

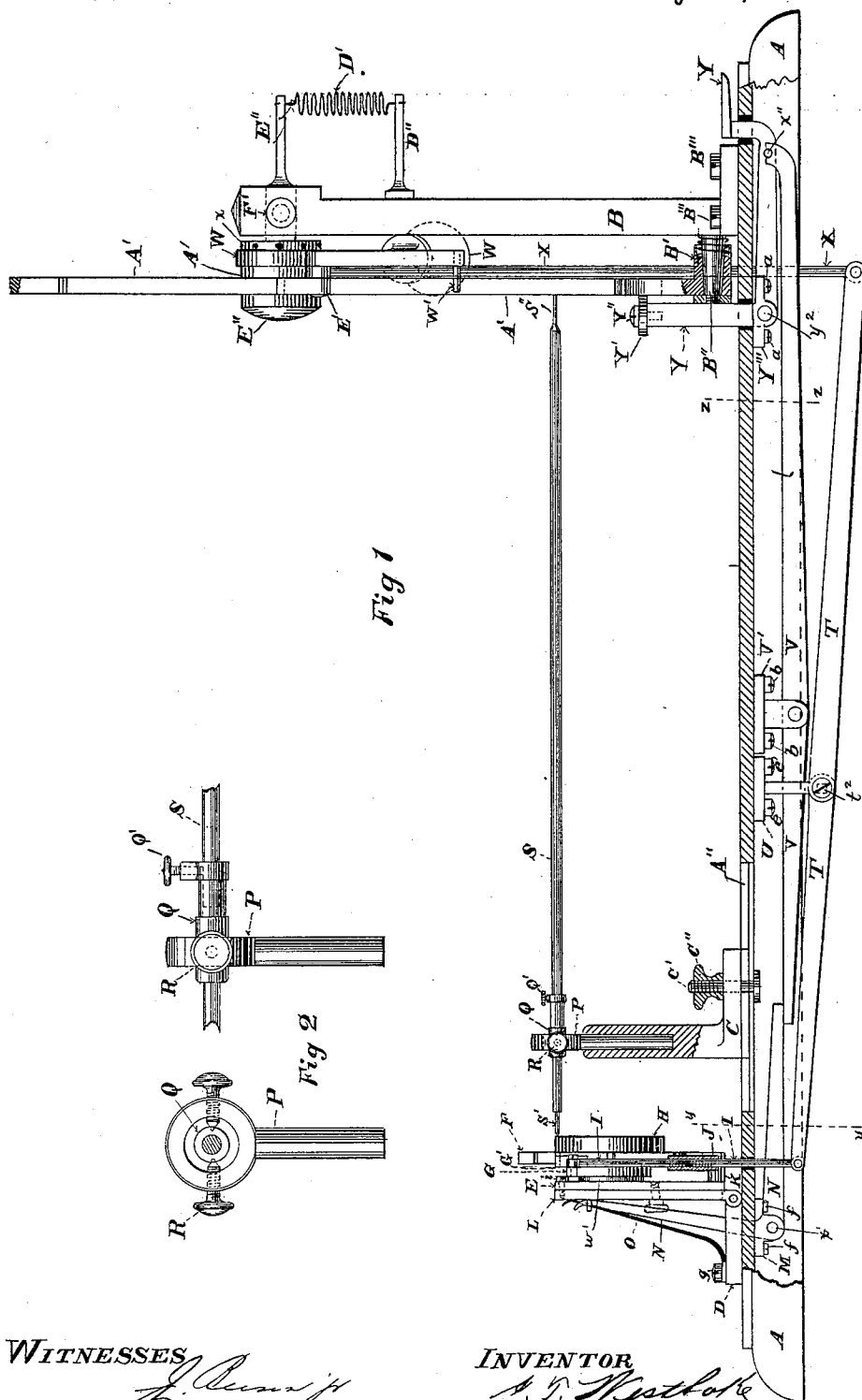
(No Model.)

2 Sheets—Sheet 1.

A. T. WESTLAKE.
DIAL FIGURING MACHINE.

No. 366,987.

Patented July 19, 1887.



