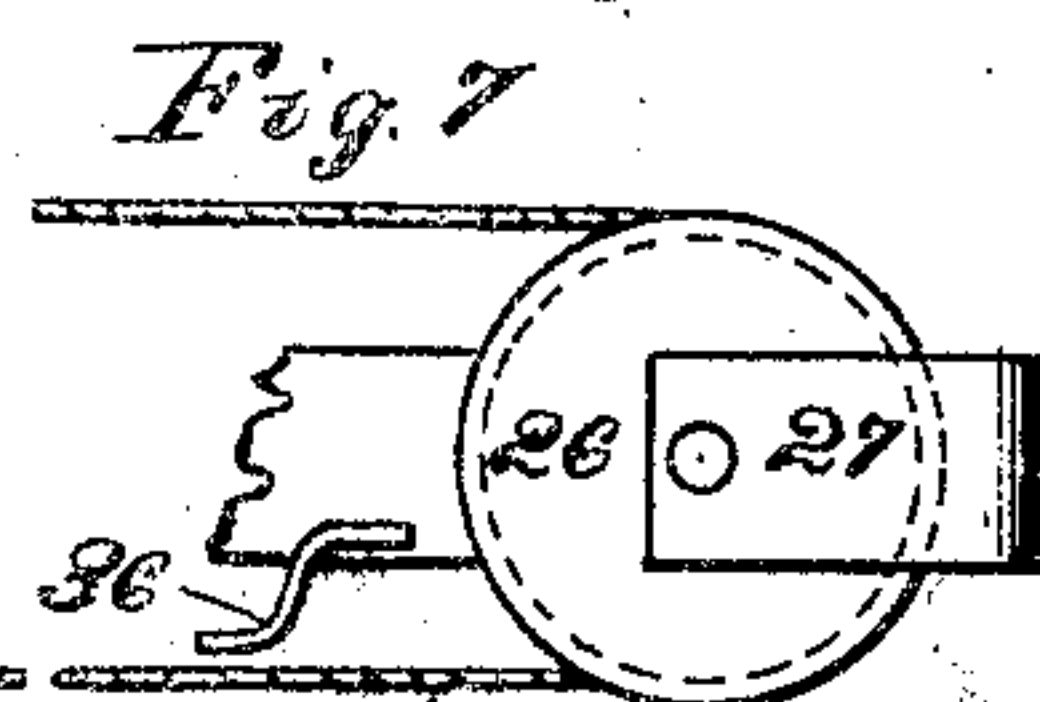
