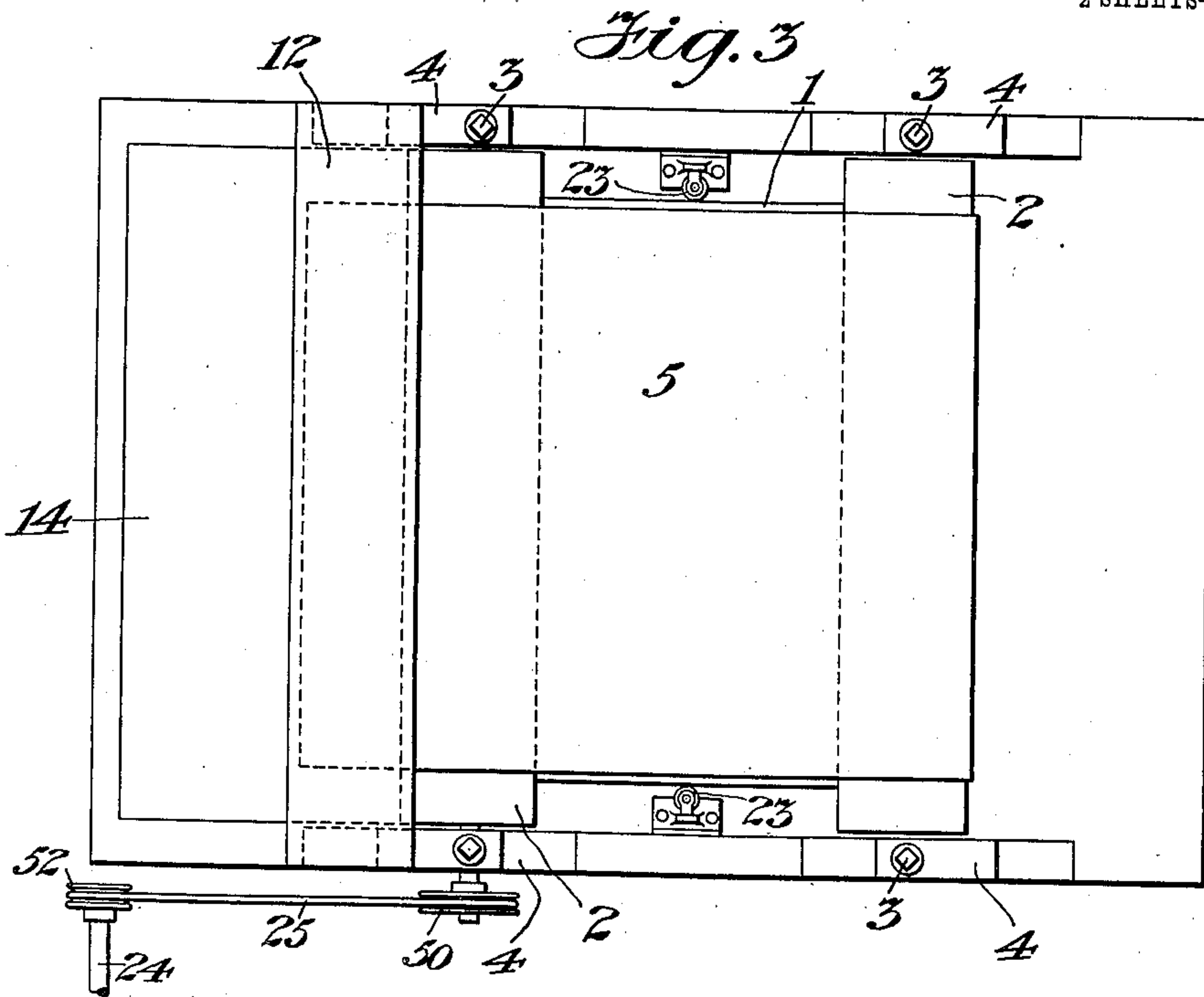
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2 SHEETS—SHEET 2.



Witnesses  
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# UNITED STATES PATENT OFFICE.

STANWOOD E. FLICHTNER, OF ENGLEWOOD, NEW JERSEY, ASSIGNOR TO  
COOPER HEWITT ELECTRIC COMPANY, A CORPORATION OF NEW YORK.

## BLUE-PRINTING AND SIMILAR APPARATUS.

No. 847,567.

Specification of Letters Patent.

Patented March 19, 1907.

Application filed July 28, 1904. Serial No. 218,474.

*To all whom it may concern:*

Be it known that I, STANWOOD E. FLICHTNER, a citizen of the United States, and a resident of Englewood, county of Bergen, State of New Jersey, have invented certain new and useful Improvements in Blue-Printing and Similar Apparatus, of which the following is a specification.

The present invention relates to apparatus for blue-printing or similar work, and particularly to the kind of apparatus wherein one or more sources of light are permanently mounted inside a rotating transparent cylinder, on the outside of which travels the sensitized paper and the paper containing the design to be reproduced.

In the present invention while the lamps or sources of light are permanently mounted inside a rotating transparent cylinder, yet I provide means whereby the said lamps can readily be removed and replaced and whereby in case lamps of the tilting type are employed such lamps can be withdrawn far enough to escape contact with the cylinder and can then be started by tilting and afterward be restored to operative position.

In the drawings, Figure 1 is a side elevation of an apparatus embodying my invention. Fig. 2 is a plan thereof. Fig. 3 is a plan showing means for rotating the cylinder. Figs. 4, 5, and 6 are detail views.

In the drawings, 1 is a cylinder, of glass, mounted between four rollers 2 2 2 2. The rollers themselves are mounted on bearings, two of which at the top may be made adjustable by means of screws 3 3. The bearings for the rollers are supported in a frame consisting of posts or uprights 4 4 4 4, mounted on a suitable base 51. The rollers are surrounded by an endless belt 5, of canvas, leather, or other suitable material.

