

(No Model.)

R. L. TAFT.
MACHINE FOR RULING DIALS.

No. 312,227.

Patented Feb. 10, 1885.

Fig. 1.

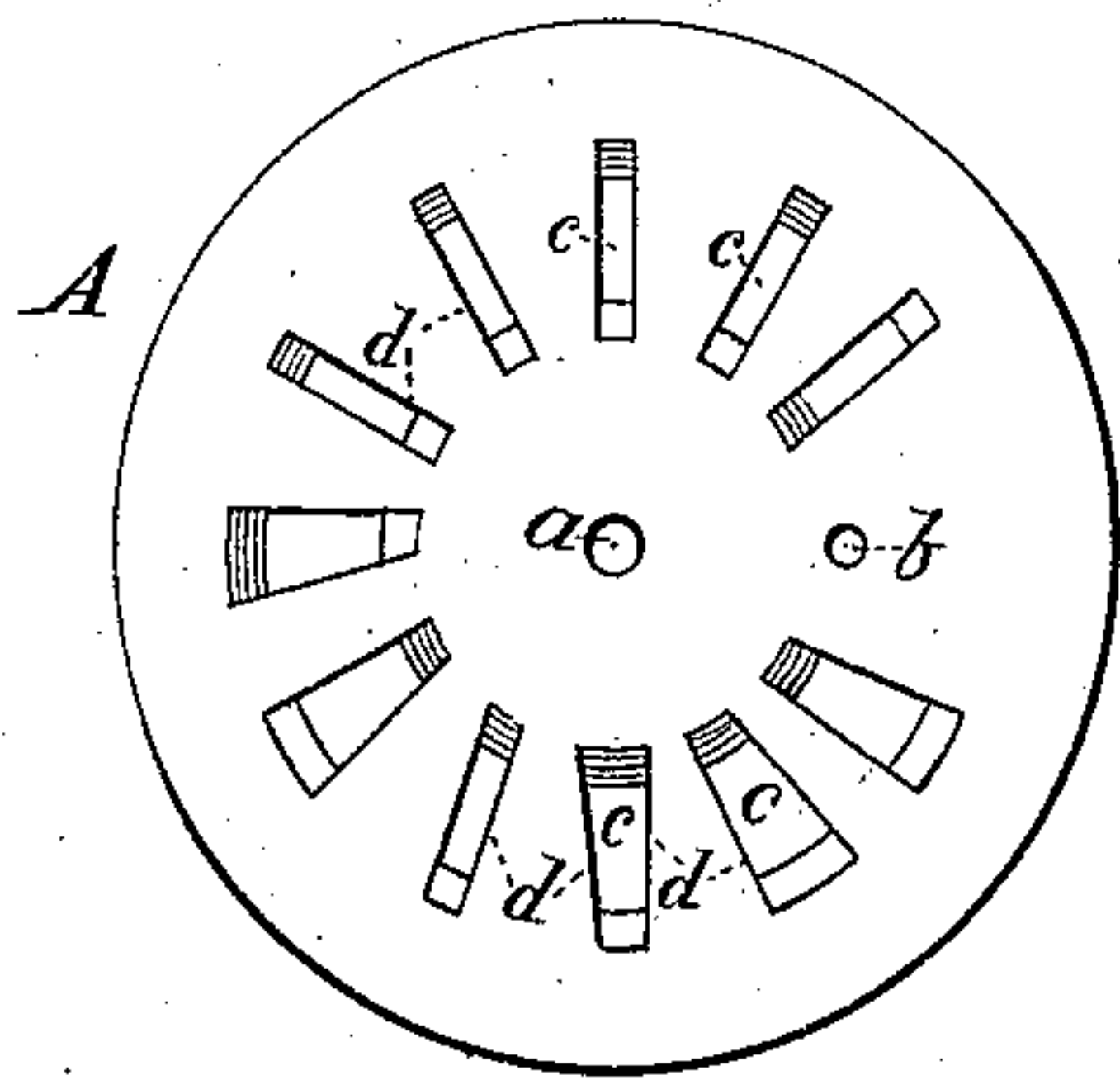


Fig. 2.