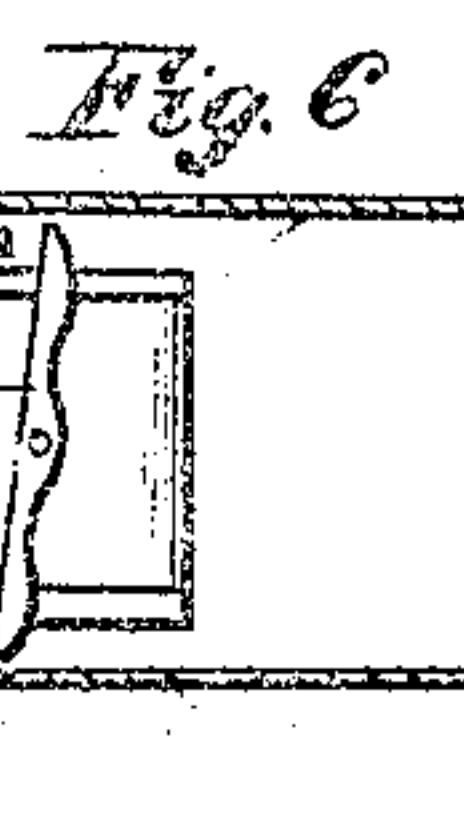
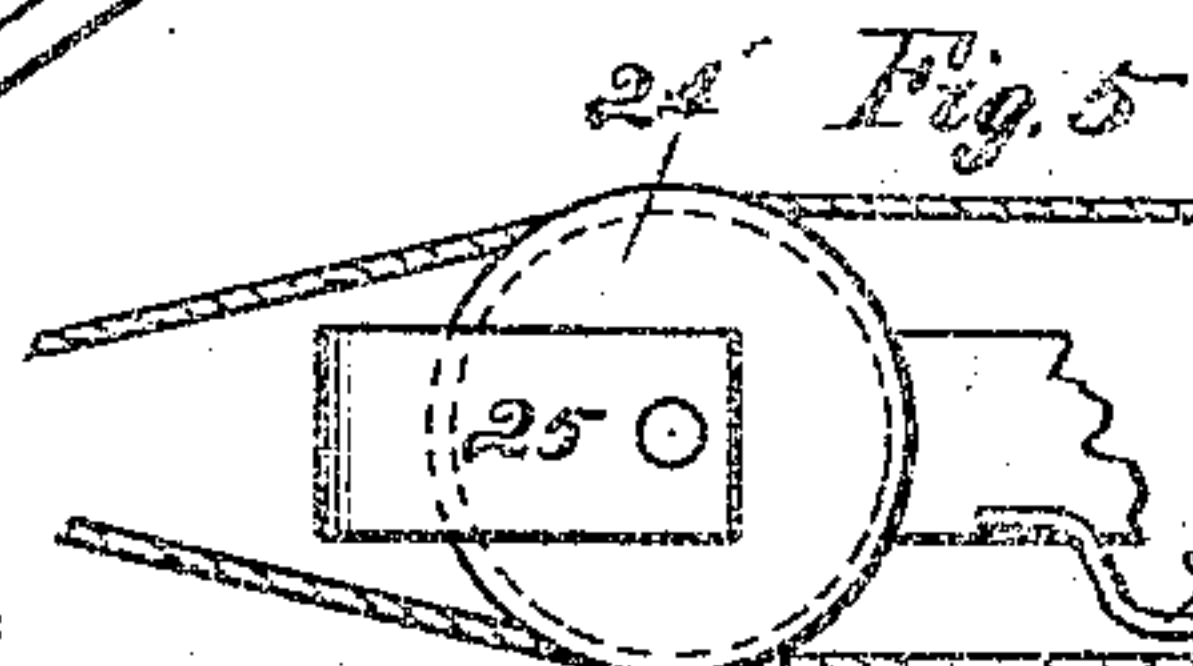