WITNESSES

J. Anderson
Thos. D. Sheridan

INVENTOR

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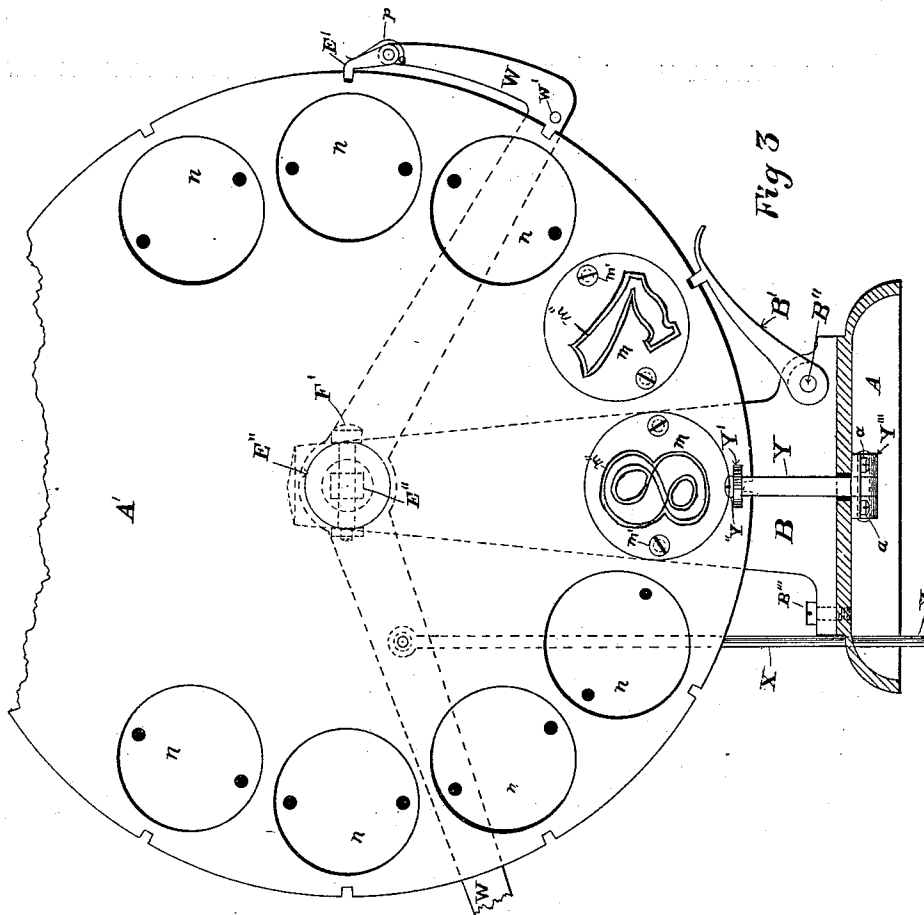
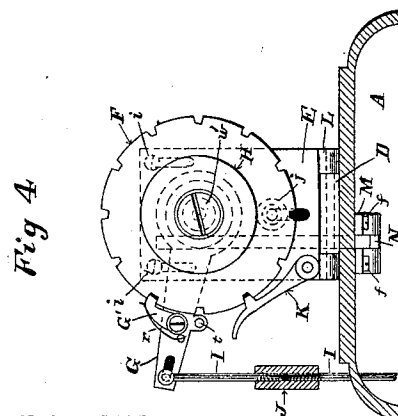
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INVENTOR

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UNITED STATES PATENT OFFICE.

ALLEN T. WESTLAKE, OF SPRINGFIELD, ILLINOIS.

DIAL-FIGURING MACHINE.

SPECIFICATION forming part of Letters Patent No. 366,987, dated July 19, 1887.

Application filed April 5, 1887. Serial No. 233,760. (No model.)

To all whom it may concern:

Be it known that I, ALLEN T. WESTLAKE, a citizen of the United States, residing at Springfield, in the county of Sangamon and State of Illinois, have invented certain new and useful Improvements in Dial-Figuring Machines; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a representation of a longitudinal vertical section of the machine. Fig. 2 is a representation of details. Fig. 3 is a transverse section on the line $z z$. Fig. 4 is a transverse section on the line $y y$.

The object of my invention is to lessen the time and expense required for figuring and lettering dials and to improve the quality of the work. Heretofore the figures, letters, or characters on dials have been printed by hand—the body or heavy lines ruled and the fine or hair lines supplied with a brush; or the figures, letters, &c., have been produced by a process known as “transferring.”

This invention involves the use of two rotating disks facing each other, indexed to give the required space between the character, and connected by a mechanism that rotates both the required space together, substantially as and for the purpose hereinafter specified. Further, as an improvement in mechanism for producing characters on disks, substantially as described, it involves a multiplying or reducing rod held in a universal swivel, substantially as and for the purpose hereinafter shown.

By the invention is provided an organized machine for producing figures, letters, or characters on dials, in which are combined the following elements, to wit: two rotating disks, substantially as described, one carrying the templets, the other the dial or multiplying or reducing rod, substantially as described, one end fitted to work in the templet-grooves or against raised figures, the other with a sharp point or cutter to remove the paint or material from the dial, substantially as and for the purpose hereinafter shown and described.

