

(No Model.)

2 Sheets—Sheet 1.

G. H. TIETJEN.
APPARATUS FOR TRANSFERRING OR STENCILING UPON TRANSPARENT
OR OTHER MATERIAL.

No. 493,315.

Patented Mar. 14, 1893.

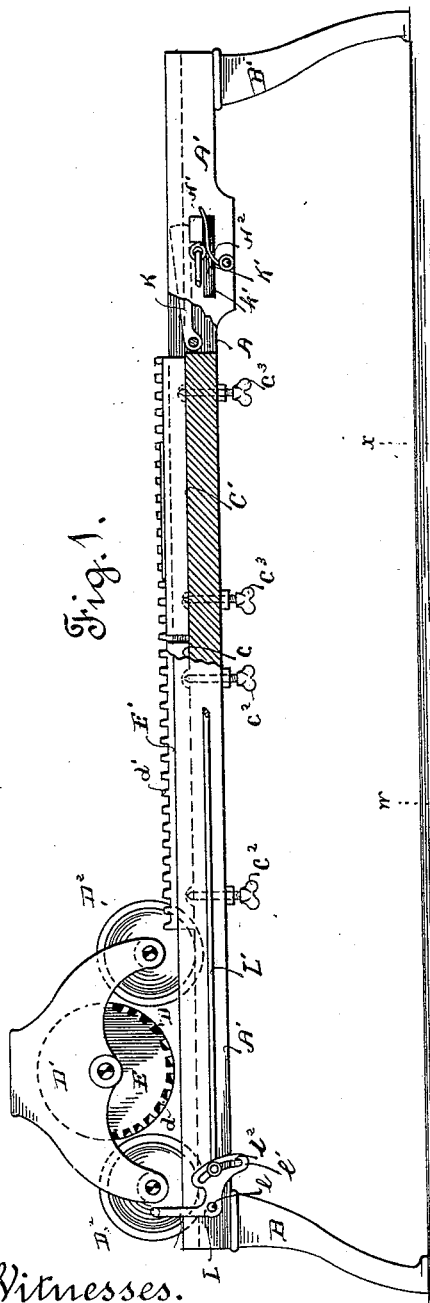


Fig. 1.

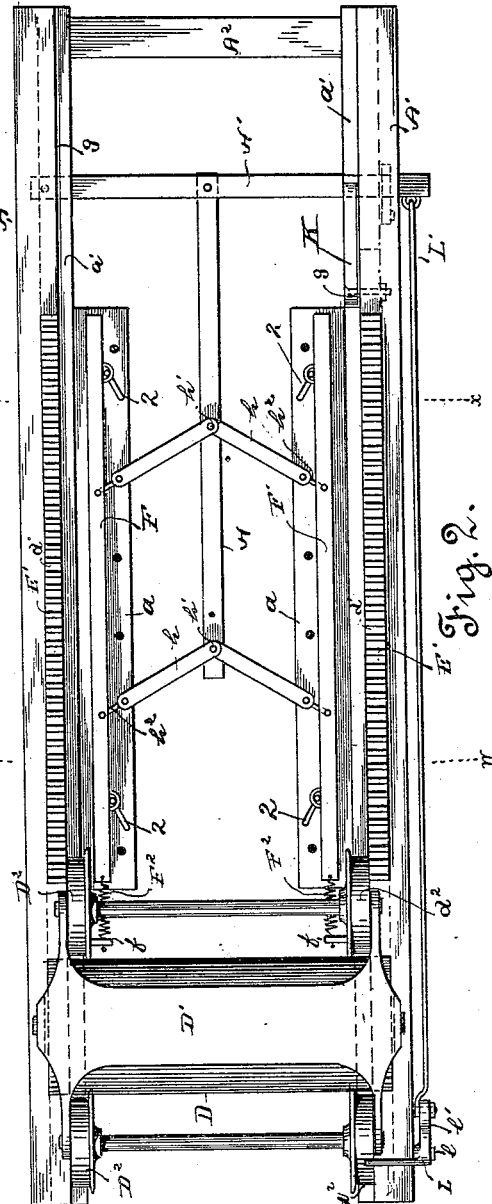


Fig. 2.

