

No. 721,369.

PATENTED FEB. 24, 1903.

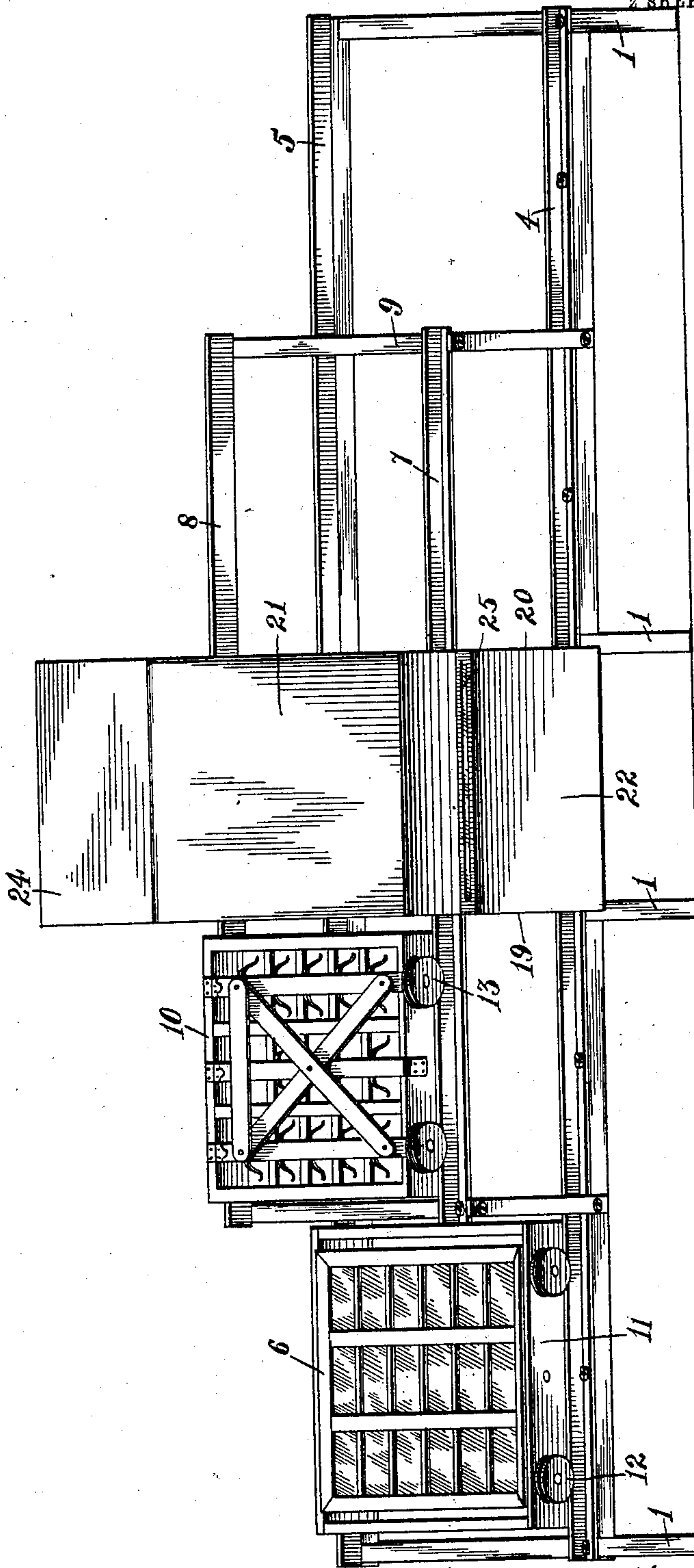
H. W. HERRMAN & C. J. EVERETT.  
PHOTOGRAPHIC PRINTING APPARATUS.

APPLICATION FILED NOV. 14, 1902.

NO MODEL.

2 SHEETS—SHEET 1.

Fig. 1.



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2 SHEETS—SHEET 2.

