

No. 704,415

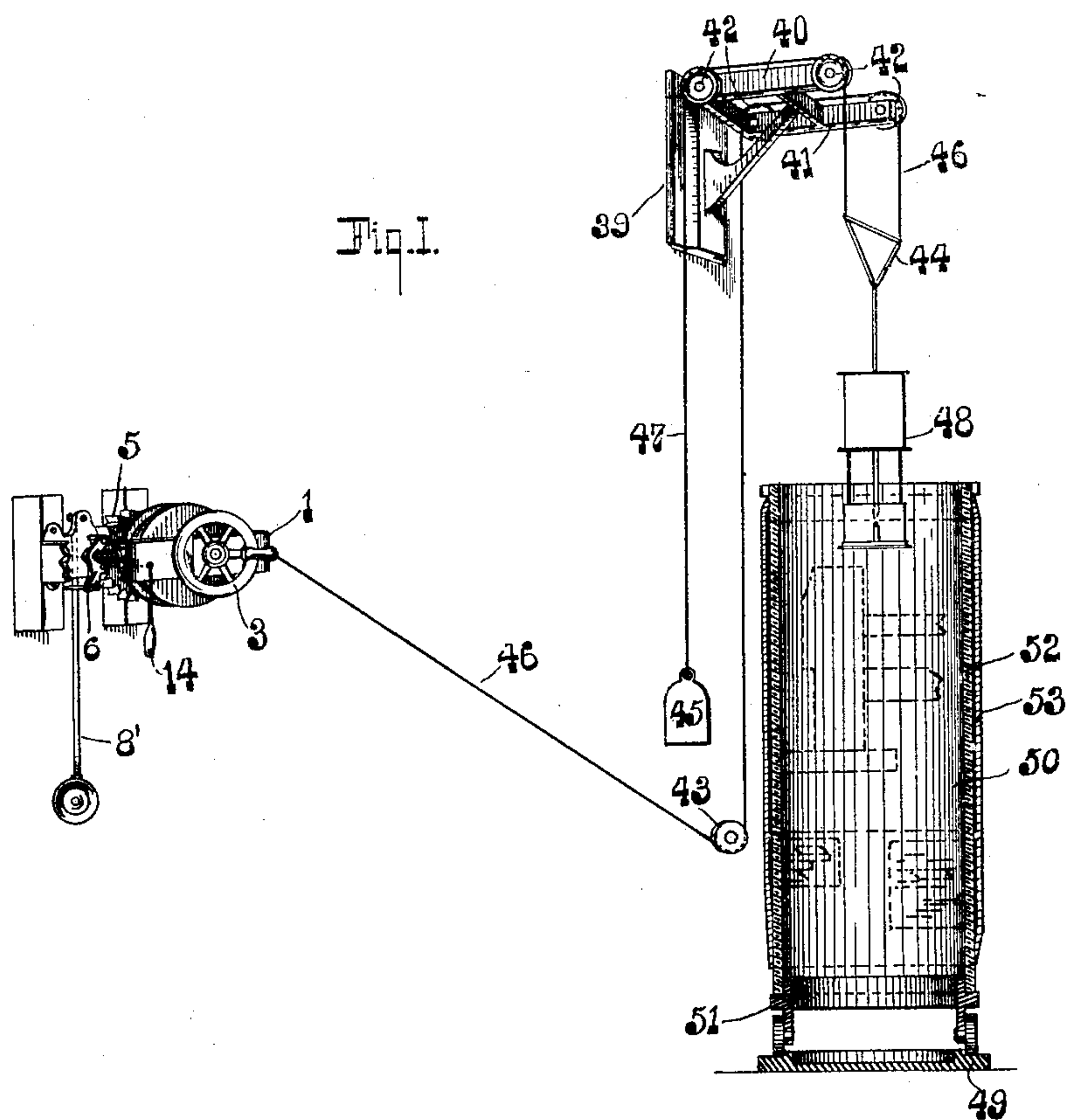
Patented July 8, 1902.

S. B. WHINERY.  
BLUE PRINTING APPARATUS.

(Application filed Feb. 5, 1902.)

(No Model.)

3 Sheets—Sheet 1.



WITNESSES:

*Geo. H. Harvey.*  
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INVENTOR,

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by *Wm L. Pierce*

his Att'y.

