(No Model.) 3 Sheets—Sheet 1.

E. H. BROWN.

TINTOGRAPH.

No. 324,648. Patented Aug. 18, 1885.

Fig. 1.

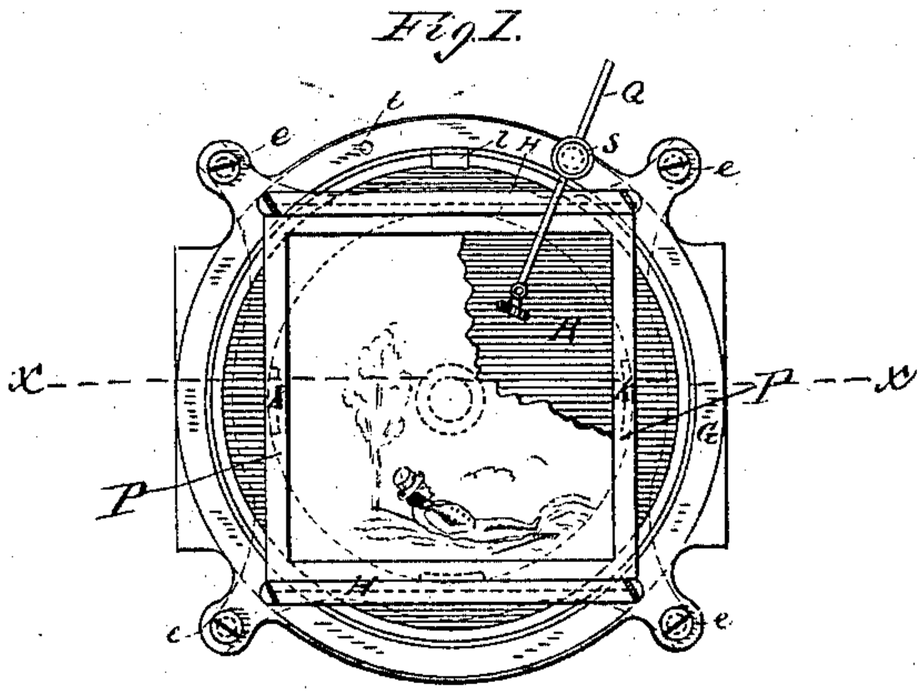


Fig. 4.

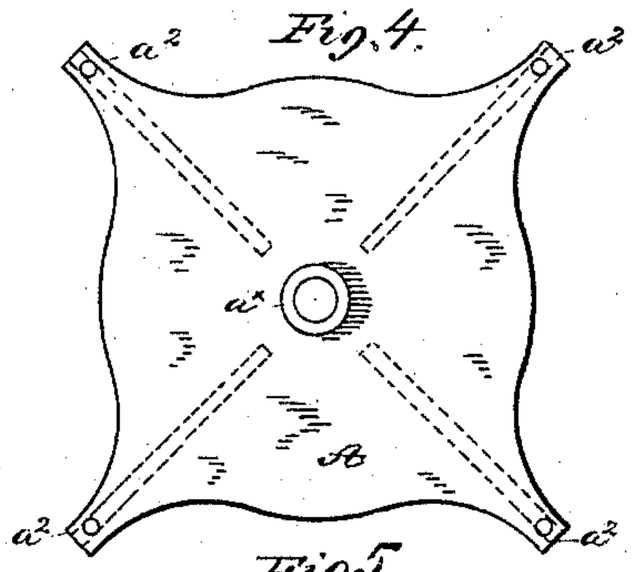


Fig. 5.

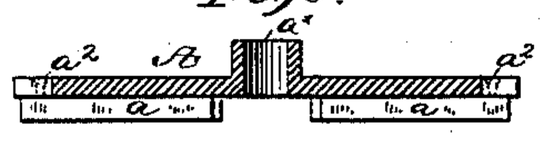


Fig. 2.

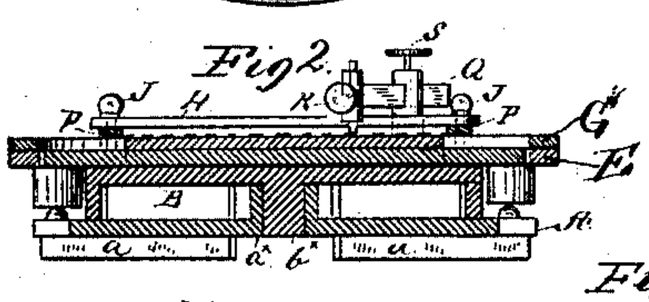


Fig. 6.