Inside the cylinder are mounted one or more vapor-lamps 6 6, fastened in clamps 7 7, mounted on brackets 8 8, which in turn are screwed to a support 9. As will appear further on, the support 9 may itself be secured, by means of a pivot 26, to a base 10, secured to the posts 4 4 at one side of the apparatus. The base 10 runs through the cylinder and is secured by any suitable means to two of the uprights or standards 4 4, as described.

The base 10 is provided with a slot 27, extending entirely through the base, but not ex-

tending the entire length thereof. Through this slot and through the support 9 extends a pivot pin or bolt 26, the same being rigidly secured to the support 9, but being free to play within the slot 27. Manifestly by virtue of the construction thus described the support 9, together with the brackets 8 8 and the lamps carried thereby, can be slid lengthwise along the base 10, and thus move into the glass cylinder as far as the range of the slot permits. This support 9 can with equal facility be pulled outward, together with the lamps which it carries.

In the base 10 is a wider slot 31, which does not extend entirely through the base nor to the extreme end of the slot 26 in one direction, although in the opposite direction it extends considerably farther—namely, to the end of the base 10. For moving the support 9 and the base carried thereby the handle 28 is provided. At one portion of the slot 31 it is branched out sidewise into slots 32 32, the purpose of which will presently be explained.

The construction described is especially adapted for use in connection with lamps which are to be started by a tilting movement in a manner now well understood in the art.

On the back of the support 9 and entering the slot 31 are two guide-pins 30 30, which hold the supporting-frame steady in position and insure the straight to-and-fro movement of the support 9 when it is drawn back and forth by means of the handle 28.

Assuming that the lamps are inside the cylinder and that the current has not yet been turned on, so that the lamps are still inoperative, it becomes necessary in order to start the lamps into operation to withdraw the support 9 and the lamps by means of the handle 28. Such withdrawal is carried to a point where the pivot pin or bolt 26 is brought to the near end of the slot 27. At this point the lamps can be tilted for starting purposes, inasmuch as the side slots 32 32 now permit the most remote guide-pin 30 to pass through in either direction, while the other guide-pin 30 has been carried beyond the end of the base 10. At this point there is no danger of the lamps coming into contact with the cylinder and either injuring the cylinder or being themselves damaged, so that the tilting operation can be carried out



not only successfully in an electrical sense, but without mechanical danger.

After the starting has taken place the support 9 can be pushed back into alinement with the base 10 and pushed inward until the lamps reach their position of normal operation.

It will be seen that the cylinder in the first three figures of the drawings is supported only by the belt 5 and the rollers 2 2 2 2.

At the top of the apparatus I may place a box 12, having mounted therein rolls 13 13 of sensitized paper.

A shelf 14 may be provided so that the tracing-copy may be readily fed into the machine.

From the rolls in the box 12 blue-print paper 40 may be fed, and the tracing-paper 41, which is to be copied, may also be fed along the table 14. The blue-print paper and the tracing-paper are fed in between the belt 5 and the rollers, as shown. The effective portion of the printing is done when the said sheets are practically in contact with the glass cylinder 1.

Having traversed the circumference of the cylinder, the printed paper is delivered into a box 43 or at some other suitable point.

As to the direction of feeding there is no necessary limitation in the present case.

When the cylinder is supported merely by the belt and the rollers, as described, it is sometimes found that there is a tendency in the cylinder to creep out at one end or the other. This creeping may be prevented by mounting wheels or rollers 23 23 at opposite ends of the cylinder, as clearly shown in Figs. 2 and 3. The wheels or rollers do not interfere with the rotation of the cylinder, while at the same time they prevent the endwise movement thereof.

One of the rollers may be selected as the driving-roller, and it may be operated by means of a pulley 50 on a shaft traversing the roller, the said pulley being connected by a belt 25 with another pulley 51 on a driving-shaft 24. It is obvious that a crank-arm might be applied to the shaft on which the pulley 50 is mounted and the roller on the said shaft might be operated by hand.

Should it be found desirable to operate the cylinder independently of the rollers—that is to say, from some independent source of

power—the cylinder at one end might be provided with a double rim of metal, as shown at 15, and the connections for operating the cylinder independently might be joined to this rim. Generally some other material, such as felt, as shown at 60, would be interposed between the metal and the glass. This rim may well be employed in any case to serve as wearing-surfaces for the rollers 23 23.

I claim as my invention—

1. The combination with a rotary transparent cylinder for photographic or printing purposes, of one or more lamps, a frame on which said lamp or lamps are mounted, and a base to which the said frame is pivoted.

2. The combination with a rotary transparent cylinder for photographic or printing purposes, of one or more lamps inside the cylinder, a frame supporting the lamp or lamps, a support for the said frame, a slotted base extending through the cylinder, and a pivot-pin connecting the said support and the said base.

3. The combination with a rotary transparent cylinder for photographic or printing purposes, of one or more lamps inside the cylinder, a frame carrying said lamp or lamps, a support for the said frame, a base to which the said support is pivoted, and means whereby the said support may be moved in either direction along the said base by a sliding movement.

4. The combination with a rotary transparent cylinder, of one or more lamps inside the cylinder, means for moving the said lamp or lamps to one end of the cylinder, and means for tilting the said lamp or lamps for starting the same into operation.

5. The combination with a rotary transparent cylinder, of one or more lamps inside the cylinder, means for moving the said lamp or lamps to one end of the cylinder, means for tilting the said lamp or lamps for starting the same into operation, and for restoring the lamps to the position of normal operation.

Signed at New York, in the county of New York and State of New York, this 21st day of July, A. D. 1904.

STANWOOD E. FLICHTNER.

Witnesses:

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