

No. 739,535.

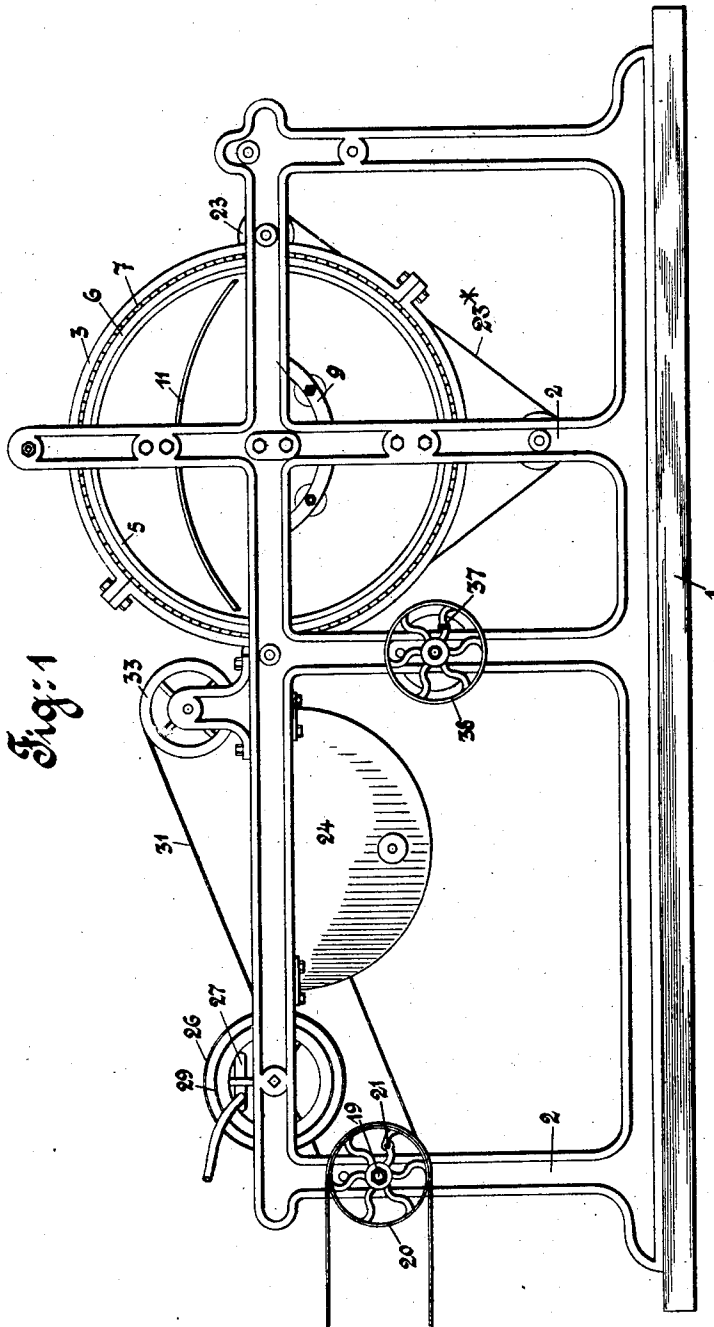
PATENTED SEPT. 22, 1903.

C. J. EVERETT.
PHOTOGRAPHIC PRINTING MACHINE.

APPLICATION FILED SEPT. 10, 1902.

NO MODEL.

4 SHEETS—SHEET 1.



Witnesses:
Max B. A. Doring.
George Barry Jr.