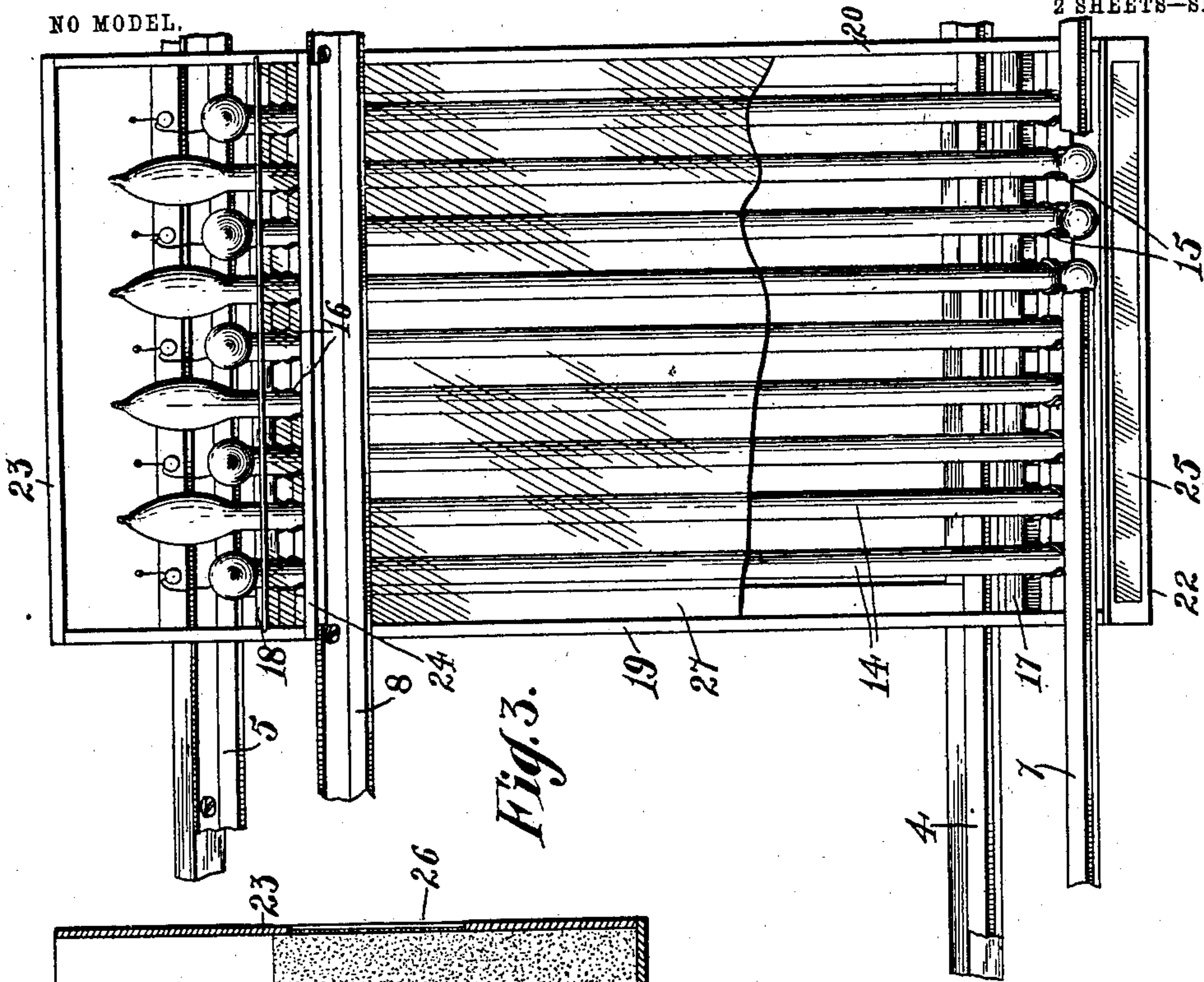


Fig. 3.