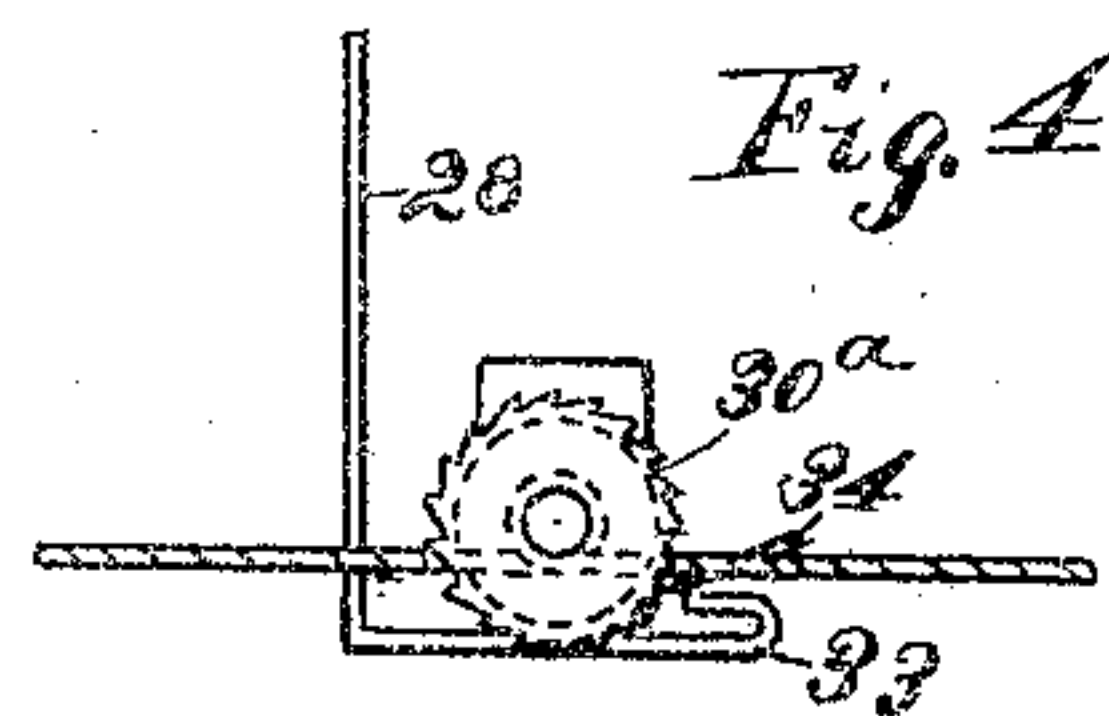