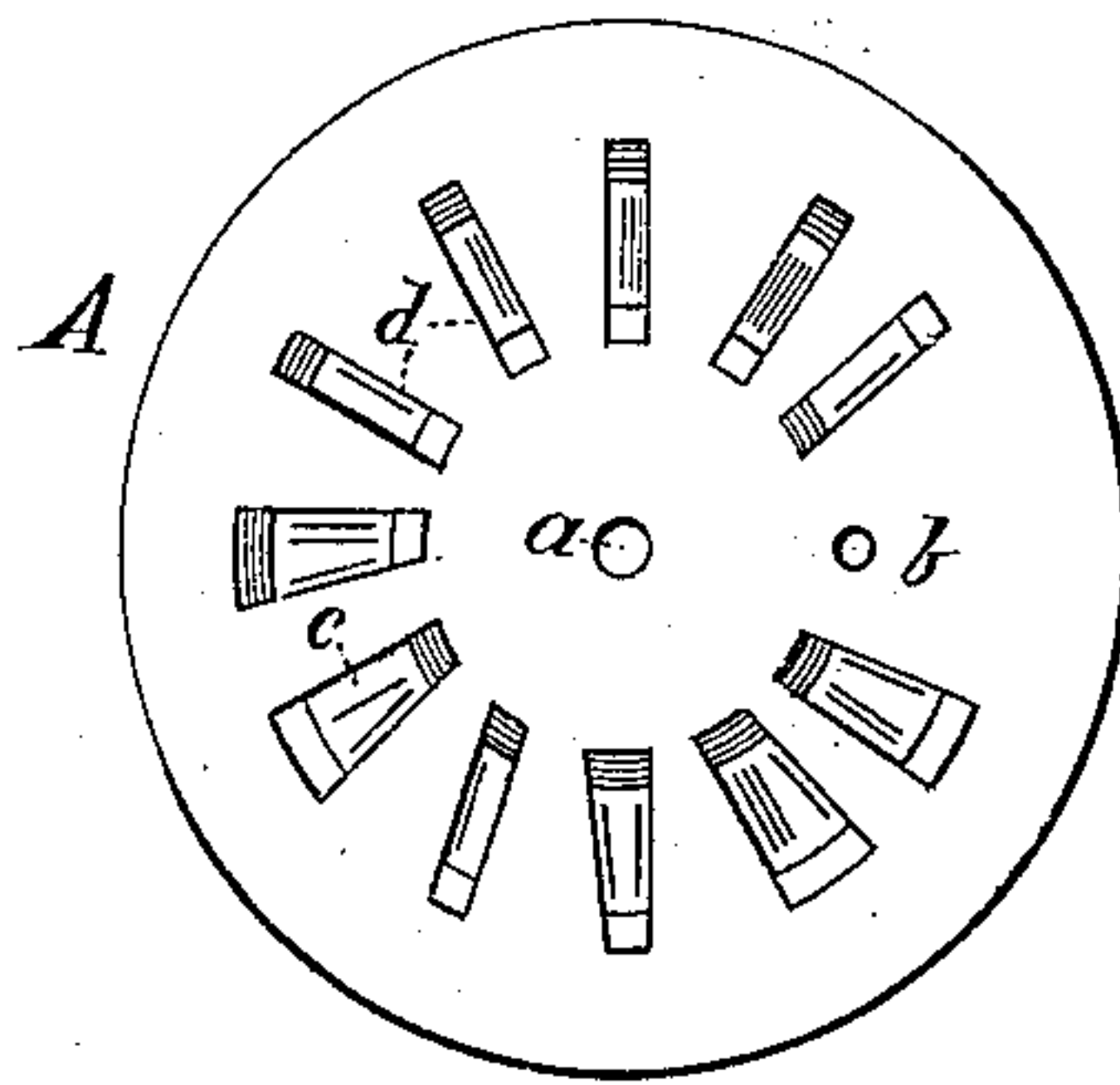


Fig. 3.