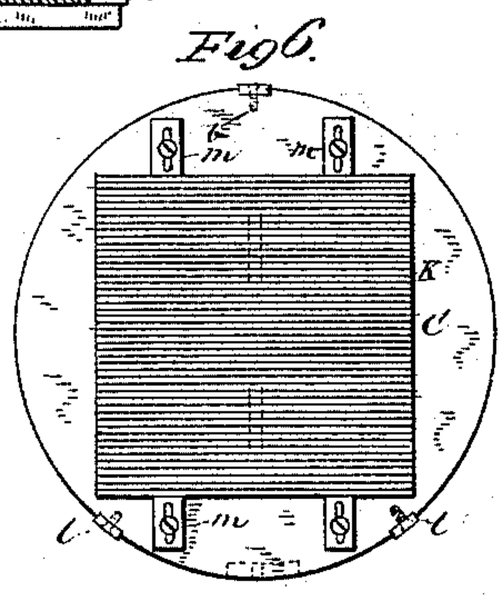


Fig. 13.

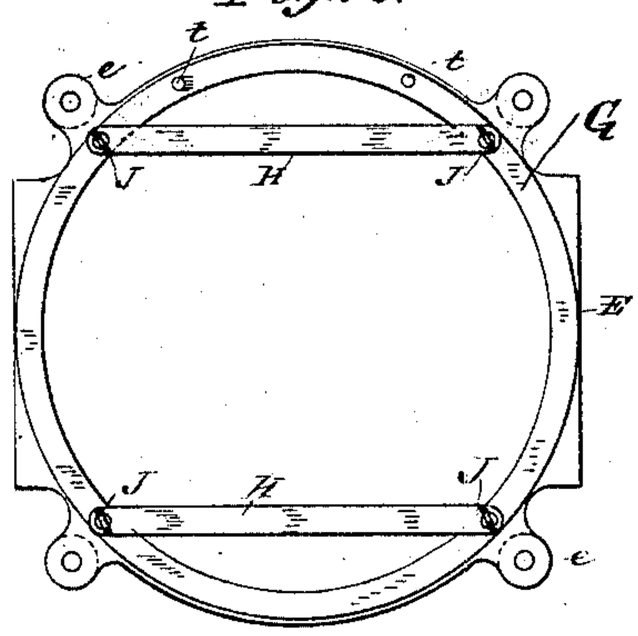


Fig. 7.

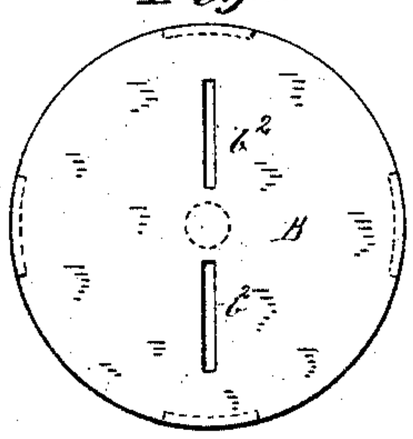


Fig. 8.

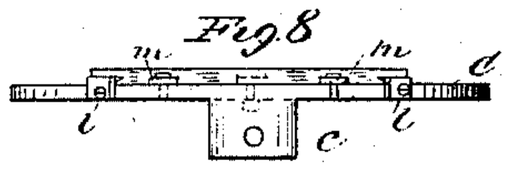


Fig. 14.

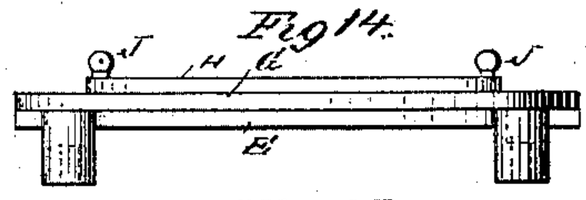


Fig. 9.