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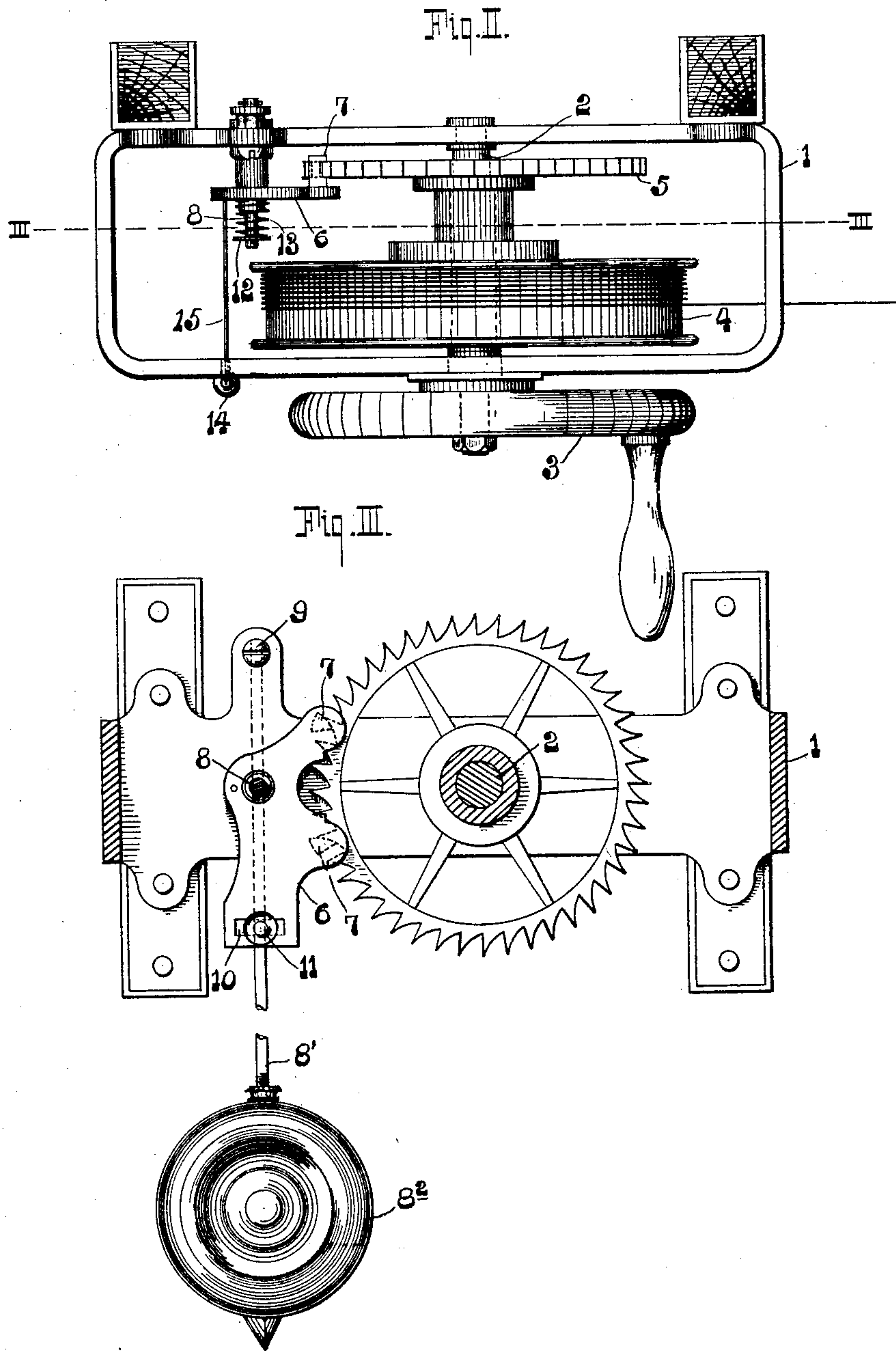
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Fig. V.