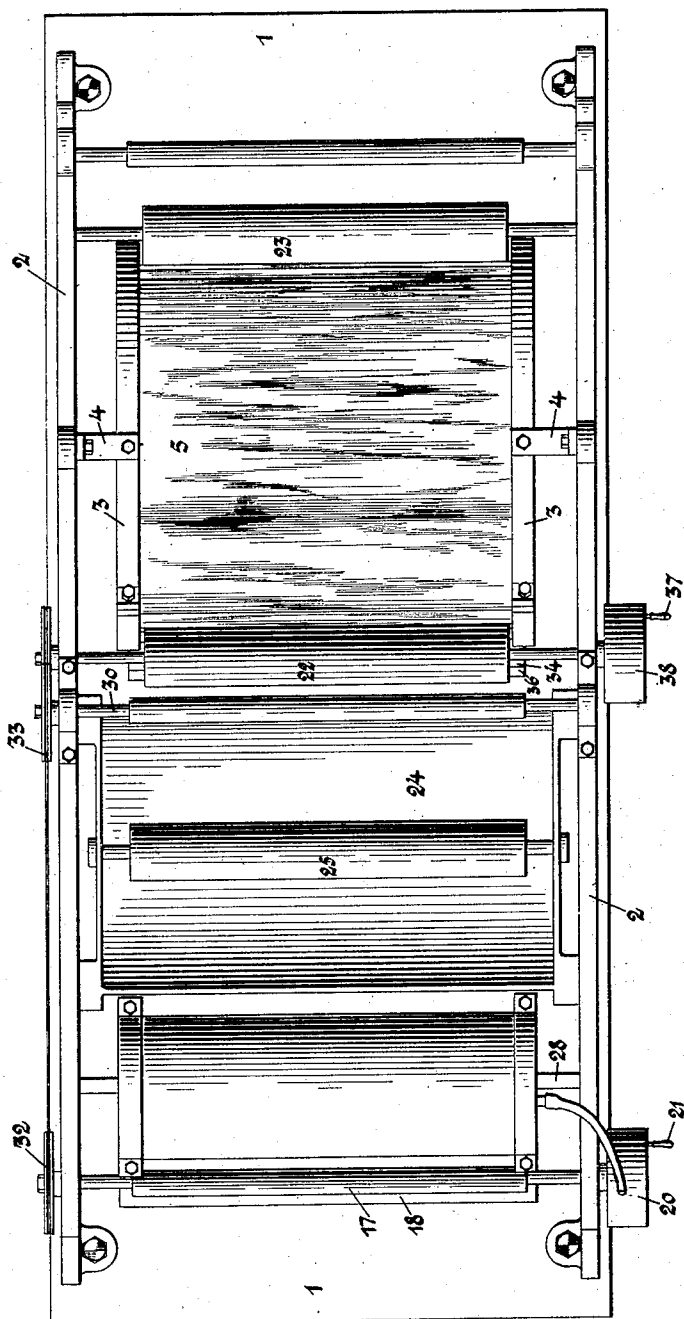
Inventor:
Charles J. Everett
By his Attorneys
Brown & Durand

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PHOTOGRAPHIC PRINTING MACHINE.
APPLICATION FILED SEPT. 10, 1902.

NO MODEL.

4 SHEETS—SHEET 2.

Fig: 2



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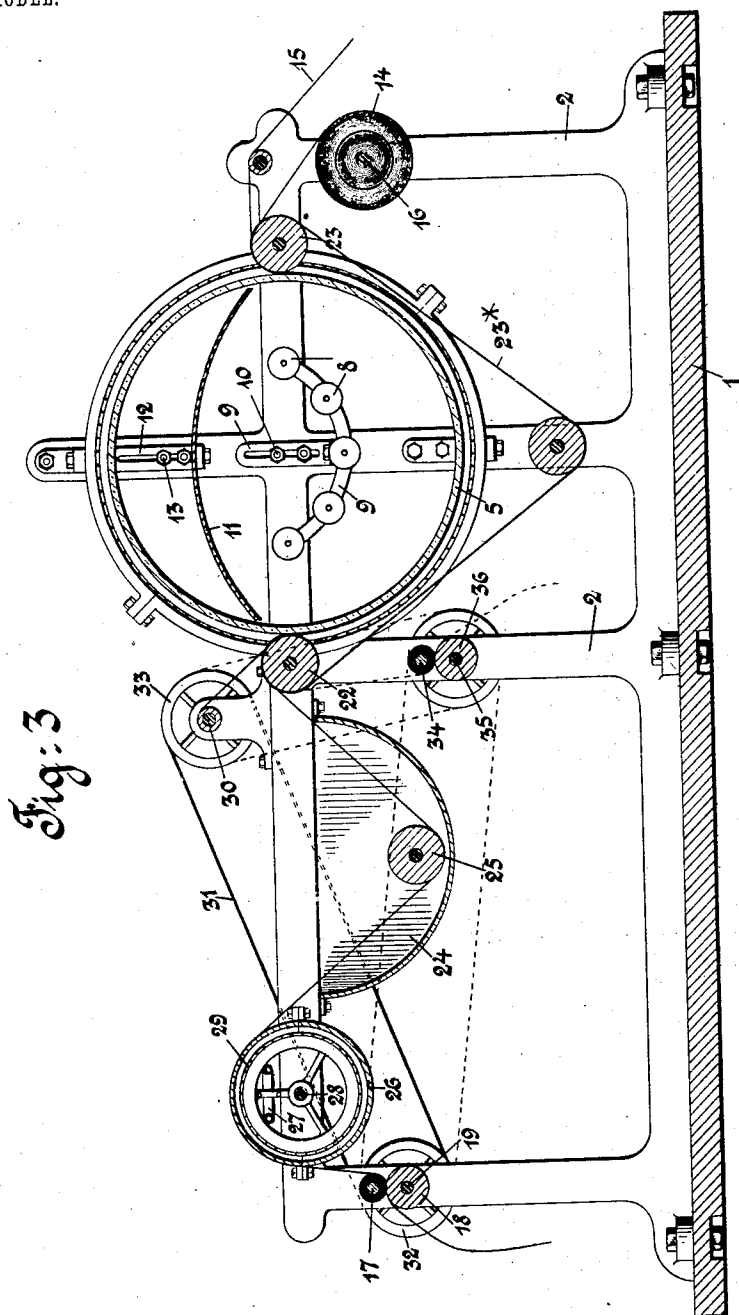
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APPLICATION FILED SEPT. 10, 1902.