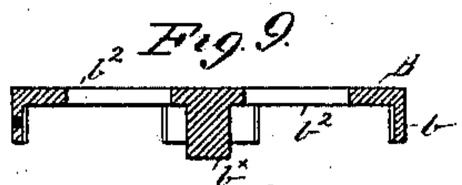


Fig. 10.

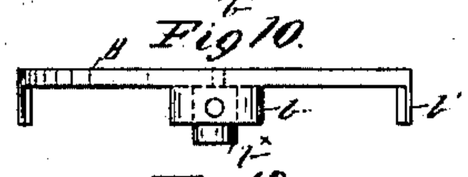


Fig. 11.

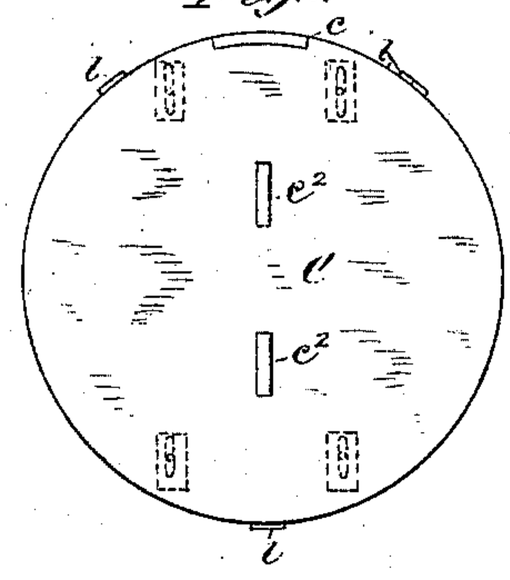


Fig. 15.

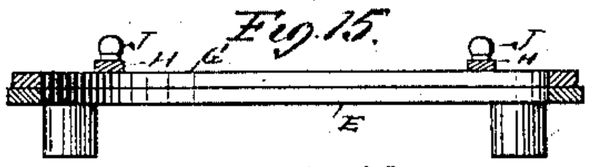


Fig. 12.

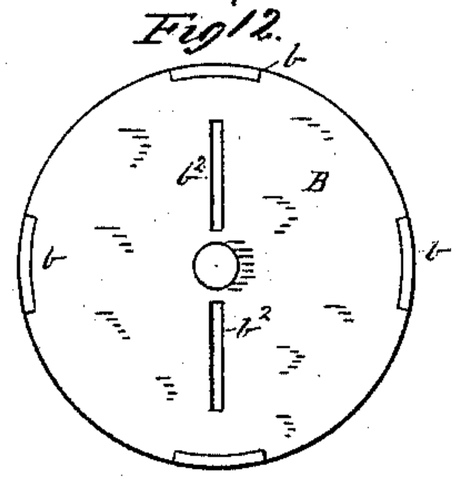


Fig. 16.

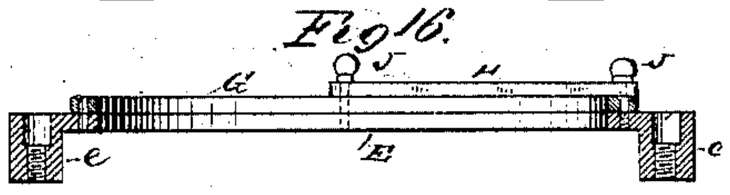
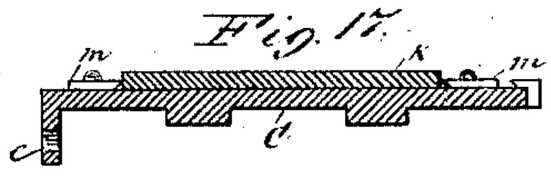


Fig. 17.



Witnesses:
Gabriel J. W. Galster.
K. M. Supple.

Inventor:
Edward H. Brown,
By Richardson
Attorneys

(No Model.) 3 Sheets—Sheet 2.

E. H. BROWN.

TINTOGRAPH.

No. 324,648. Patented Aug. 18, 1885.

Fig. 18.

