

No. 829,771.

PATENTED AUG. 28, 1906.

A. E. FRANCIS.
ENGRAVING MACHINE.
APPLICATION FILED MAY 23, 1903.

2 SHEETS—SHEET 1.

Fig. 1.

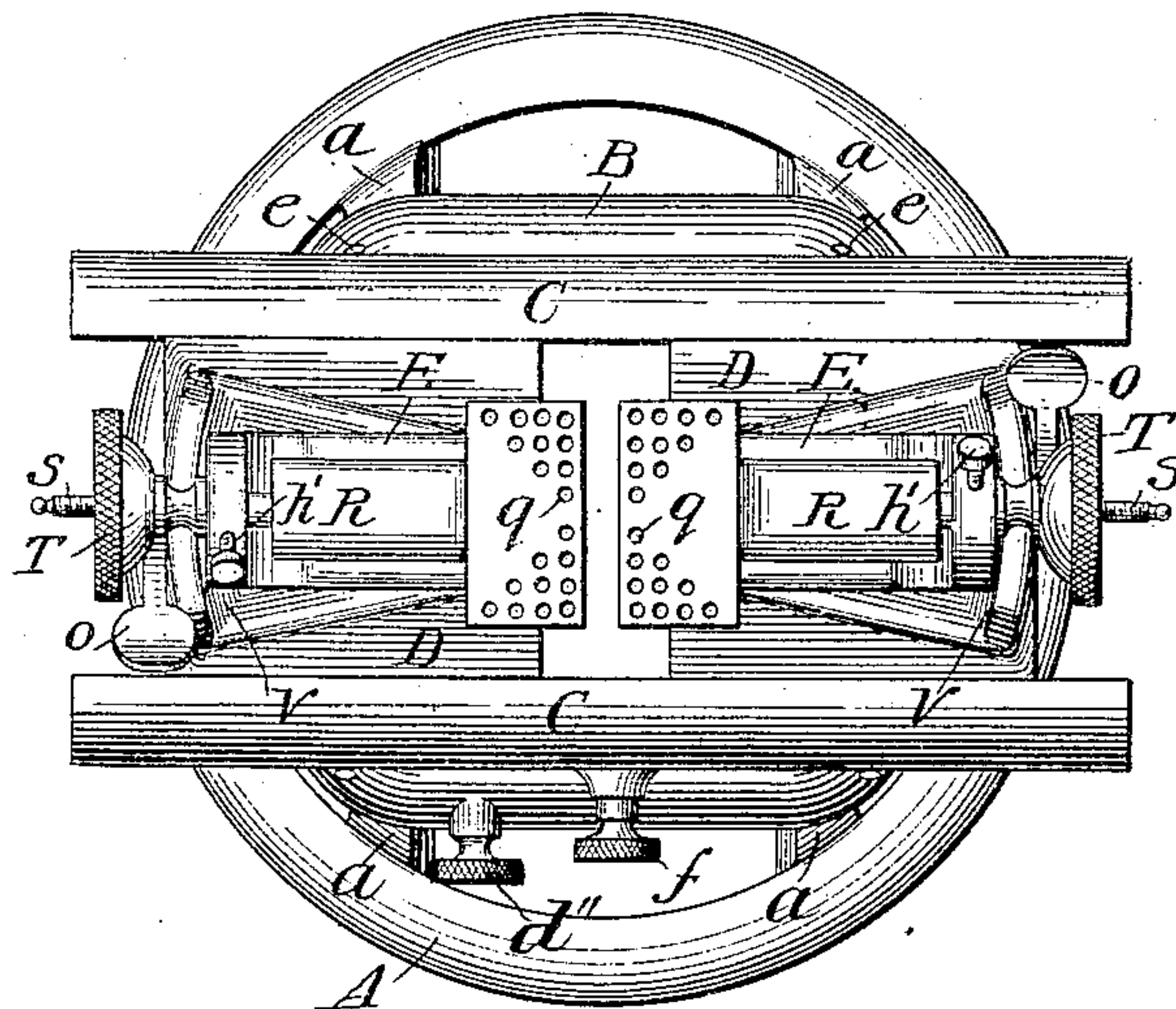


Fig. 2.