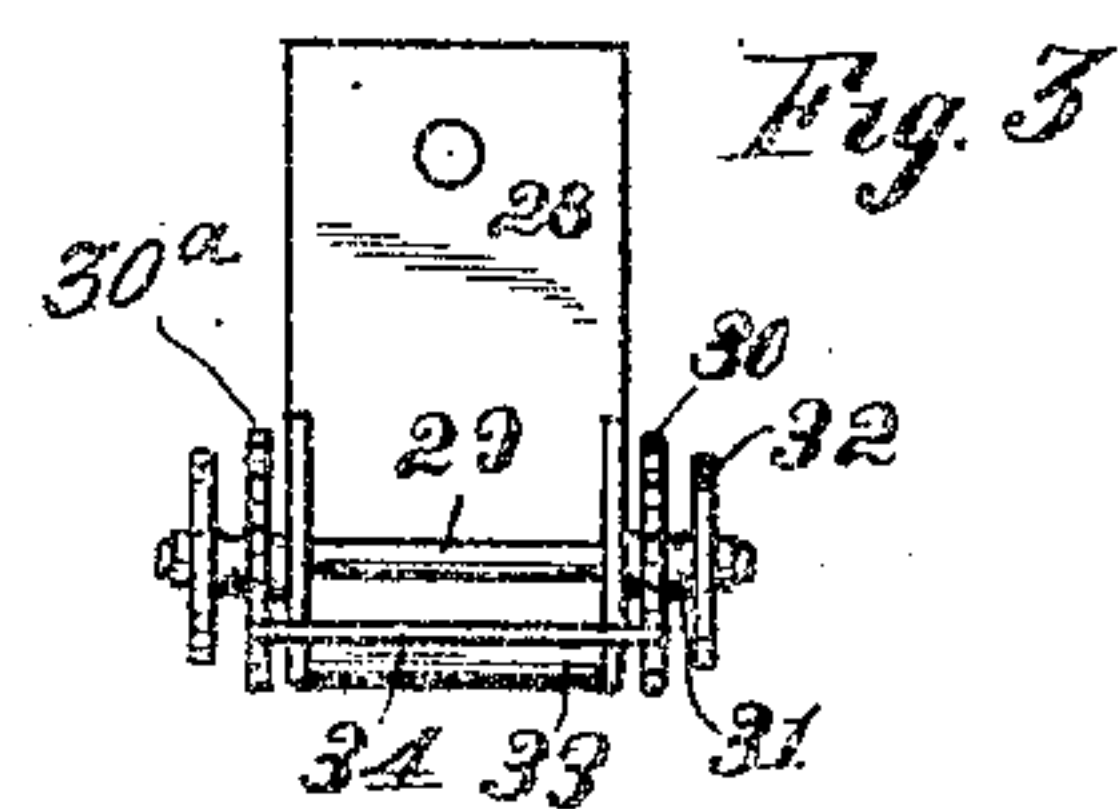
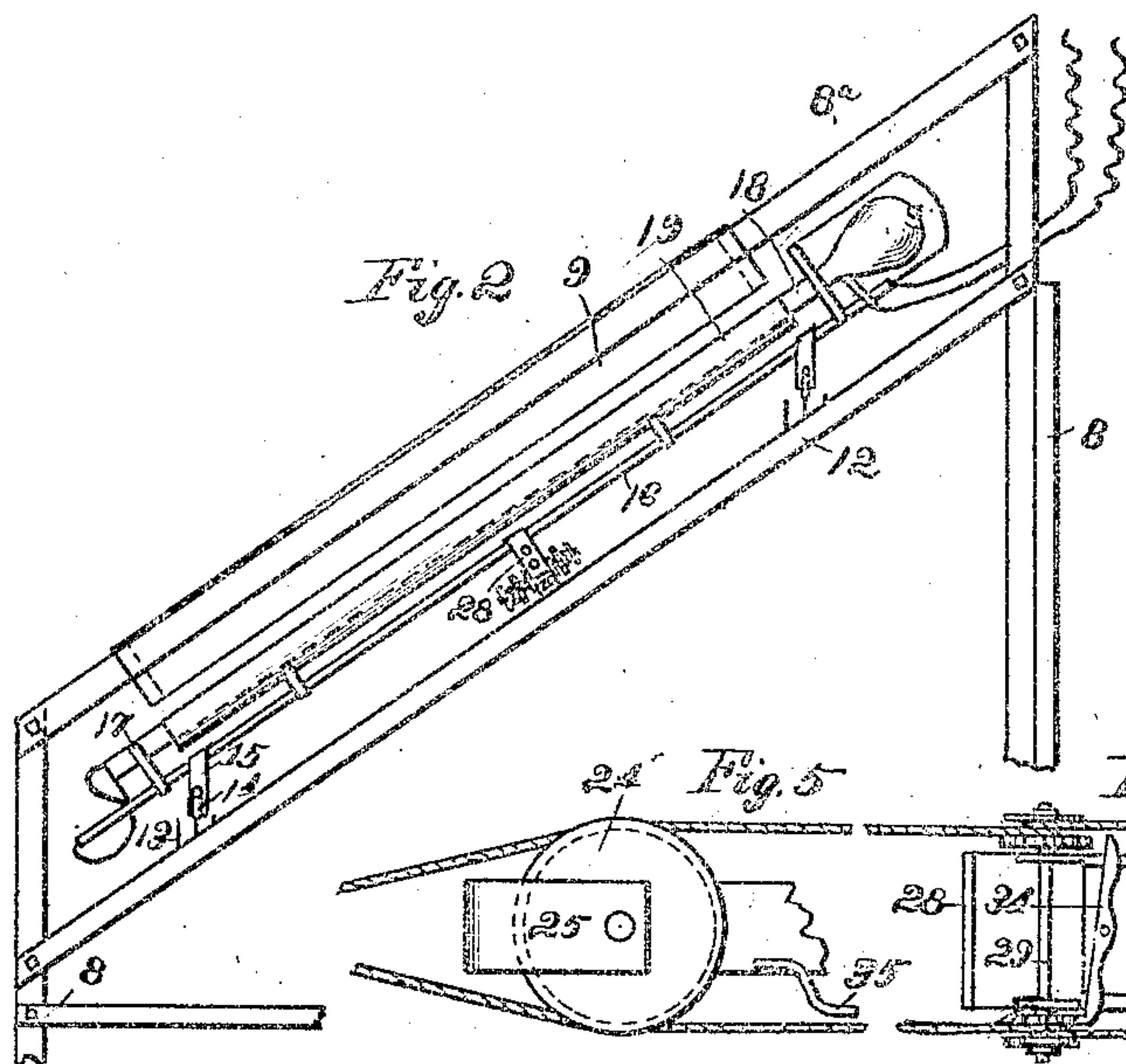