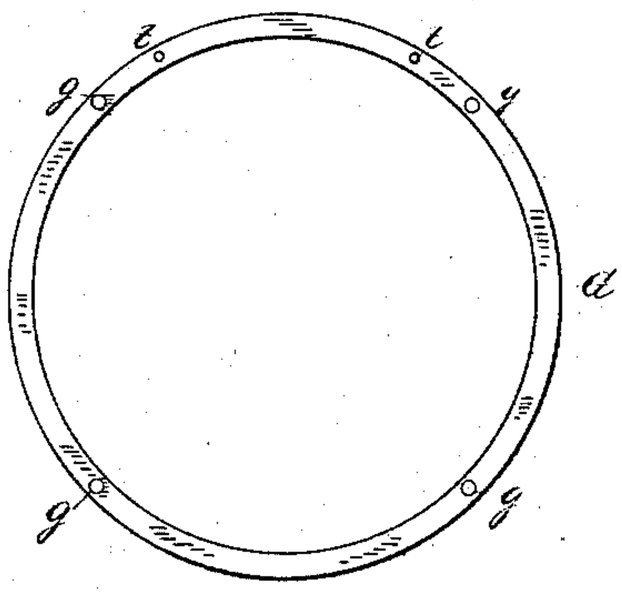


Fig. 3.

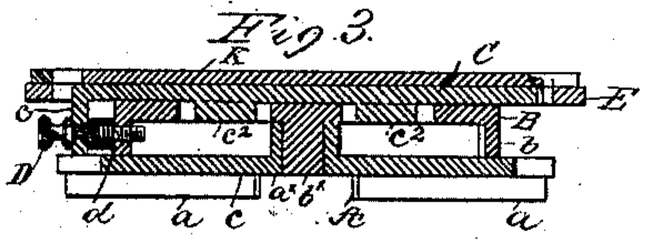


Fig. 24

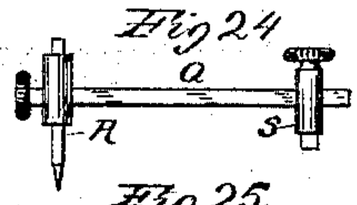


Fig. 25.

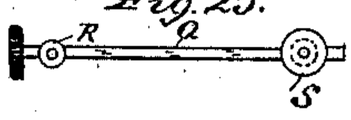


Fig. 19.

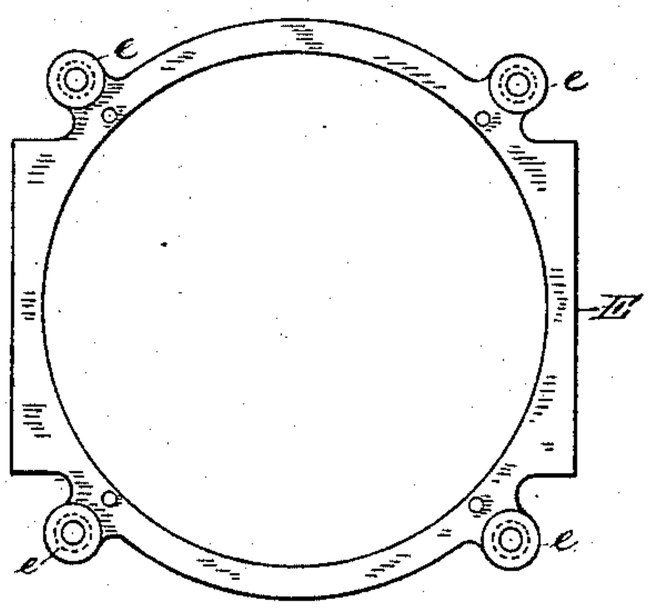


Fig. 22.

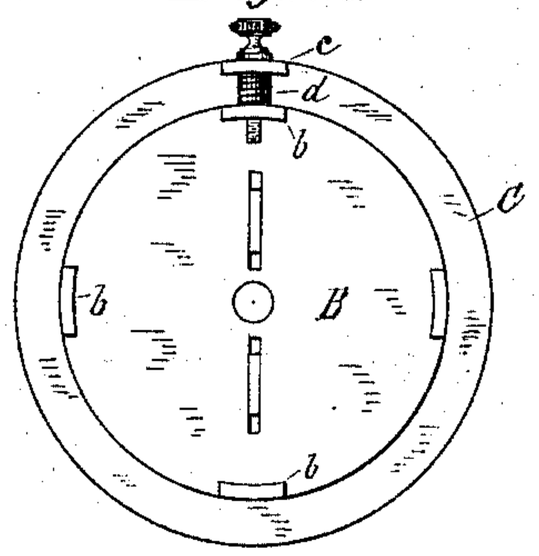


Fig. 20.