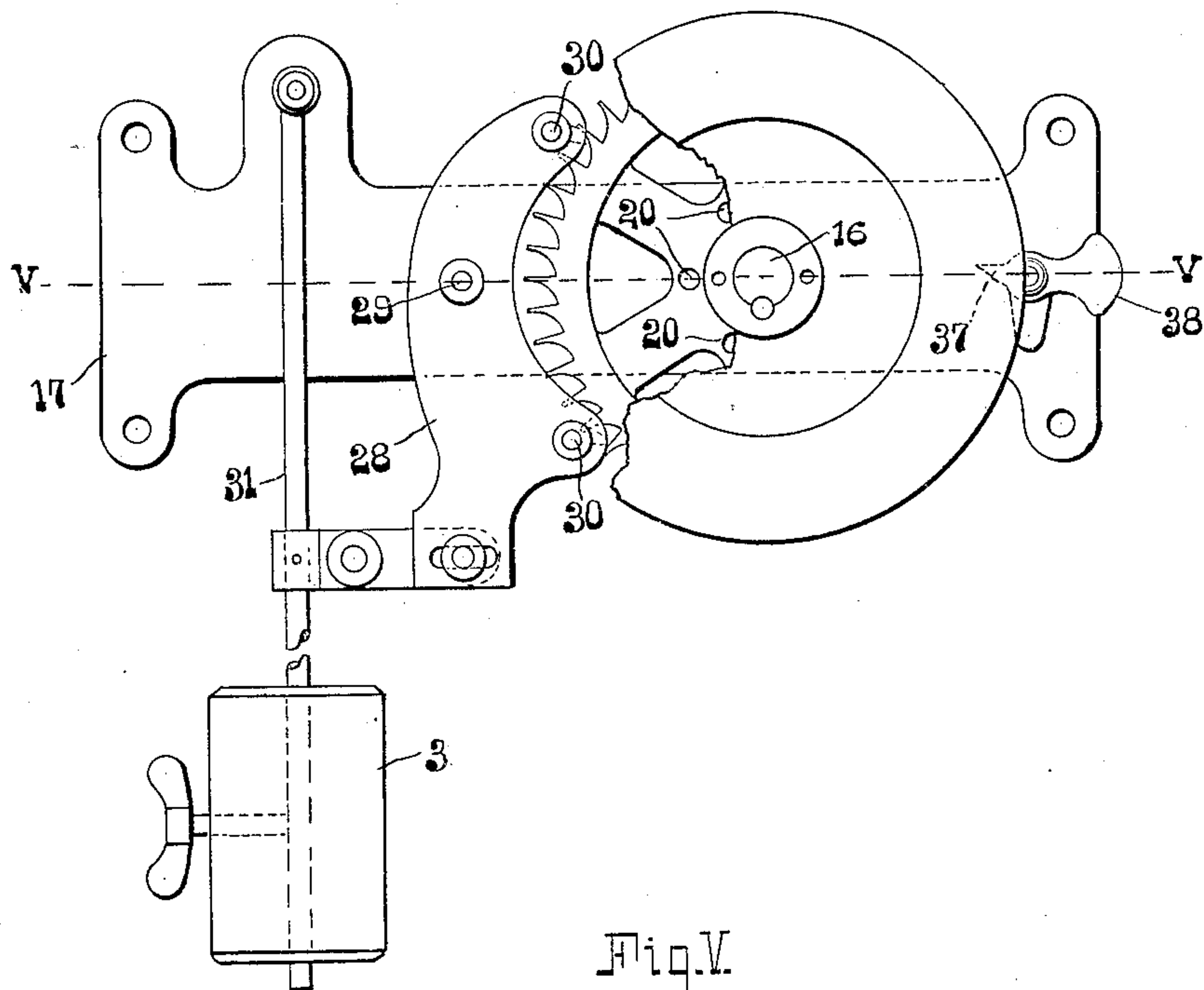