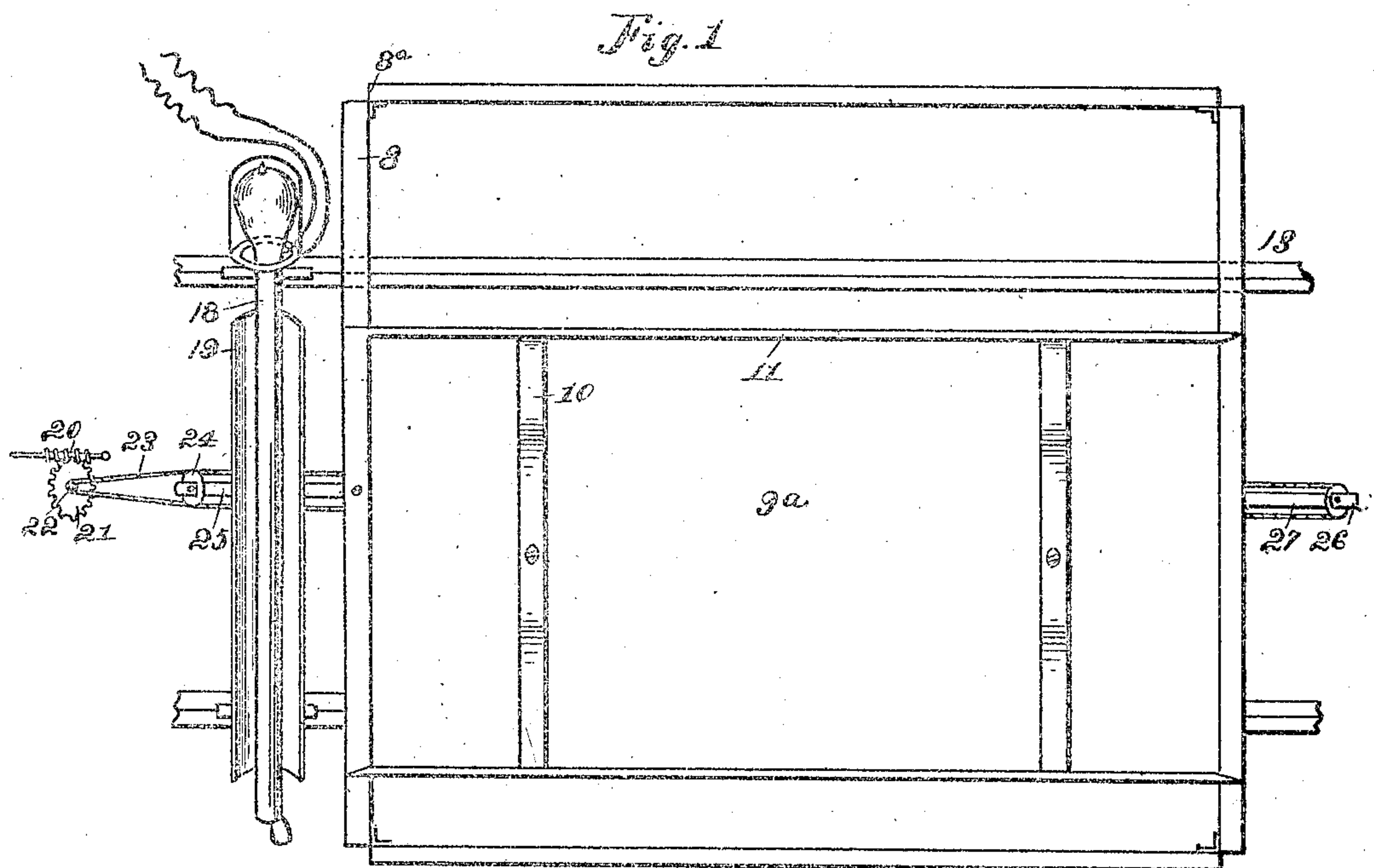