Fig. 21.

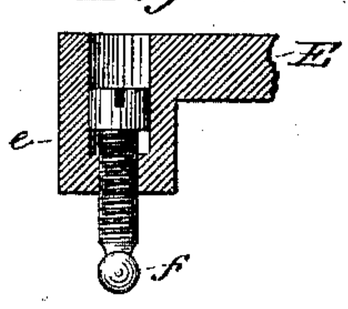
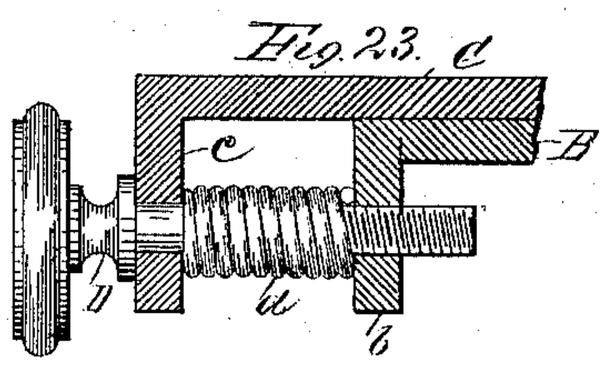


Fig. 23.



Witnesses:
Gabriel L. W. Galster.
L. M. Supple.

Inventor:
Edward H. Brown
By Richardson
Attorneys

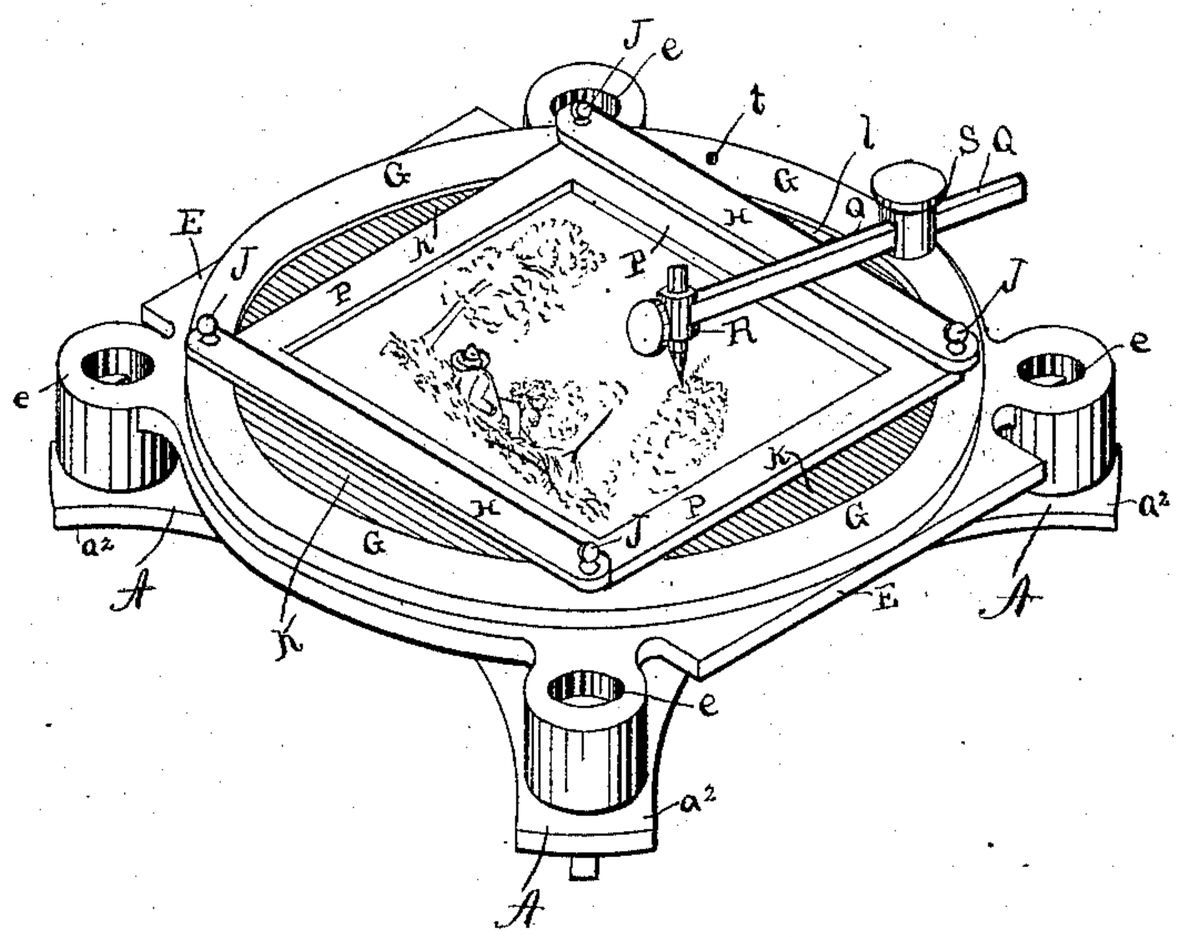
(No Model.) 3 Sheets—Sheet 3.