4 SHEETS—SHEET 3.

NO MODEL.



Witnesses:
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Mount Leman

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APPLICATION FILED SEPT. 10, 1902.

NO MODEL.

4 SHEETS—SHEET 4.

Fig:5

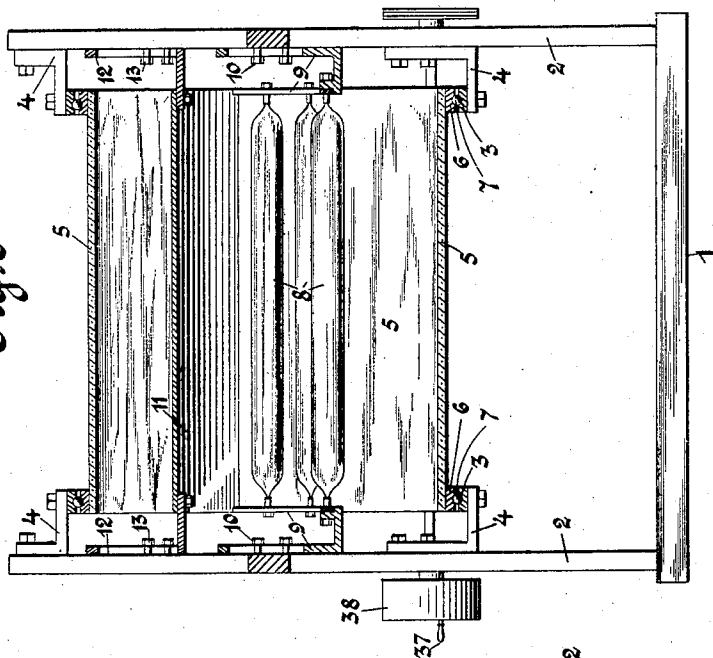
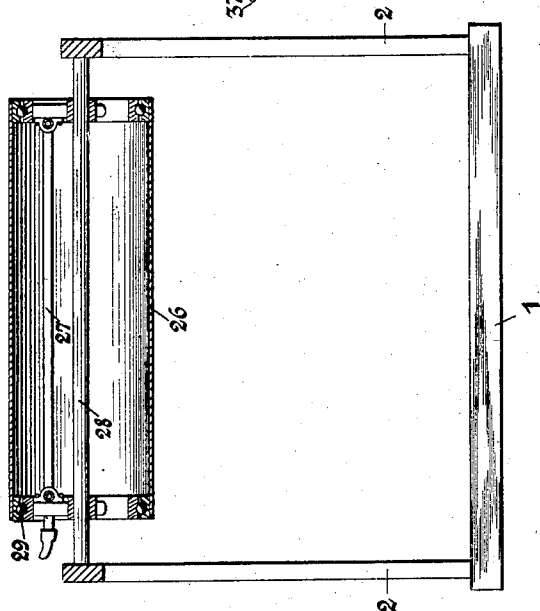


Fig:4



Witnesses:
Mar. P. A. Doring.
George Barry Jr.