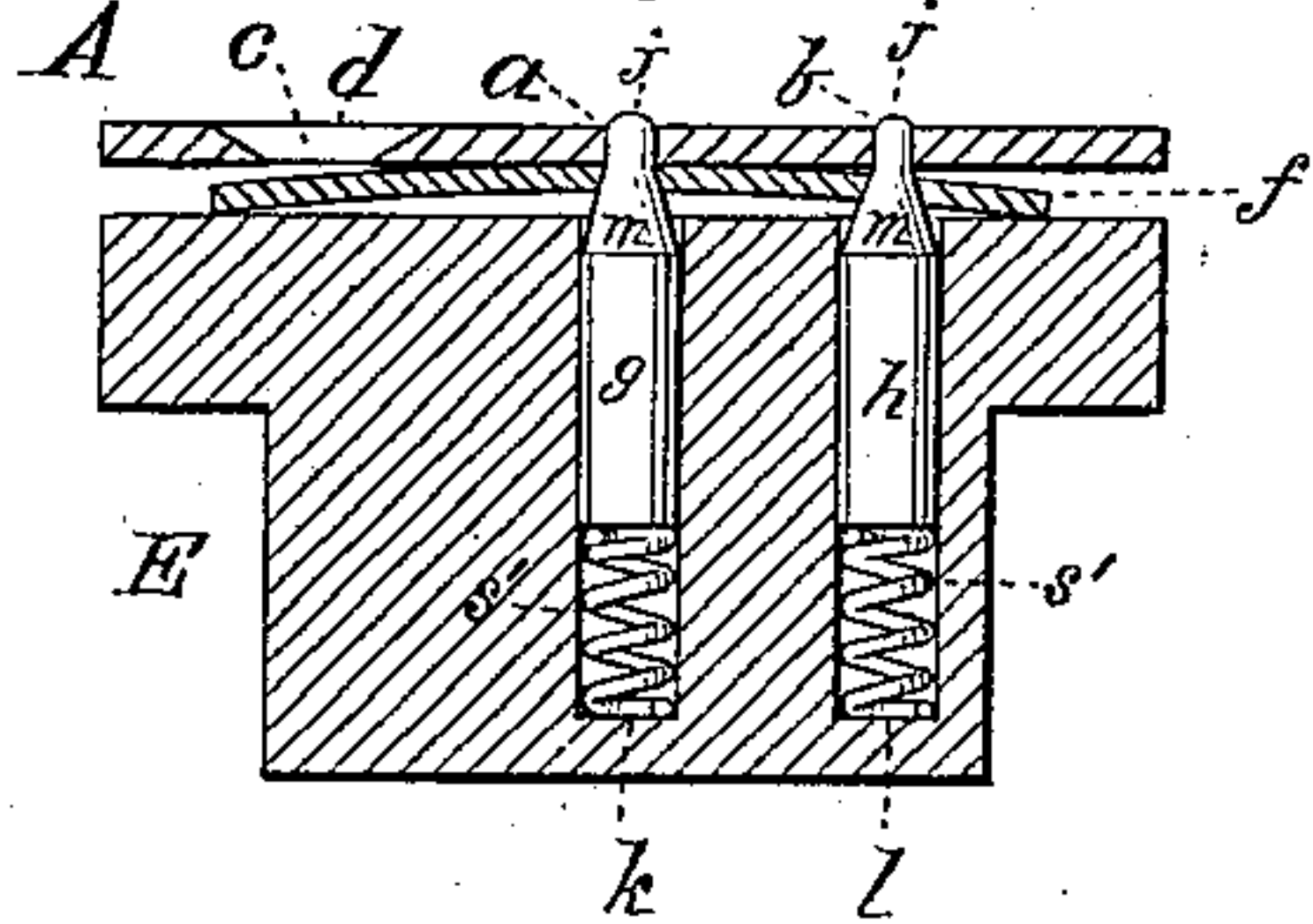


Fig. 4.