E. H. BROWN.

TINTOGRAPH.

No. 324,648. Patented Aug. 18, 1885.

Fig. 26.



Witnesses;
W. C. Orcutt
W. Pell. Pierce

Inventor
Edward H. Brown
By Richardson
Attorneys

UNITED STATES PATENT OFFICE.

EDWARD H. BROWN, OF NEW YORK, N. Y.

TINTOGRAPH.

SPECIFICATION forming part of Letters Patent No. 324,648, dated August 18, 18

Application filed April 24, 1884. (No model.)

To all whom it may concern:

Be it known that I, EDWARD H. BROWN, a citizen of the United States, residing in the city, county, and State of New York, have invented certain new and useful Improvements in Tintographs, of which the following is a specification.

My invention relates to an apparatus for tinting and shading the background and other portions of a drawing or picture made by hand, which tinting or shading is accomplished by placing the face of the picture in contact with a plate provided with parallel raised lines having printing-ink thereon, and then applying friction or pressure to the back of the picture so as to obtain an impression from the plate on certain desired portions of the face of the picture.

The invention consists in a novel construction, arrangement, and combination of a base or bed plate, a plate for carrying the tint-plate, a plate for holding the picture, and certain details of devices for adjusting and changing the position of the tint-plate, and for other purposes, as hereinafter more particularly described.

In the accompanying drawings, which form a part of this specification, Figure 1 is a top view of an apparatus embodying my improvements. Fig. 2 is a section taken in the line *x x* of Fig. 1. Fig. 3 is a section taken in the line *y y* of Fig. 1. Fig. 4 is a top view of the base or bed plate. Fig. 5 is a sectional view of the same. Figs. 6, 7, 8, 9, 10, 11, 12 are views of a modification. Fig. 13 is a top view of a portion of the apparatus. Fig. 14 is a side view of the same. Figs. 15 to 25, inclusive, are detail views of different parts of the apparatus. Fig. 26 is a perspective view of the machine.

The base or bed plate A is of an approximate quadrangular form, (see Fig. 4,) and is provided on its under side with ribs or feet *a*, on which it rests. On the upper side, near the four angles, are cavities a^2, for the purpose hereinafter described. In the center of the plate is an upwardly-extending hollow boss or short sleeve, $a^\times$, which receives a downwardly-extending pivot, $b^\times$, in the center of a circular plate, B, which is provided with feet *b*, resting on the base or bed plate A. The plate B is also provided with two radial slots, b^2, extending in two opposite directions from the center. These slots receive two radial ribs or fins, c^2, extending downward from the under side of another circular plate, C, resting on the plate B. At the edge of the plate C is a downwardly-extending lug, *c*, through which a thumb-screw, D, passes and engages with a tap-hole in one of the feet *b* of the plate B. A spring, *d*, surrounds the screw D between the lug *c* and the foot *b*. The width of the slots b^2 corresponds with the thickness of the ribs or fins c^2, so as to prevent any lateral motion of the plate C on the plate B; but said slots are longer than said ribs or fins, and thus admit of a radial motion with relation to said slots; and the lug *c*, the screw D, and the foot *b* with which the screw engages are in the same radial line with said slots, by which means such radial motion is obtained, when desired, by turning the screw in one direction or the other. The head of the screw D, thus arranged, also serves as a knob or handle, to be used when it is desired to rotate the plates B C on the pivot $b^\times$ as a center, for the purpose hereinafter described.