Inventor:
Charles J. Everett
By *Two Attorneys* *Mount Edward*

UNITED STATES PATENT OFFICE.

CHARLES J. EVERETT, OF NEW YORK, N. Y.

PHOTOGRAPHIC-PRINTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 739,535, dated September 22, 1903.

Application filed September 10, 1902. Serial No. 122,827. (No model.)

To all whom it may concern:

Be it known that I, CHARLES J. EVERETT, a citizen of the United States, and a resident of the borough of Manhattan, in the city and State of New York, have invented a new and useful Improvement in Photographic-Printing Machines, of which the following is a specification.

My invention relates to an improvement in photographic-printing machines, and has more particularly for its object to provide a machine for the continuous printing of long sheets or strips of drawing—such, for instance, as drawings made on long strips of tracing-cloth.

A further object is to provide a printing-machine in which the photographic sheet and the interposed sheet of drawing is held in contact with the periphery of a continuous transparent rotary cylinder to which light is supplied while the photographic sheet and sheet of drawing is passed continuously by the light.

A still further object is to provide a machine of the above character in which the photographic sheet may be subjected to a developing-bath and then dried before being wound upon the take-up roll.

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

Figure 1 represents the photographic-printing machine in side elevation. Fig. 2 is a top plan view of the same. Fig. 3 is a vertical longitudinal section through the machine. Fig. 4 is a transverse vertical section taken in the plane of the line A A of Fig. 1, and Fig. 5 is a transverse vertical section taken in the plane of the line B B of Fig. 1.

The machine as a whole comprises a suitable base 1, which is surmounted by side frames 2. The side frames 2 are provided with divided rings 3, secured by brackets 4 thereto.

The rings 3 support the opposite ends of a continuous transparent rotary cylinder 5, in the present instance by providing the ends of the cylinder with bearing-rings 6, between which and the rings 3 are interposed anti-friction rollers 7. The transparent cylinder 6 will thus be mounted so as to be easily rotated in its bearings.

A light suitable for photographic printing is provided, to which the photographic sheet is exposed as it passes around the cylinder, which light in the present instance is represented as a plurality of electric lamps 8, supported within the cylinder by suitable brackets 9, adjustably secured by bolts 10 to the side frames 2 of the machine. Any number of these lamps 8 may be provided to suit different requirements.

A reflector for directing the light onto the photographic sheet may be utilized, which reflector in the present instance is denoted by 11 and is located within the cylinder and made vertically adjustable by means of brackets 12 and bolts 13, secured to the side frames 2 of the machine. This reflector may be adjusted so as to reflect the light from the lamps 8 through the portion of the transparent cylinder around the periphery of which the photographic sheet 14, with its interposed sheet of drawing 15, is caused to travel.

The photographic-sheet-supply roll is denoted by 16, and it is mounted in suitable bearings in the side frame 2 of the machine.

The photographic-sheet-take-up roll is denoted by 17, and it is also mounted in suitable bearings in the side frames 2 of the machine. This take-up roll 17 may be frictionally driven by means of a roll 18, having its shaft 19 mounted in side frames 2 of the machine, which shaft 19 may be provided with a pulley 20 for mechanically driving the same from a source of power. (Not shown.) This shaft 19 may also be provided with a crank-handle 21 for manually rotating the shaft, if so desired.

The photographic sheet and interposed sheet of drawing may be held in contact with a portion of the periphery of the transparent cylinder 5 by means of friction-rolls 22 23, mounted in suitable bearings in the side frames 2 of the machine, with their peripheries in contact with the periphery of the cylinder. These friction-rollers 22 23 may be so mounted as to cause the photographic sheet to contact with a greater or lesser amount of the periphery of the cylinder, as may be desired.

A carrier apron or belt 23* may be used for insuring the proper contact of the photographic sheet and interposed sheet of draw-

ing with the periphery of the cylinder, which carrier apron or belt is carried by the friction-rolls 22 23.