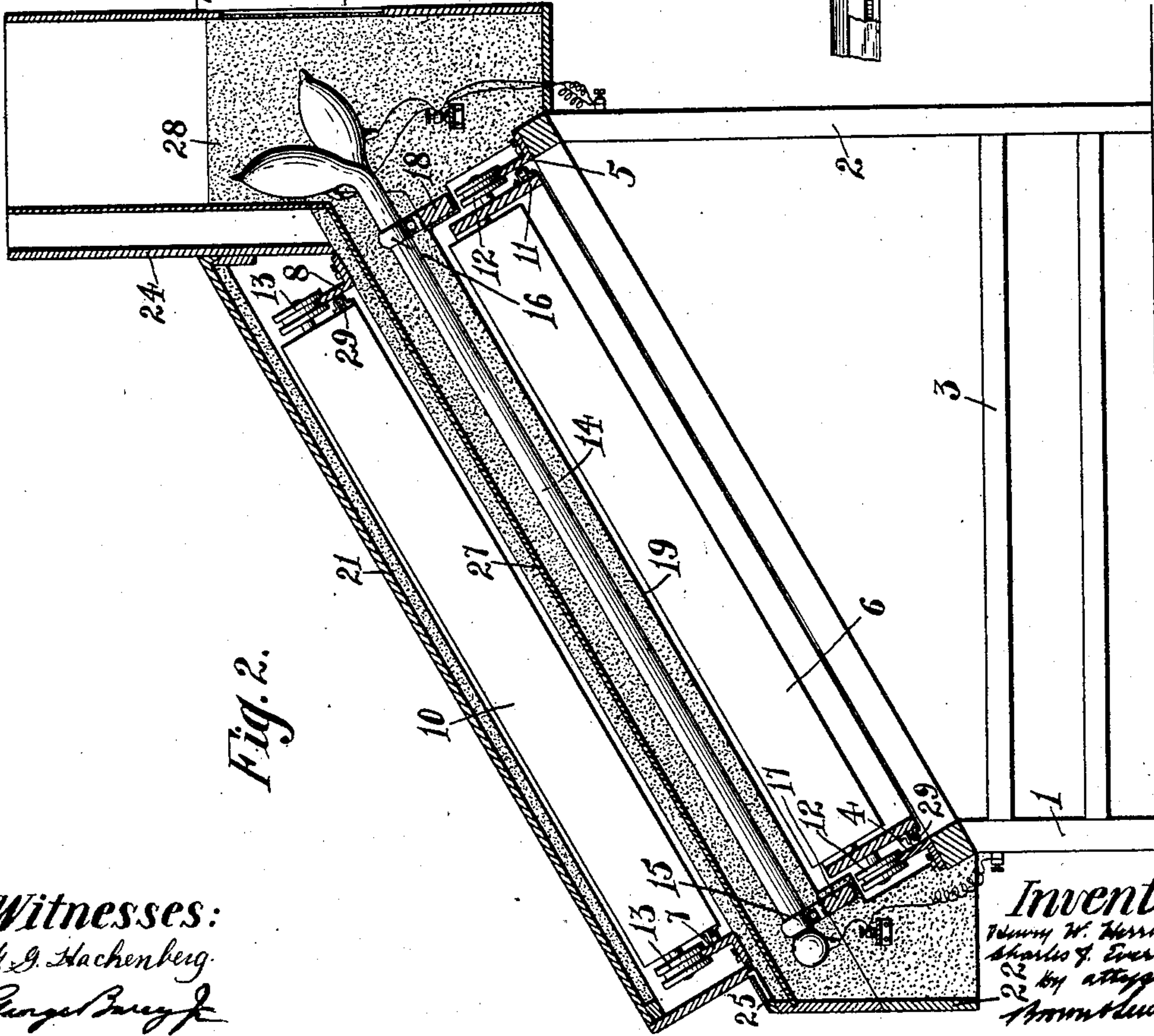


Fig. 2.

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# UNITED STATES PATENT OFFICE.

HENRY W. HERRMAN AND CHARLES J. EVERETT, OF NEW YORK, N. Y.

## PHOTOGRAPHIC-PRINTING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 721,369, dated February 24, 1903.

Application filed November 14, 1902. Serial No. 131,289. (No model.)

*To all whom it may concern:*

Be it known that we, HENRY W. HERRMAN and CHARLES J. EVERETT, citizens of the United States, and residents of the borough of Manhattan, in the city and State of New York, have invented a new and useful Improvement in Photographic-Printing Apparatus, of which the following is a specification.

This invention relates to an improvement in photographic-printing apparatus, and has more particularly for its object to provide an apparatus in which printing-frames containing the sheets to be printed may be inserted into position upon opposite sides of an artificial light.

A further object is to provide an apparatus of the above character in which large and consequently heavy printing-frames may be easily inserted and removed from their positions in front of the light.

A practical embodiment of this invention is represented in the accompanying drawings, in which—

Figure 1 represents the apparatus in front elevation with upper and lower printing-frames on their respective tracks ready to be inserted in positions within the casing containing the artificial light. Fig. 2 is an enlarged vertical section from front to rear through the apparatus, showing the upper and lower printing-frames within the casing exposed to the artificial light; and Fig. 3 is a partial top plan view of the apparatus, certain of the portions of the casing being removed to more clearly illustrate the locations of the parts within the same.

A series of short front posts 1 and a series of longer rear posts 2, suitably spaced apart by bars 3, support at their tops two longitudinal rails 4 and 5, forming a track along which the lower photographic-printing frame 6 is fitted to travel.

A pair of front and rear rails 7 and 8 are supported by a suitable framework 9 above the track-rails 4 and 5, which rails 7 and 8 form an upper track along which a photographic-printing frame 10, similar to the printing-frame 6, is fitted to travel. The lower track 4 5 extends beyond the ends of the upper track 7 8 a distance sufficient to permit the lower printing-frame to be moved along

into a plane beyond the ends of the said upper track 7 8.