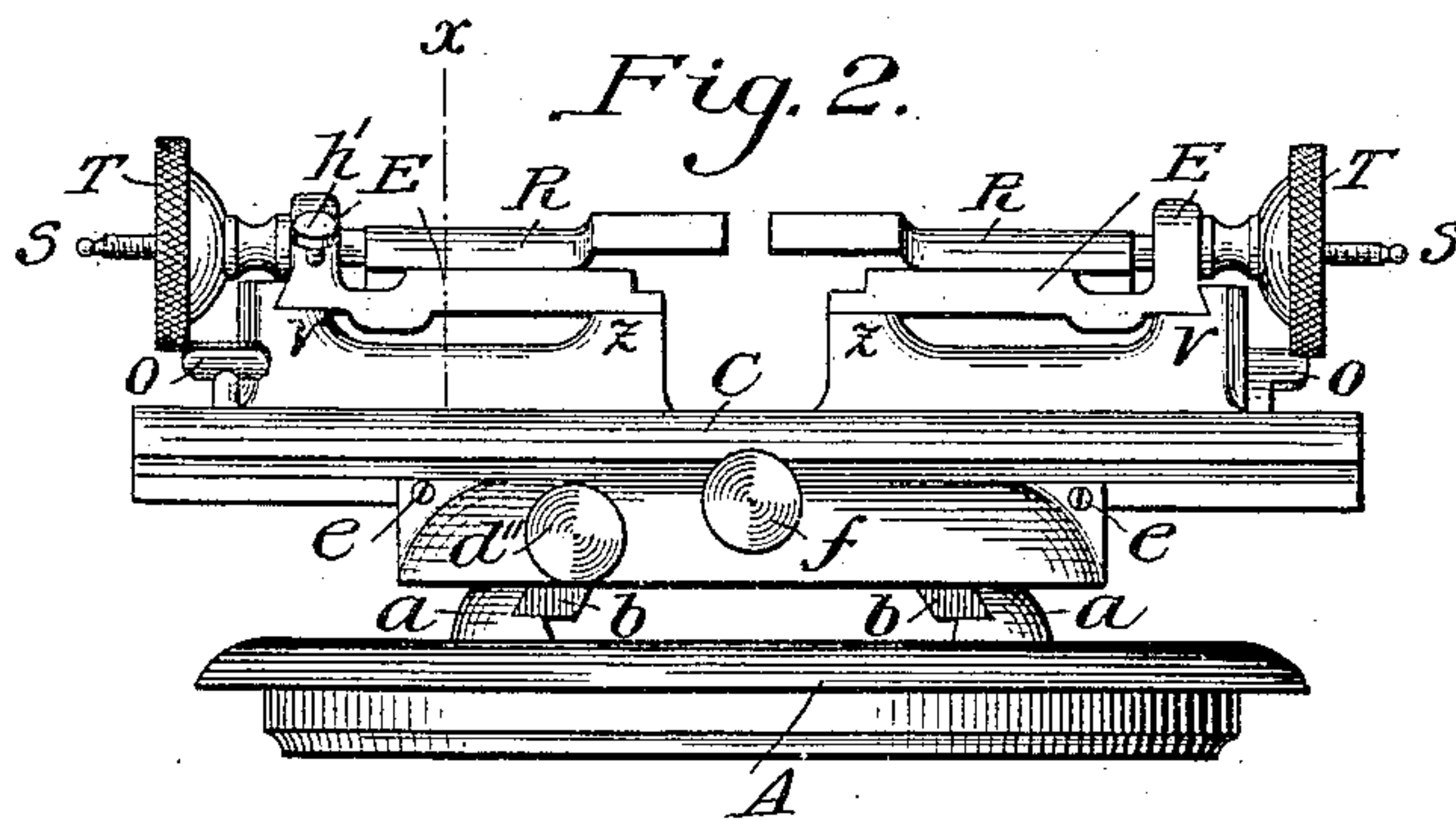
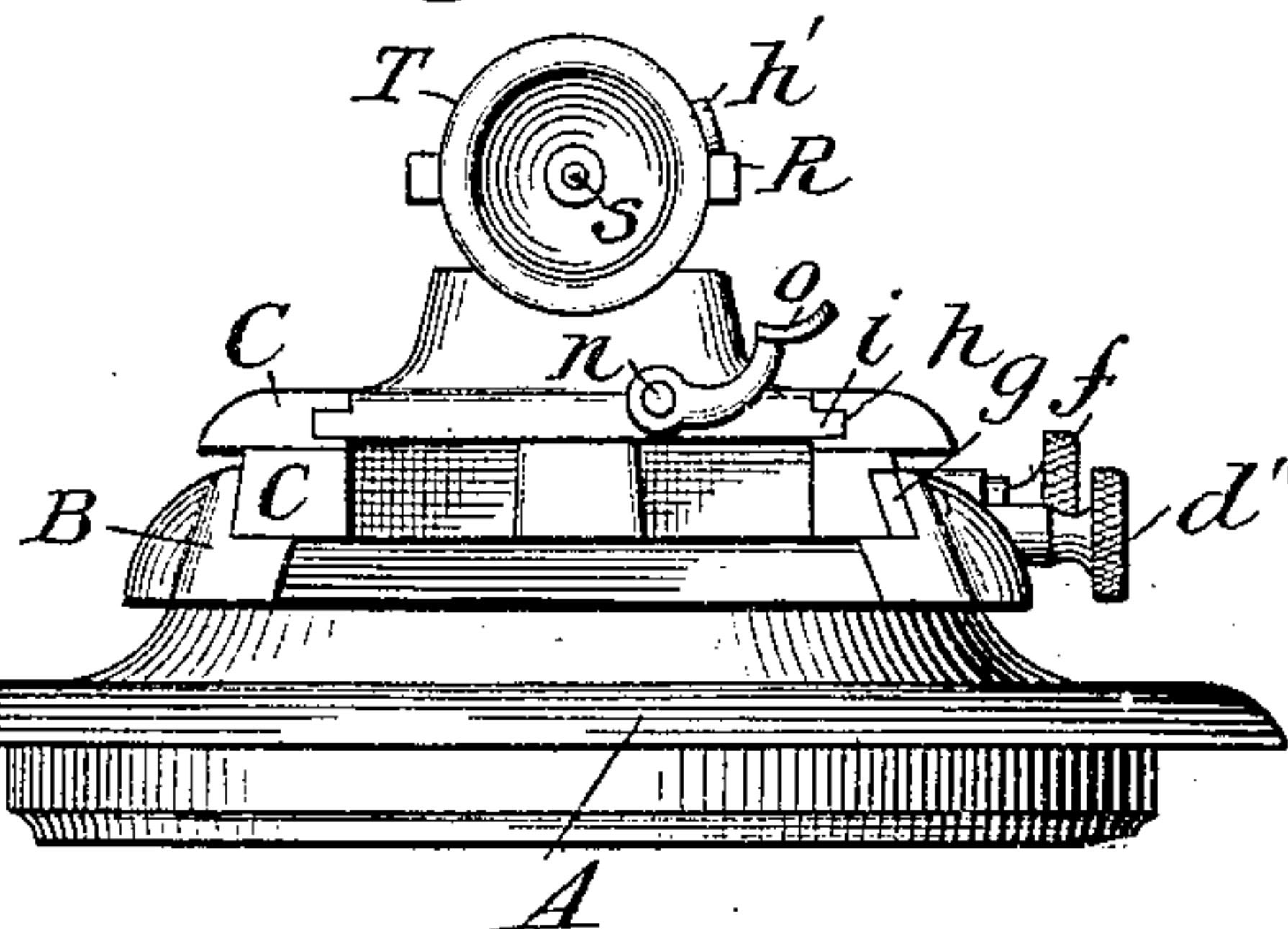