In the present instance I have shown the 5 rollers so situated that the photographic sheet is brought into contact with about one-half of the periphery of the said transparent cylinder.

A liquid-bath-containing vessel 24 may be 10 provided between the cylinder 5 and the take-up roll 17 for developing the print after it has been exposed to the light within the cylinder, the said vessel 24 having located therein a roll 25, around which the strip of sensitive material is caused to pass after it leaves 15 the friction-roll 22.

A heating-drum 26 is provided for drying the photographic sheet after it has been developed. This drum may be heated by steam- 20 pipes 27, carried by the drum-shaft 28, upon which the drum 26 has an antifriction-bearing 29 similar to the antifriction-bearing of the rotary transparent cylinder 5.

The machine may be provided with a take- 25 up roll 30 for the sheet of drawing where a continuous sheet is being printed, which roll 30 is mounted in suitable bearings in the side frames 2 of the machine above the friction-roll 22. This take-up roll 30 may be driven 30 simultaneously with the photographic-sheet-take-up roll 17 by means of a connecting-belt 31, passing around a pulley 32 on the take-up-roll-driving shaft 19 and a pulley 33, carried by the drawing-take-up roll 30. If it is 35 not desired to subject the photographic sheet to its developing-bath, the sheet may be fed from the roll 22 into engagement with an auxiliary take-up roll 34, mounted in suitable bearings in the side frame 2 of the machine 40 below the friction-roll 22. This auxiliary take-up roll 34 may be driven by means of a friction driving-roll carried by a shaft 36, mounted in suitable bearings in the side frames 2 of the machine, which shaft is provided with a suitable crank-handle 37 for 45 taking up the photographic sheet manually or a pulley 38 for taking up the photographic sheet mechanically, as may be desired.

It will be seen that the machine as above 50 described is not only applicable for continuously printing long sheets of drawings, but is also applicable for printing sheets of various sizes, for the reason that the sheets may be fed continuously between the periphery 55 of the transparent cylinder and the photographic sheet. Furthermore, the intensity of the light exposure and the duration of the same may be accurately adjusted, so as to insure the most perfect results in the printing 60 process.

In using the term "sheet of drawing" it is to be understood that I contemplate the use

of any sheets upon which matter is placed which is capable of being printed. It is also 65 evident that changes might be resorted to in the construction, form, and arrangement of the several parts without departing from the spirit and scope of my invention. Hence I do not wish to limit myself strictly to the structure herein set forth; but 70

What I claim is—

1. A photographic-printing machine comprising a rotary transparent cylinder, a stationary source of light located permanently 75 therein, and means for passing a photographic sheet and an interposed sheet of drawing by the source of light into and out of contact with the periphery of the cylinder.

2. A photographic-printing machine comprising a rotary transparent cylinder, a stationary source of light located permanently 80 therein, a reflector for directing the light-rays through a predetermined portion of the cylinder and means for passing a photographic sheet and interposed sheet of drawing by the 85 source of light into and out of contact with the periphery of the cylinder.

3. A photographic-printing machine comprising a rotary transparent cylinder, a stationary source of light located permanently 90 therein, means for passing a photographic sheet and interposed sheet of drawing by the source of light into and out of contact with the periphery of the cylinder and a carrier 95 apron or belt for temporarily holding the photographic sheet and interposed sheet of drawing in contact with the cylinder.

4. A photographic-printing machine comprising a rotary transparent cylinder, a source of light therefor, a photographic-sheet-sup- 100 ply roll, a take-up roll therefor, means for holding the photographic sheet and its interposed sheet of drawing in contact with the periphery of the cylinder and a developing-bath for the photographic sheet intermediate 105 the cylinder and take-up roll.

5. A photographic-printing machine comprising a rotary transparent cylinder, a source of light therefor, a photographic-sheet-sup- 110 ply roll, a take-up roll therefor, means for holding the photographic sheet and interposed sheet of drawing in contact with the cylinder, a liquid bath for the photographic sheet and a drying-roll for the sheet located 115 between the said cylinder and take-up roll.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 5th day of September, 1902.

CHARLES J. EVERETT.

Witnesses:

FREDK. HAYNES,
C. S. SUNDGREN.