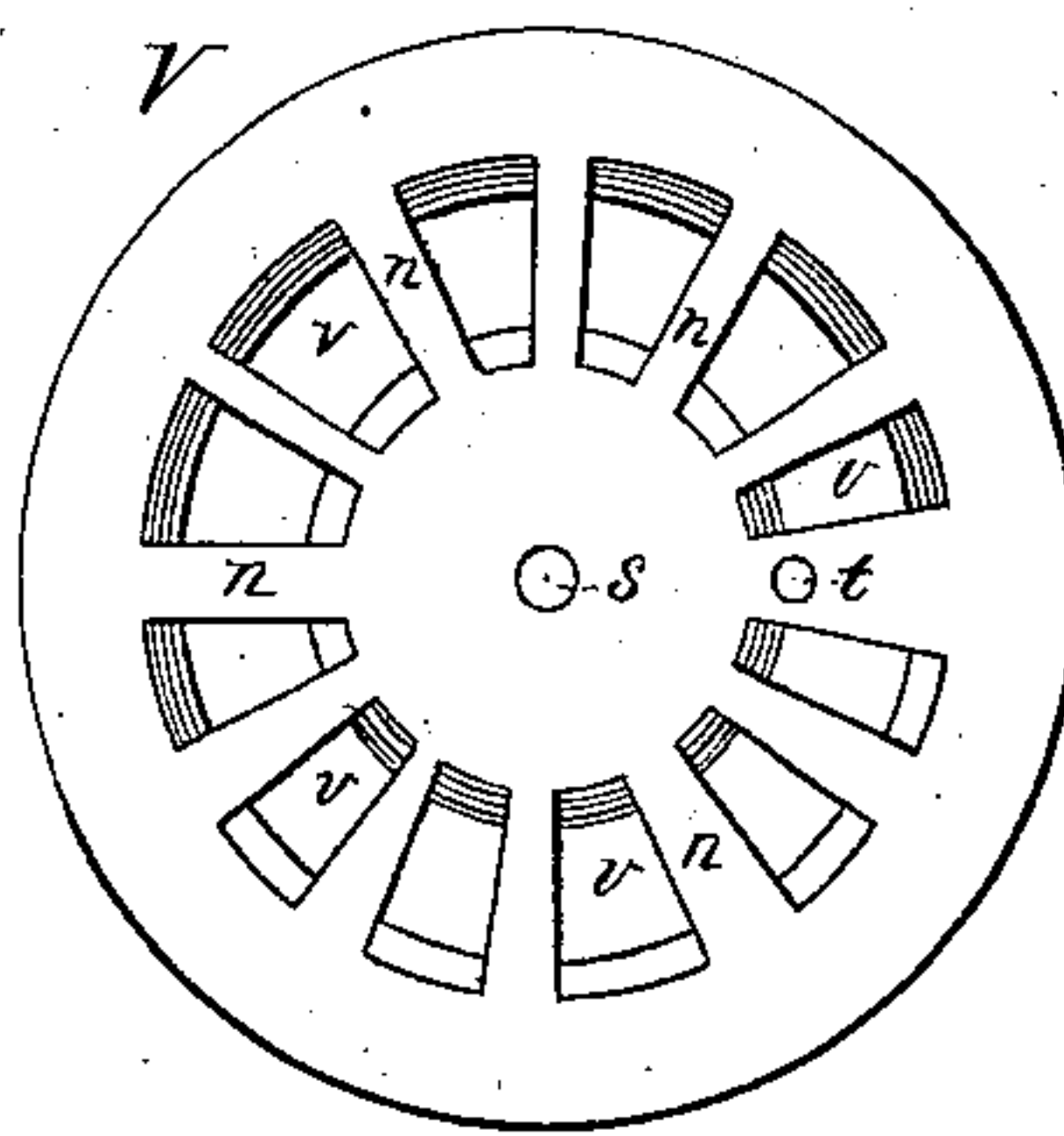


Fig. 5.

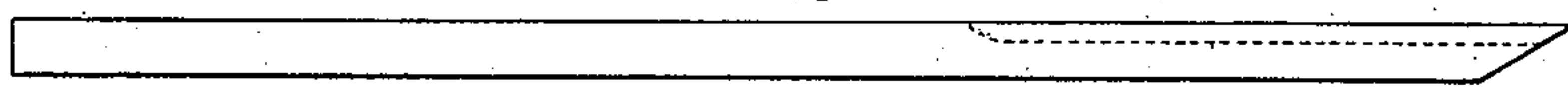
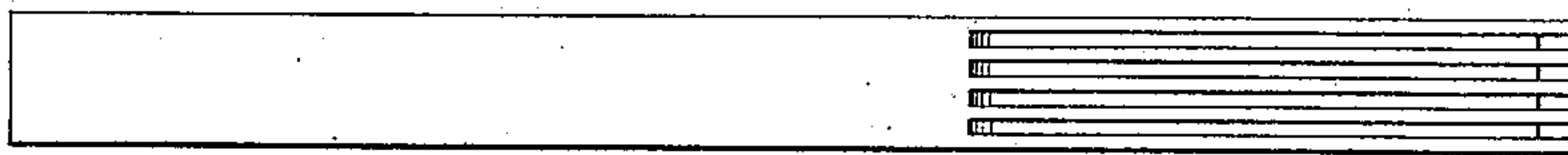


Fig. 6.



WITNESSES

Villette Anderson.
John P. Morrow

INVENTOR

Ryland L. Taft
by Anderson & Smith
his ATTORNEYS

UNITED STATES PATENT OFFICE.