E represents a skeleton plate or frame, the inner edge of which forms a circle corresponding in size with the periphery of the plate C, so as to fit around the same. Outside of this circle are four feet, *f*, at points corresponding with the positions of the cavities a^2 in the base-plate A, so that said feet rest in said cavities when the apparatus is in position for use. These feet are formed by screws passing through tap-holes in lugs *e*, formed outside of the circle in the plate or frame E. The points or lower ends of the feet *f* are rounded to correspond with the cavities a^2, so as to fit snugly therein, and as the feet are screw-threaded they may be adjusted with exact nicety, and the plate or frame E may be raised or lowered when desired.

G represents a ring, which rests upon the upper surface of the plate or frame E, its inner circle corresponding with that of said plate. In this ring are four holes, *g*, corresponding in position with four tap-holes in the plate or frame E.

H H represent two bars, each having holes near the ends. These bars are placed over the ring G, so that the holes in each bar correspond with two of the holes in the ring and

the plate. Thumb-screws J are then passed through the holes in the bar and the ring and engaged with the tap-holes in the plate, and thus is formed a clamping device for holding the picture in place, as hereinafter described.

The tint-plate consists of a metallic plate, K, on the upper surface of which are parallel lines formed by ridges with intermediate grooves. The tint-plate may be circular in form, and corresponding in size with the plate C, or it may be square, as shown in Fig. 6. When it is circular, it is held in place on the plate C by clamps consisting of small plates *l*, secured to the edges of the plate C by screws and having overhanging lips or hooks engaging with the edges of the tint-plate. When the tint-plate is square or smaller than the carrying-plate C, it is held in place by clamps consisting of slotted plates *m*, secured to the carrying-plate C by screws, as shown in Figs. 6, 8, and 17.

The various parts being in the position shown in Figs. 1, 2, and 3, and the tint-plate being supplied with ink, the apparatus is ready for use. The picture to be tinted is first drawn in outline, and is mounted on a stretcher-frame, P, of sufficient size to allow its corners to rest on the ring G. The bars H are then screwed down by means of the thumb-screws J, so as to clamp the frame P securely in place. The ring G is sufficiently thicker than the tint-plate to prevent the picture from coming in actual contact with the tint-plate, and to allow the tint-plate to be rotated without touching the surface of the picture. When pressure or friction is applied to the back of the picture by means of a pad, stylus, or other suitable instrument, the face of the picture is brought in contact with the tint-plate, and an impression is obtained therefrom on the face of the picture at points corresponding with those at which the pressure is applied on the back, and at such points only, by which means the picture is easily and rapidly tinted and shaded in any desired portion, and the lines may be made to run in any desired direction. If horizontal lines are desired, the tint-plate is arranged with relation to the picture, as shown in Fig. 1. If vertical lines or any intermediate angles are desired, the tint-plate is readily placed in the required position by rotating the carrying-plate on the pivot $b^{\times}$ as a center, as above described.

If the lines are not near enough together, or if they are not heavy enough, by turning the screw D the carrying-plate C is moved in such a direction as to obtain an impression of lines intermediate between those already printed, or so close to said lines as to make them wider or heavier, and by means of the screw and spring the adjustment of the plate may be made with exact nicety.

If the tint-plate should not be of the proper thickness with relation to the thickness of the ring G, the proper adjustment of the picture with relation to the tint-plate may be obtained by means of the screw-feet *f*.

Referring to Figs. 1, 2, 24, and 25, Q represents a rod, carrying at one end a pencil, R, and having its other end passing through a post, S, provided with a set-screw. The post S is adapted to engage with holes *t* in the ring G. By means of the set-screw the rod may be held in place with the pencil at any desired distance from the post. The object of this instrument is to enable the operator to determine the proper position of the picture with relation to the tint-plate. For example, the objective point on the picture having been obtained, the rod Q is adjusted so that the pencil R will correspond with said point. The rod Q is then swung around out of the way, the picture removed, the rod and pencil again brought to their former position, and the tint-plate is adjusted by means of the screw D until a certain line or point on the tint-plate is brought to a position corresponding with that previously indicated on the picture.