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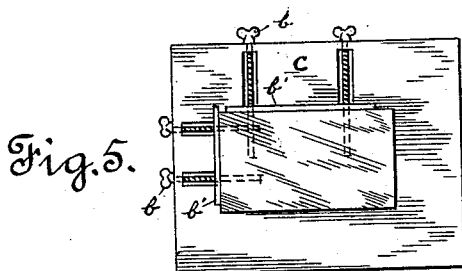
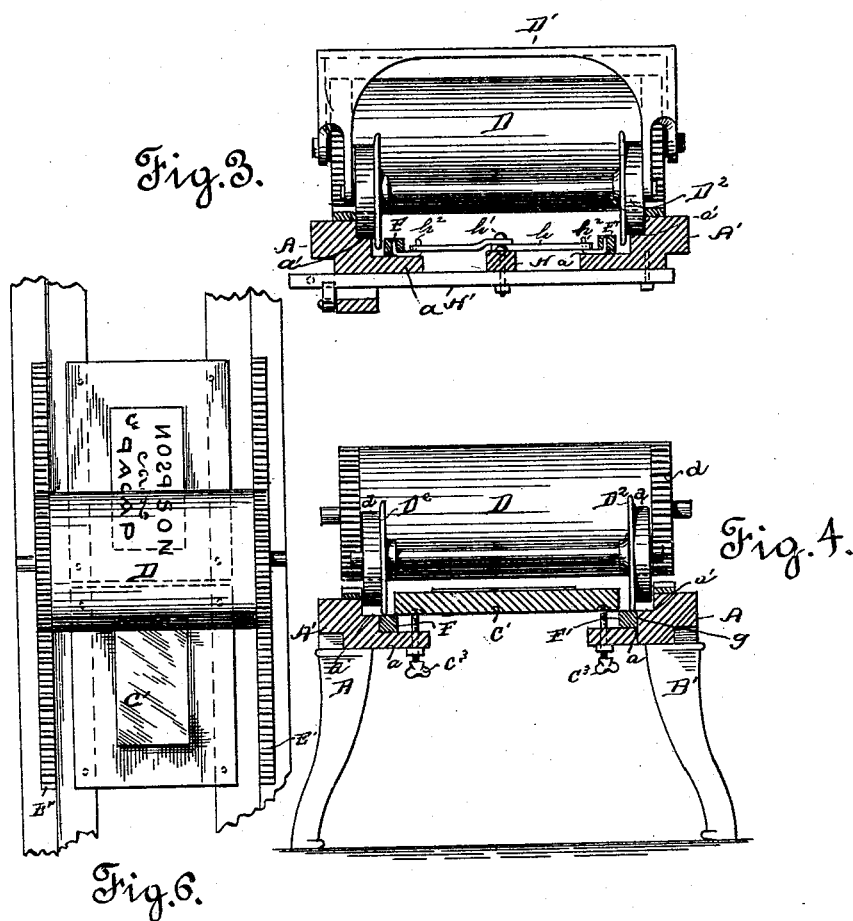
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Witnesses.
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UNITED STATES PATENT OFFICE.

GEORGE H. TIETJEN, OF SAN FRANCISCO, CALIFORNIA.

APPARATUS FOR TRANSFERRING OR STENCILING UPON TRANSPARENT OR OTHER MATERIAL.

SPECIFICATION forming part of Letters Patent No. 493,315, dated March 14, 1893.

Application filed May 11, 1892. Serial No. 432,592. (No model.)

To all whom it may concern:

Be it known that I, GEORGE H. TIETJEN, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Apparatus for Transferring or Stenciling Upon Transparent or other Material; and I do hereby declare the following to be a full, clear, and exact description of said invention, such as will enable others skilled in the art to which it most nearly appertains to make, use, and practice the same.

My invention has relation to an improved method for transferring or stenciling upon transparent or other material, as will be hereinafter set forth in the drawings, described and pointed out in the specification.