The lower printing-frame 6 comprises the frame proper and an exterior frame 11, in which the frame proper is pivoted, so that the frame proper may be reversed on its axis to bring the back of the frame uppermost for the purpose of readily inserting and removing the sheets to be printed and the printed sheets without removing the frame from the track. This outer frame 11 is provided with traction-wheels 12, preferably two on each side, which are fitted to travel along the rails 4 and 5 for readily moving the lower printing-frame along the said track. The upper printing-frame 10 is provided with track-wheels 13, preferably two on each side, which are fitted to travel along the track-rails 7 and 8 of the upper track for easily moving the upper frame along the said track. The upper and lower frames are fitted to travel along their respective tracks with their transparent fronts facing each other.

An artificial light is located between the upper and lower tracks, so that the printing-frames 6 and 10 may be moved along their respective tracks into position upon the opposite sides of the said light. In the present instance the artificial light is shown as composed of a series of Crookes tubes 14, electrically connected to a circuit. (Not shown herein.) These tubes are supported near their front and rear ends in brackets 15 and 16, carried by longitudinal bars 17 and 18, carried by the casing, to be immediately described. The tubes 14 are located within a suitable casing, the side walls 19 and 20 of which are supported by the framework which supports the tracks. These side walls 19 and 20 of the casing are connected above the upper track 7 8 by a cover 21. A front wall 22 connects the front edges of the side walls 19 and 20 of the casing. A flue is formed at the rear end of the casing by a back wall 23 and a wall 24, connecting the side walls 19 and 20. A transparent window 25 is placed in the front wall 22 of the partition for the purpose of examining the front ends of the tubes, and a transparent window 26 is placed in the rear wall 23 for use in examining the rear ends of the said tubes. If desired, a sheet of colored



glass 27—such, for instance, as yellow glass—may be inserted between the tubes and the front of the frame. In the present instance a sheet of this colored glass is shown between the tubes and the upper printing-frame 10. To protect these several parts of the casing from becoming damaged by fire, because of the great heat of the tubes, the interior of the casing may be lined with asbestos 28 or other heat-resisting material. To intensify the light, the interior of the casing may be white-washed, if so desired. The side walls 19 and 20 of the casing are cut away sufficiently to permit the ready insertion and removal of the upper and lower printing-frames.

When it is desired to use the apparatus, the upper frame 10 is opened from the back and the sheets to be printed and the sheets of sensitized paper are inserted in the usual manner therein. The lower frame is turned on its pivoted connection to bring its back uppermost. The sheets to be printed and the sensitized paper are then inserted in the frame and locked therein in the usual manner. The frame 6 is then turned back to its normal position, with its transparent front uppermost. The two frames 6 and 10 are then rolled into the casing upon opposite sides of the artificial light and are left there a sufficient time to produce the printing result desired. The printing-frames may then be removed from the casing from either side. The upper frame is then opened to permit the removal of the cards and the printed material. The frame 6 is rolled along the lower track 4 5 until it is free of the upper track. The frame is then reversed to bring its back uppermost, so that the sheets and printed material may be readily removed therefrom. To guide the upper and lower printing-frames along the tracks and to take off some of the train from the traction-wheels, we may further provide the sides of the said trains with rollers or casters 29, which bear against the inner faces of the track-rails 4 5 7 8.

It will be seen that by the use of the apparatus hereinabove described we are enabled to rapidly and easily produce photographic printed copies and at the same time use very

large frames capable of printing a large number of copies at once, for the reason that the frames are so supported that they may be readily moved into and out of their exposed position with respect to the light. Furthermore, by arranging the apparatus so that prints may be taken upon opposite sides of the light we are enabled to double the ordinary capacity of an apparatus using a predetermined quantity of artificial light.

It is evident that changes may be made in the construction, form, and arrangement of the several parts without departing from the spirit and scope of the invention. Hence we do not wish to limit ourselves strictly to the structure herein set forth; but

What we claim is—

1. A printing apparatus comprising an artificial light, two tracks passing upon opposite sides of the light and printing-frames fitted to be moved along the tracks into and out of proximity to the light.

2. A printing apparatus comprising an artificial light, two tracks passing upon opposite sides of the light, one of said tracks being extended beyond the other and printing-frames fitted to be moved along the tracks into and out of proximity to the light.

3. A printing apparatus comprising a casing, an artificial light therein, a track extending through the casing, and a printing-frame fitted to be moved along the track into and out of the casing.

4. A printing apparatus comprising a casing, an artificial light therein, two tracks passing through the casing upon opposite sides of the light and printing-frames fitted to be moved along the tracks into and out of the casing.

In testimony that we claim the foregoing as our invention we have signed our names, in presence of two witnesses, this 10th day of November, 1902.

HENRY W. HERRMAN.  
CHARLES J. EVERETT.

Witnesses:

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FREDK. HAYNES.