No. 826,632.

PATENTED JULY 24, 1906

J. E. WALKER.
BLUE PRINTING MACHINE.
APPLICATION FILED MAR. 6, 1905.



Witnesses:
A. M. Maxwell.
H. E. Sherman

Inventor,
John E. Walker
By Arthur B. Brown
Atty

UNITED STATES PATENT OFFICE.

JOHN E. WALKER, OF KANSAS CITY, MISSOURI.

BLUE-PRINTING MACHINE.

No. 826,683.

Specification of Letters Patent.

Patented July 24, 1906.

Application filed March 8, 1905. Serial No. 248,648.

To all whom it may concern:

Be it known that I, JOHN EDWARD WALKER, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented a new and useful Blue-Printing Machine, of which the following is a specification.

My invention relates to a blue-printing machine, and has for its object to provide a device of the class described in which a bar of light is made to travel beneath a glazed frame containing the sheet of drawings and the impression-paper in such a manner as to print the figures of the drawings on the impression-paper.

A further object is to provide mechanism for carrying the light backward and forward beneath the frame and means for automatically reversing the direction of the light's travel as it reaches the respective ends of the frame.

Further objects are to provide the improved details of structure which will presently be fully described, and pointed out in the claims, reference being had to the accompanying drawings, forming part of this specification, in which like reference-numerals refer to like parts throughout the several views, and in which—

Figure 1 is a top plan view of the machine. Fig. 2 is an end elevation of same. Fig. 3 is a detail view of the bracket carrying the lamp-moving and direction-changing gear. Fig. 4 is a side view of Fig. 3. Fig. 5 is a detail view of the guide-pulley at one end of the machine over which the light-moving belt travels, showing the stud for moving the direction-changing lever. Fig. 6 is a top plan view of Figs. 3 and 4. Fig. 7 is a detail view of the second pulley and stud.

Referring more in detail to the parts, 8 is the framework of the machine, the top platform 8^a of which slants downwardly toward the front. Depending from the platform 8^a is a blue-printing frame 9, the cover 9^a of which is provided with the customary flat springs 10, the edges of which are adapted to fit under the cross-pieces 11 on the platform 8^a of the machine to provide the necessary pressure of the printing-sheets against a glass which fits in the bottom of the frame. Rigidly secured to frame 8 at a suitable distance below and parallel with the platform 8^a is the supporting-platform 12, upon which are secured the tracks 13 upon the rails of which travel the flanged wheels 14, said wheels be-

ing journaled in yokes on the standards 15, which support a rod 16. Supported on rod 16 by standards 17 is a suitable lighting device 18, below which and also supported by rod 16 is the reflector 19, adapted to throw the light from the device 18 against the glass of the printing-frame. Adjacent to one end of frame 8 is a suitable motor (not shown) operating a worm 20, which meshes with a worm-wheel 21, on which is a small pulley 22, over which travels a continuous belt 23, said belt traveling over a guide-pulley 24, journaled on an arm 25 on frame 8 and around a pulley 26 on an arm 27 on the opposite end of the frame. Depending from rod 16 adjacent to belt 23 is a bracket 28, on which is journaled a shaft 29. Loosely mounted on shaft 29 at each side of the bracket are the ratchet-wheels 30 30^a, having outwardly-projecting drums 31 thereon, while on the outer side of drums 31 are the guard-flanges 32. Pivoted on a lip 33 on bracket 28 is a locking-lever 34, adapted to engage one or the other of the ratchet-wheels 30 30^a. Rigidly secured to the arms 25 and 27 are studs 35 and 36, adapted to engage one end of lever 34 as the bracket approaches the ends of the frame for the purpose of throwing said lever into and out of engagement with the respective ratchet-wheels.