The object of my invention is to provide for the stenciling or printing upon glass or other material directly from a woodcut engraving, &c., of signs, advertisements, &c., for display purposes, which shall be simpler, less expensive, and more effectual than the mode now in use, which consists in applying the outline or cut desired to be displayed upon the glass by the use of photography.

Referring to the drawings forming a part of this application, wherein similar letters and numerals of reference are used to denote corresponding parts throughout the entire specification and several views—

Figure 1 is a side elevation of the machine; Fig. 2, a top plan thereof; Fig. 3, a cross-sectional view taken on lines *w-w*, Fig. 2; Fig. 4, a similar view taken on line *x-x*, Fig. 2; Fig. 5, a detail view showing one of the retaining plates; and Fig. 6, a broken top plan view showing transfer roll after having received impression from cut, and in position to transfer same upon retained glass.

The frame of my machine consists of longitudinal pieces *A, A'*, united by end or cross piece *A²* and mounted upon legs *B, B'*. By preference I form the side pieces *A, A'*, of iron and cast the same so as to be provided with inwardly projecting flange *a*, and trackway *a'*.

Between the side pieces of the frame I rigidly secure bed plates *C, C'*, which are held in place by means of supporting screws *C², C³*. These screws work through inwardly projecting flange *a*, and serve to raise or lower the bed plates as desired, or hold same rigidly

in position. These bed plates are located one in advance of the other, and are provided each with a series of adjustable set screws *b*, which work guide plates *b'*, in or out. Bed plate *C* serves to retain woodcut, engraving, or other matter from which an impression is to be made, which is placed against guide plates and firmly held in place by means of set screws, while bed plate *C'*, holds the glass plate upon which the transfer is to be made, which transfer plate is securely retained in place upon said bed plate by means of guide plates and set screws, in a manner similar to the wood-cut.

Over the frame and bed plates rotates transfer roll *D*, which by preference I form of glutinous composition, although any material having an elastic surface will answer the purpose. This roll is mounted within frame or carriage *D'*, which is supported by wheels *D²*. These wheels travel upon trackway *a'*, as shown in Figs. 2 and 3. The end plates *E* of roll *D*, I make of iron and provide with peripheral teeth *d*, which engage with teeth *d'*, of rack plates or bars *E'*, secured to longitudinal pieces *A, A'* of the frame, consequently as frame or carriage *D'*, travels over frame, the geared ends of roll *D*, mesh with teeth of rack plates and cause rotation of the said roll.

Any suitable machinery may be employed for the purpose of causing carriage or frame to travel forward and backward upon the frame. As the carriage moves forward impression roll is rotated by means of geared end meshing with rack plates before described, and inasmuch as same rotates over woodcut or engraving secured to bed plate *C*, it is obvious that the impression thereof is formed upon the elastic surface of the roll, as shown in Fig. 6, and as the carriage continues its forward travel the impression upon surface of roll is transferred to glass plate secured to bed *C'*. The woodcut or engraving is inked each time the roll passes thereover, which inking may be done by hand, or a self inking attachment may be secured to the carriage frame directly in front of the impression roll. As before stated the bed plates may be raised or lowered by means of screw bolts *c², c³*, in order to allow for varying the thickness of cuts and glass. However, while I allow for vertical adjustment, it is absolutely necessary that the plates be held rigid when se-

cured, inasmuch as if allowed lateral movement a clear, clean well defined transfer cannot be made upon the glass, but there will be produced a blurred impression.