It comprises, further, an organized machine

for the purpose set forth in which are combined two disks that are normally locked and prevented from rotating, a mechanism by which both disks are unlocked and rotated step by step, and a series of levers by which one or both disks are thrown in or out of action, substantially as and for the purpose hereinafter described; and it provides, in a dial figuring or lettering machine, two rotating disks having journaled bearings pivoted so that they can be thrown in or out of action, substantially as and for the purpose hereinafter set forth.

In the annexed drawings, A represents the frame or body of my machine, which has the shape of a rectangle with flaring sides exteriorly, and inside is hollowed out to accommodate the lever-stands $N U V' Y^3$. At suitable points without the frame are provided three vertical stands, B, C, and D. The stand B carries the pivoted axle E^2 , which in turn holds the journaled disk A' , upon which are fastened the grooved templets m by means of screws m' . The stand C holds the swivel-joint P, in which is swung, by means of the pivot-screws R, the multiplying or reducing rod holder Q. The holder Q has a cylindrical hole, in which is placed the rod S, which can be adjusted in the said hole and fastened by means of thumb-screw Q'. The rod S is provided with a point, S^2 , fitted in the grooves or groove m^2 . Said point, being moved in said groove or grooves, traces with the point or cutter S' a reduced fac-simile of the figure or character on the dial which is held on H. The stand D is a base fastened to the frame A and carrying the pivoted upright L, which in turn has fastened to it the plate E, carrying the axle w' , upon which is swung the indexed disk F with the dial-holder H.

Fitted upon the pivoted axle E^2 is the lever W, by means of which the pawl B' is unlocked, and the ratchet E' drops in the next notch and the disk can be rotated another space. Fixed to the lever W is the connected rod X, connecting the lever T (“swinging by means of the pivot t' ”) with the lever G by means of the adjustable connection I I. The lever G is fitted on the axle w' , and is provided with a ratchet, G' , and pin t , for tripping the pawl K, so that the moving of the lever W in an arc of a circle sufficient to trip the pawl

B' produces, by means of the lever T and connection-rods X and I, the same effect on the pawl K; and the rotation of the disk A' is accompanied by the rotation of disk F through the same arc. The disk A' is provided with a lever, Y, fastened to the frame A on the stand Y³ by means of the pivot y². By means of this lever Y the disk A' can be thrown out of action with the point S². The spring D', fastened to the upright B by means of the stud D², and to axial stud E², keeps the disk A in action with the rod-point S² when the lever Y is released.

The pivoted upright L is provided with a lever, N, fastened to the frame A by means of the stand M and pivot x'. The lever N is in turn acted on by the lever V, fastened to frame A, and lever V is again operated by the pin x² on lever Y, thus producing a combination of levers, the object of which is, that by pressing down on the thumb of lever Y you simultaneously throw the disks A' and H out of action, thereby allowing both disks to be rotated one or more steps. The spring O keeps dial on the dial-holder H in action when the levers are released.

The stand C is provided with a tongue fitted into the tapered slot A², by means of which the fulcrum can be varied. The bolts C' and the thumb-nut C² provide a means of fastening the stand C to the frame A.

Having described this invention, what I claim, and desire to secure by Letters Patent, is—

1. As an improvement in mechanism for the production of letters, figures, or characters on dials, two rotating disks facing each other, one carrying a series of templets with grooved or raised figures, the other holding the work, substantially as specified.

2. As an improvement in mechanism for the production of letters, figures, or characters on dials, two rotating disks facing each other, in combination with a mechanism for rotating both simultaneously step by step through the same arc, substantially as specified.

3. As an improvement in mechanism for the production of letters, figures, or characters on dials, the combination, with the two rotating disks facing each other, of mechanism whereby one or both can be thrown out of action, substantially as specified.

4. As an improvement in mechanism for the production of letters, figures, or characters on dials, the combination of a multiplying or reducing rod, a universal swivel, a series of templets with grooved or raised characters, two rotating disks, mechanism for rotating both simultaneously, and mechanism for throwing one or both disks in or out of action, substantially as specified.

5. As an improvement in the production of letters, figures, or characters on dials, a machine in which are combined the following elements, to wit: a multiplying or reducing rod, a universal swivel, a series of templets with a series of grooved or raised characters, two rotating disks, substantially as described, mechanism for rotating both simultaneously step by step, and the mechanism for throwing one or both disks out of action, substantially as and for the purpose shown.

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

ALLEN T. WESTLAKE.

Witnesses:

EUGENE S. BRADFORD,
GEORGE A. BATES.