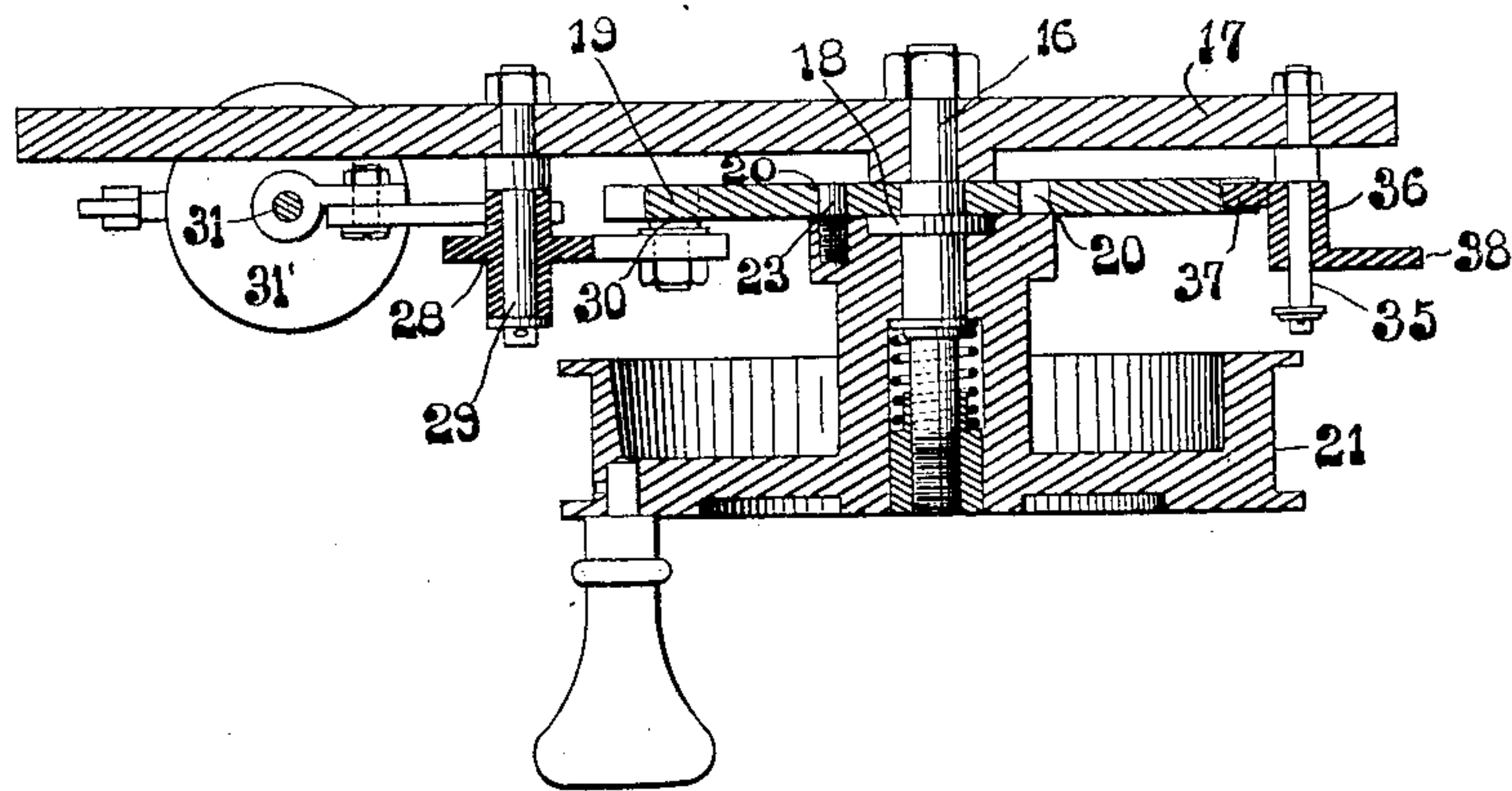