In the operation of my device the parts are assembled as described and the belt wound once around the drums on each side of the bracket on rod 16. The power from the motor upon being applied to the worm-gear revolves the pulley upon which the continuous belt is mounted, carrying said belt in its travel beneath the frame and revolving the loose drums upon each side of bracket 28, upon which it is wound. When the operator is ready to print, the lights are applied to the lighting device and the lever 34 thrown into engagement with the ratchet-wheel 30, locking said wheel, which until this time has been freely revolved by belt 23, causing said belt to drag the bracket, rod, and light beneath the printing-frame. As the bracket approaches the pulley at the opposite end of the frame the stud 36 engages the free end of lever 34, rocking it out of engagement with ratchet-wheel 30 and into engagement with the wheel 30^a, binding the latter and causing the constantly-moving belt to drag the light back in the opposite direction until the stud 35 rocks the lever into engagement with the first ratchet, starting the light back in its

original direction, this operation continuing until the print has been taken.

While any suitable light device which will throw a constant bar of light on the frame may be employed, the one best suited to the work and which I prefer to use is that known as the "Hewitt mercury-vapor lamp."

Having thus described my invention, what I claim as new therein, and desire to secure by Letters Patent, is—

1. In a device of the class described, the combination with a supporting-frame, of a pair of superposed platforms, a printing-frame carried on one of said platforms, a lamp movably mounted on a second platform, and means for propelling the lamp along said platform.

2. In a device of the class described, the combination with a supporting-frame; of a pair of superposed platforms, a printing-frame carried on one of said platforms, a lamp movably mounted on the second platform, means for propelling said lamp backward and forward on said platform, and means for automatically changing the direction of the lamp's travel.

3. In a device of the class described, a framework and a blue-printing frame, a lamp movably mounted adjacent to said printing-frame, a moving belt adjacent to said printing-frame, and means in connection with said lamp for gripping said belt.

4. In a device of the class described, a framework and a blue-printing frame, a lamp movably mounted adjacent to said printing-frame, an endless belt traveling in opposite directions adjacent to said lamp, and means in connection with said lamp for gripping said belt.

5. In a device of the class described, a framework and a blue-printing frame, a lamp movably mounted adjacent to said printing-frame, a bracket in connection with said lamp, a belt traveling adjacent to said bracket, and means on said bracket for gripping said belt.

6. In a device of the class described, a framework and a blue-printing frame, a lamp movably mounted adjacent to said printing-

frame, a bracket in connection with said lamp, a shaft on said bracket, drums revolvably mounted on said shaft, a belt traveling adjacent to said printing-frame and wound on said drums, and means for preventing the rotation of said drums on said shaft, for the purpose set forth.

7. In a device of the class described, a framework and a blue-printing frame, a lamp movably mounted adjacent to said printing-frame, a bracket in connection with said lamp, a shaft on said bracket, drums revolvably mounted on said shaft having ratchet-wheels thereon, an endless belt traveling adjacent to said printing-frame and wound on each of said drums, and means on said bracket for engaging said ratchet-wheels.

8. In a device of the class described, a framework and a blue-printing frame, a lamp movably mounted adjacent to said printing-frame, a bracket in connection with said lamp, a shaft carried by said bracket, a drum having ratchet-wheels revolvably mounted on each end of said shaft, an endless belt traveling adjacent to said printing-frame, and wound on each of said drums, and a lever on said bracket adapted to separately engage each of said ratchet-wheels, for the purpose set forth.

9. In a device of the class described, a framework and a blue-printing frame, a lamp movably mounted adjacent to said printing-frame, a bracket in connection with said lamp, a shaft carried by said bracket, a drum having ratchet-wheels, revolvably mounted on each end of said shaft, an endless belt traveling adjacent to said printing-frame and wound on each of said drums, a lever on said bracket adapted to separately engage each of said ratchet-wheels, and a stud near each end of said framework adapted to engage and rock said lever, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JNO. E. WALKER.

Witnesses:

HOWARD F. TAYLOR,
WINFRED L. MILLER.