It is obvious that the operation thus described may be reversed—that is to say, the objective point may be first ascertained on the tint-plate and the picture afterward adjusted to correspond therewith. When it becomes necessary to remove a picture before completion, with a view to replacing it afterward in order to complete it, a certain point or points may be indicated by the pencil on the back of the picture before removal. Then, when the picture is replaced in order to complete it, the position formerly occupied by it may be resumed without difficulty by adjusting it so that the points formerly indicated will correspond with those called for by the pencil.

I do not confine myself to the particular construction and arrangement herein shown and described, as the different parts of the apparatus may be modified in various ways in order to produce similar results.

The picture to be operated on is gummed or otherwise secured to the stretcher-frame P, which holds it parallel with and a short distance from the front face of the tint-plate K, from which the impression is to be taken. The said stretcher-frame rests on the annular plate E, which is fixed to or rests permanently on the stationary bed-plate A. The tint-plate K is mounted on the turn-table B C, on and with which it may be rotated, and also be laterally adjusted by means of the sliding top plate, C, as above described.

The shading on the picture is made by pressing the paper or cloth of the picture down upon the tint-plate, as above described. By sliding or rotating the said tint-plate by and with the said turn-table plate, as above mentioned, the direction, size, distance between lines, &c., are easily and readily adjustable at the will of the operator.

The pencil R is merely used as a marker, operating from two fixed points, as in the manner of using a beam-compass, so as to center the picture on the machine when there may be occasion to remove and replace the picture

when the work is only partly completed, as it would be necessary, as a matter of course, to recommence the work just where it has left off.

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

1. In a tintograph, a tint-plate mounted on a turn-table so that it may be rotated at will under the work, which is placed in a fixed position over it, and also provided with a radial movement by means of a laterally-sliding plate interposed between it and the bed of the turn-table plate, substantially as shown and described.

2. In a tintograph, a turn-table plate provided with a fixed vertical axis, in combination with the stationary bed-plate, which secures it in place and allows it to rotate thereon, said turn-table provided on its upper face with a tint-plate, the upper surface of which is ribbed, with intervening grooves between the said ribs, the whole operating so that by turning the said turn-table and its attached tint-plate the ridges or lines on said tint-plate may be turned at any angle or parallel with any given radial line, substantially as shown and described.

3. In a tintograph, a tint-plate carrier formed of the turn-table plates B C, the latter being laterally adjustable on the former by means of an adjusting-screw, so as to slide the top plate, C, on the bottom plate, B, suitable guides between the two plates keeping them in position in the other direction, and thereby laterally adjust on the turn-table proper the tint-plate K, which is secured to and moves with the sliding plate C, substantially as shown and described.

4. The turn-table C, clamps *m*, and tint-plate K, combined substantially as described.

5. In a tintograph, the combination of the base or bed plate A, provided with the central boss or sleeve, $a^{\times}$, and the plate B, provided with the feet *b* and central pivot, $b^{\times}$, substantially as and for the purpose herein described.

6. In a tintograph, the combination of the plate B, provided with the legs *b* and slots b^2, the plate C, provided with the lug *c* and ribs or fins c^2, and the screw D and spring *d*, arranged and operating substantially as and for the purposes herein described.

7. The stationary bed-plate A, having socket-holes a^2 on its top face and near its edges, in combination with the frame or plate E, provided with feet *f*, arranged to fit said socket-holes, said feet being made vertically adjustable by means of screw-threads on the shanks of the said feet, substantially as described.

8. The combination of the plate or frame E, ring G, clamping-bars H, and thumb-screws J, substantially as and for the purpose herein described.

9. The vertical post S, interchangeably fitted to holes *t* in the top annular frame, G, the said holes acting as centers in which the said vertical post may rotate, and in combination with said post a longitudinally-adjustable rod carrying at its inner end a pencil-head with pencil, the whole acting so as to mark or center the picture, which is secured to the stretcher P and rests on the frame G, the whole combined and arranged substantially as described.

In witness whereof I have hereunto set my hand this 10th day of March, 1884.

EDWARD H. BROWN.

In presence of—
THOS. H. HARTWELL,
WM. E. RICHARDS.