Fig. V.



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# UNITED STATES PATENT OFFICE.

SAMUEL BRENT WHINERY, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR TO  
THE PITTSBURGH BLUE PRINT COMPANY, OF PITTSBURG, PENNSYLVANIA,  
A CORPORATION OF PENNSYLVANIA.

## BLUE-PRINTING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 704,415, dated July 8, 1902.

Application filed February 5, 1902. Serial No. 92,759. (No model.)

*To all whom it may concern:*

Be it known that I, SAMUEL BRENT WHINERY, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented or discovered new and useful Improvements in Blue-Printing Apparatus, of which the following is a specification.

In the accompanying drawings, which make part of this specification, Figure I is a perspective of my invention with the printing-cylinder in vertical section. Fig. II is a plan of the escapement mechanism. Fig. III is a vertical section on the line III III of Fig. II. Fig. IV is a side view of a modified form of escapement mechanism. Fig. V is a horizontal section on the line V V of Fig. IV.

It is the object of my invention to provide mechanism for making blue-prints or photographic reproductions by means of an arc-lamp. My invention relates more especially to the mechanism whereby the lamp may be lowered at variable speeds and then raised.

The rectangular frame 1 has journaled centrally through its opposite side a shaft 2, carrying at its front end with the frame a hand-wheel 3. Winding-drum 4 and escapement-wheel 5 are secured to the shaft 2 between the sides of the frame. The anchor 6, carrying pallets 7, oscillates on post 8, held fast in the back side piece of the frame. The pendulum 8', having adjustable weight 8<sup>2</sup>, swings from pivot 9 and is adjustably connected to the anchor by the pin-and-slot connection 10 shown, the adjustment being held secure by set-nut 11. The forward end of post has a washer 12, between which and the anchor is an expansion-spring 13, tending to keep the pallets in engagement with the escapement-teeth. When it is desired to wind up the drum, the anchor is pulled forward against the spring by means of the button 14 and cord 15 till the pallets are free from the wheel 5.

In the construction of my invention illustrated in Figs. IV and V the shaft 16 is mounted on a plate 17. The shaft has a shoulder 18, between which and the plate is mounted the escapement-wheel 19, provided with an annular series of holes 20. The winding-drum 21 has a rearwardly-extending hub

22, in which is screwed a pin 23, fitting in any hole 20 of the wheel 19. The winding-drum is bored axially from the front to form a hole 24, somewhat larger than the shaft 16. At the bottom of the hole 24 is a washer 25, and between the latter and a nut 26 on the shaft is an expansion-spring 27, which prevents the pin 23 from accidentally withdrawing from a hole 20. The anchor 28 is pivoted on post 29 and is provided with pallets 30. The pendulum 31, pivoted at 32, is provided with a fixed sleeve 33, connected adjustably to anchor 28 by the link 34 and with an adjustable weight 31'. When it is desired to wind the drum, it is pulled forward until the pin 23 is disengaged from the wheel 19, whereupon the drum may be freely turned without injury to or action on the anchor. On a pin 35 is pivoted a catch 36, provided with a tooth 37 to interlock with the teeth on the wheel 19, the end opposite the tooth having a weight or finger-piece 38. When it is desired to stop the escapement, the catch 36 is slid on the pin 35 till tooth 37 enters between two teeth on the escapement-wheel, and when it is desired the catch is slid forwardly on the pin 35 till the wheel is freed from the catch. Suitably supported is a wall or other bracket 39, having arms 40 and 41, carrying sheave 42 at each end. Attached to the winding-drum 4 or 21 is a cord 46, which passes under sheave 43 and over sheaves 42 on arm 41 to lamp-holder 44. Another cord 47, having a weight 45, passes over the sheaves 42 on arm 40 and is also attached to the lamp-holder 44. By the term "cord" I would be understood as including any flexible device that will suspend the lamp, travel over the sheaves, and adapt itself to the winding-drum, as described. From the holder 44 an arc-lamp 48 is suspended. On base 49 is supported a drum or barrel 50, composed of annular support 51 and glass cylinder 52, supported on said support. A cover 53, impervious to light, surrounds the cylinder, between which and the cover sketches, drawings, or the like are held flat, any selected means being employed for holding the cover about the cylinder. The sketches or drawings are indicated by dotted lines on the interior of the cylinder.



The operation is as follows: The sketches or drawings having been clamped around the cylinder, the arc-lamp is connected with a current of electricity and the escapement mechanism started. The lamp is gradually lowered into the cylinder at the proper rate to properly make the prints. As soon as the printing is finished the current of electricity is cut off and the winding-drum is then disconnected from the anchor or escapement wheel and turned to wind the cord 46 therein and to raise the lamp out of the barrel 50.

Having described my invention, what I claim is—

1. A printing-drum, a lamp, an escapement mechanism for lowering the lamp into the drum, and a catch for preventing the operation of the said mechanism.

2. A printing-drum, a lamp, a winding-drum, connections between the winding-drum and the lamp; an escapement mechanism for governing the speed of the winding-drum, said winding-drum and escapement being

separable to permit the free turning of the former.

3. A printing-frame, a lamp, a winding-drum, a pair of cords for suspending the lamp, an escapement mechanism for governing the travel of the lamp, and a weight, one of the cords being connected to the drum and the other, to the weight.

4. A printing-frame, a lamp, a winding-drum, a pair of cords for suspending the lamp, an escapement mechanism for governing the travel of the lamp, and a weight, the drum being separable from the escapement-wheel to permit the free turning of the former, one of the cords being connected to the drum and the other to the weight.

Signed at Pittsburg this 30th day of January, 1902.

SAMUEL BRENT WHINERY.

Witnesses:

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L. D. IAMS.