RYLAND LEE TAFT, OF SPRINGFIELD, ILLINOIS, ASSIGNOR TO THE ILLINOIS WATCH COMPANY, OF SAME PLACE.

MACHINE FOR RULING DIALS.

SPECIFICATION forming part of Letters Patent No. 312,227, dated February 10, 1885.

Application filed December 26, 1883. (No model.)

To all whom it may concern:

Be it known that I, RYLAND L. TAFT, 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 Machines for Ruling Dials; 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 one of the templets used in this invention, and is a top view. Fig. 2 is a view of the same with the figures marked on the dial. Fig. 3 is a vertical section through block, dial, and templet. Fig. 4 is a top view of the second templet. Figs. 5 and 6 show different views of the marker.

This invention has relation to machines for ruling dials; and the object of the invention is to simplify the process of ruling and to secure accuracy therein.

In the accompanying drawings, the letter A designates a plate or templet having two circular perforations, *a* and *b*, which correspond in position to the center and fourth or minute pinions, respectively, of the watch or time-piece on which the dial is to be used. The plate is also provided with a circular series of oblong angular apertures, *c c c*, radially arranged at the proper distance from the central perforation and corresponding in position to the hour-marks required on the dial. The long straight sides *d* of these apertures are designed to serve as guides for the cutter or marker wherewith the letters denoting the hours are cut or marked on the dial. The dial to be marked is indicated at *f*.

E represents a base-block, which is provided with the pump-centers or spring-posts *g* and *h*, which are fitted, respectively, into a central recess, *k*, and a recess, *l*, made at the proper distance from the center of the block to correspond in position to the center of the fourth or minute pinion. These posts therefore

project upward through the perforations *a* and *b*, respectively. The upper ends of the spring-posts are made smaller than the lower portions at bodies of the posts, as indicated at *j j*. These small extensions *j j* are connected to the bodies of the posts by tapering or conical shoulders *m*, which are made in this form to provide for the variation in the diameter of the central perforation, *a*, and the fourth hole, *b*, arising from enameling. The pump-centers are held up against the dial and in the templet by the springs *s' s'* in their respective recesses in the base-block. The dial having been placed on the block, the small ends of the pump-centers pass through the central and fourth holes until stopped by the taper shoulders *m*, which serve to locate the dial, the small ends *j* of the post projecting above and serving to receive the templet. The dial and templet are then pressed down to the block and held by suitable clamps. With a cutter, Z, of which Fig. 6 illustrates an enlarged view, having five equal points and four equal interspaces, the letters indicating the hours on the dial are to be marked through the angular apertures or slots *c c*. This cutter Z is intended to rule a superfluous number of marks on the dials, and with another instrument the operator removes the marks not wanted, leaving the finisher to rule the fine oblique lines and second-marks. Then the templet A is removed and in its place is put a templet, V, which is of similar form, having holes *s* and *t*, corresponding in position to the central and fourth holes, *a* and *b*, of the templet A, and having also angular apertures *v v*, cut in such a manner as to have a circular series of radial bars, *n n*, in proper position relative to the fourth hole *t* to cover and protect the lines to be left for the hour-marks, the other marks being removed by an instrument, as before described. With a cutter or scraper of similar general form to the cutter Z, but without teeth or points, the surplus paint is cleaned off, using the sides of the bars *n* as guides.

What I claim, and desire to secure by Letters Patent, is—

1. A templet having a central perforation,

a, and fourth hole, *b*, and a circular series of radial angular apertures, *c c*, adapted to correspond in position to the hour-marks, and to serve as guides for the cutter in ruling the marks, substantially as specified.

5 2. A templet having angular apertures *v*, arranged in circular series around the center, and separated by radial bars *n*, adapted to cover and protect the lines left for the hours
10 in cleaning off the surplus paint, substantially as specified.

3. The combination, with a base-block having the posts *g* and *h*, of a templet, A, having

a circular series of apertures, serving as guides in ruling the hour-marks, and a templet, V, 15 having a circular series of apertures, separated by radial bars, adapted to cover the hour-marks when ruled, in cleaning off, substantially as specified.

In testimony whereof I affix my signature in 20 presence of two witnesses.

RYLAND LEE TAFT.

Witnesses:

JAMES CHALMERS,
GEORGE A. BATES.