5 As the carriage or frame is returned or moved backward, it is necessary that the impression roll be raised so as to run free of contact with bed plates. For this purpose I secure between the longitudinal pieces A, A',
10 movable carriage track, which consists of track pieces F, F', which rest and move upon projecting flanges *a*, and connect same to ears or lugs *f*, by means of springs F². The track pieces are secured to center rod H, by
15 inclined arms *h*, which are movably fastened to rod H, and track pieces by means of pins *h'*, and links *h*². The track pieces are also connected with the flanges *a* by means of the inwardly and rearwardly projecting links 2
20 which are pivoted to the track pieces and the flanges as shown in Fig. 2. Rod H is mortised or otherwise fastened to cross rod or beam H', which works in angle slots formed in frame pieces A, A', and is upheld therein
25 by means of spring H², secured to said pieces. To the inner face of longitudinal frame pieces is pivotally secured beyond end of bed plate C', trip block K. As the carriage passes beyond bed plate C', the wheels thereof run
30 upon said block and depress the same, and inasmuch as said blocks bear or rest upon cross piece H', it is obvious that same is moved downward until free of contact with shoulder of angle slot, when the resiliency of springs
35 F², draws track pieces backward. As same are moved upon flanges *a*, rod H, is likewise moved, through the medium of inclined arms, and as said rod moves, arms *h*, gradually assume a straight position, which causes track
40 pieces to move inward until they bear against wall *g*, of flange *a*, shown fully in Fig. 4. The springs F² tend to draw the track pieces directly rearward but this action puts a strain on the links 2 which causes them to swing out-
45 ward and force the said track pieces against the wall *g* as will be readily understood. As rod H is carried rearward, cross piece H' moves within elongated portion *h'* of angle slot K'. As the carriage is then returned
50 flange *d*², of wheels D², run upon track pieces F, F', Fig. 4, and this raises the roll D, free of contact with bed plates. When the carriage has traveled its full return distance the frame thereof contacts with arm L, pivoted
55 to frame by pin *l*, and throws the same downward. Inasmuch as this lever is connected to cross piece H', by rod L', it is apparent that as the lever is thrown, arm *l'*, thereof is raised, and as rod L', works in slot *l*², formed therein,
60 the connecting rod will be forced outward. This outward movement carries the cross piece H', therewith until it has been moved from within elongated portion of angle slot, when pressure of spring H², forces same up-
65 ward, as shown in Fig. 1. As cross piece is moved, rod H, is carried thereby, and movement thereof causes connecting arms to as-

sume an inclined position, which serves to draw the track pieces inward, Figs. 2 and 3, so as to allow of the transfer roll upon out-
70 ward travel of the carriage to contact with cut or engraving secured to bed plate C, and with surface of glass plate secured to bed plate C. It will thus be observed that I provide an automatic shifting trackway for rais-
75 ing and lowering the carriage frame.

I am aware that minor changes may be made in the arrangement of parts and details of construction herein shown and described without departing from the nature and scope
80 of my invention.

Having thus described my invention, what I claim as new, and desire to secure protection in by Letters Patent of the United States, is—

1. The combination with the machine frame
85 provided with fixed trackway, carriage frame carrying transfer roll working upon said trackway, bed plates retaining cut and plate to be transferred upon in order to allow im-
90 pression to be received upon roll and transferred to impression plate during rotation of roll thereover with forward movement of carriage upon fixed trackway, movable track-
95 way secured to the frame, and of mechanism for automatically throwing said trackway in or out in order to raise and lower traveling carriage.

2. In a transferring apparatus, the combina-
100 tion with the carriage carrying impression roll, of mechanism for raising same, upon return travel upon the frame, which consists of spring actuated track pieces, links connecting said track pieces with the frame, center rod secured thereto by movable arms,
105 spring actuated cross piece attached to center rod and secured within frame, pivotal depression block for operating said cross piece by weight of carriage traveling thereover for purpose of throwing movable track inward in
110 order to raise impression roll while carriage travels thereover, and of trip lever secured to cross piece by connecting rod for drawing movable track outward in order to lower carriage upon return travel thereof, as and for
115 the purpose set forth.

3. The combination with the frame having longitudinal track-ways, and the carriage
120 mounted thereon, of movable track pieces, mechanism for automatically throwing said track pieces under the carriage at the end of its forward movement, a trip lever at the rear of the frame adapted to be depressed by the carriage at the end of its rearward move-
125 ment, and connections between the said trip lever and the movable track pieces whereby the depression of the lever will move said track pieces from the path of the carriages.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE H. TIETJEN.

Witnesses:

W. H. COBB,
N. A. ACKER.