Fig. 3.



Witnesses:
M. L. Francis
Jenny L. Francis

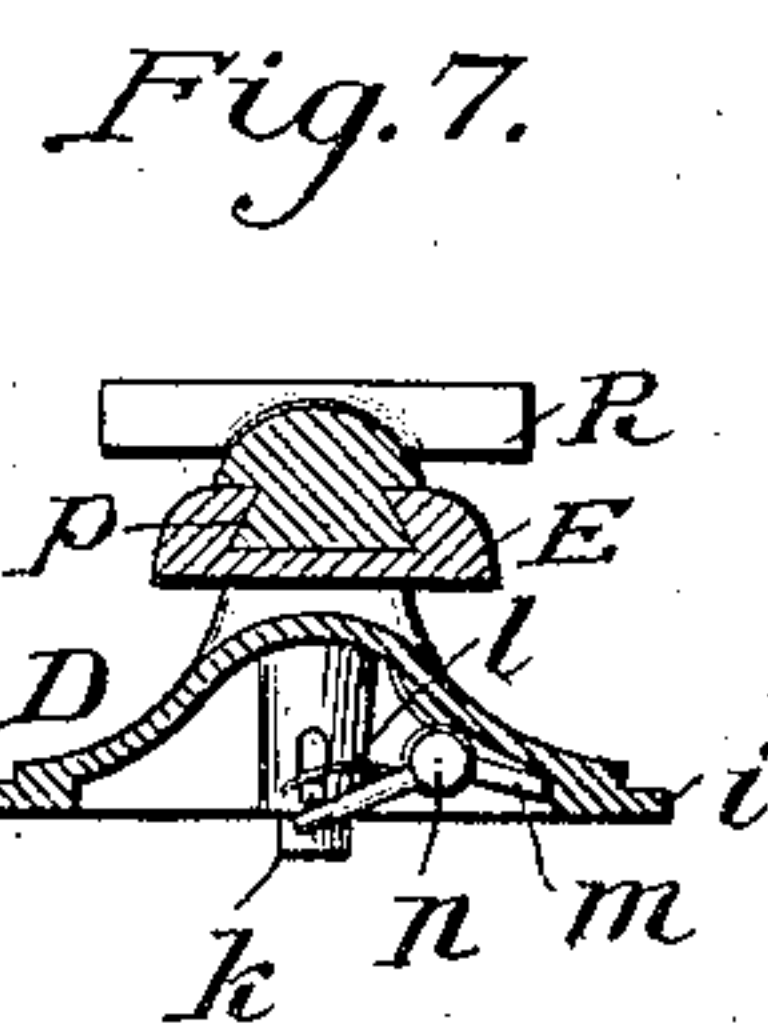
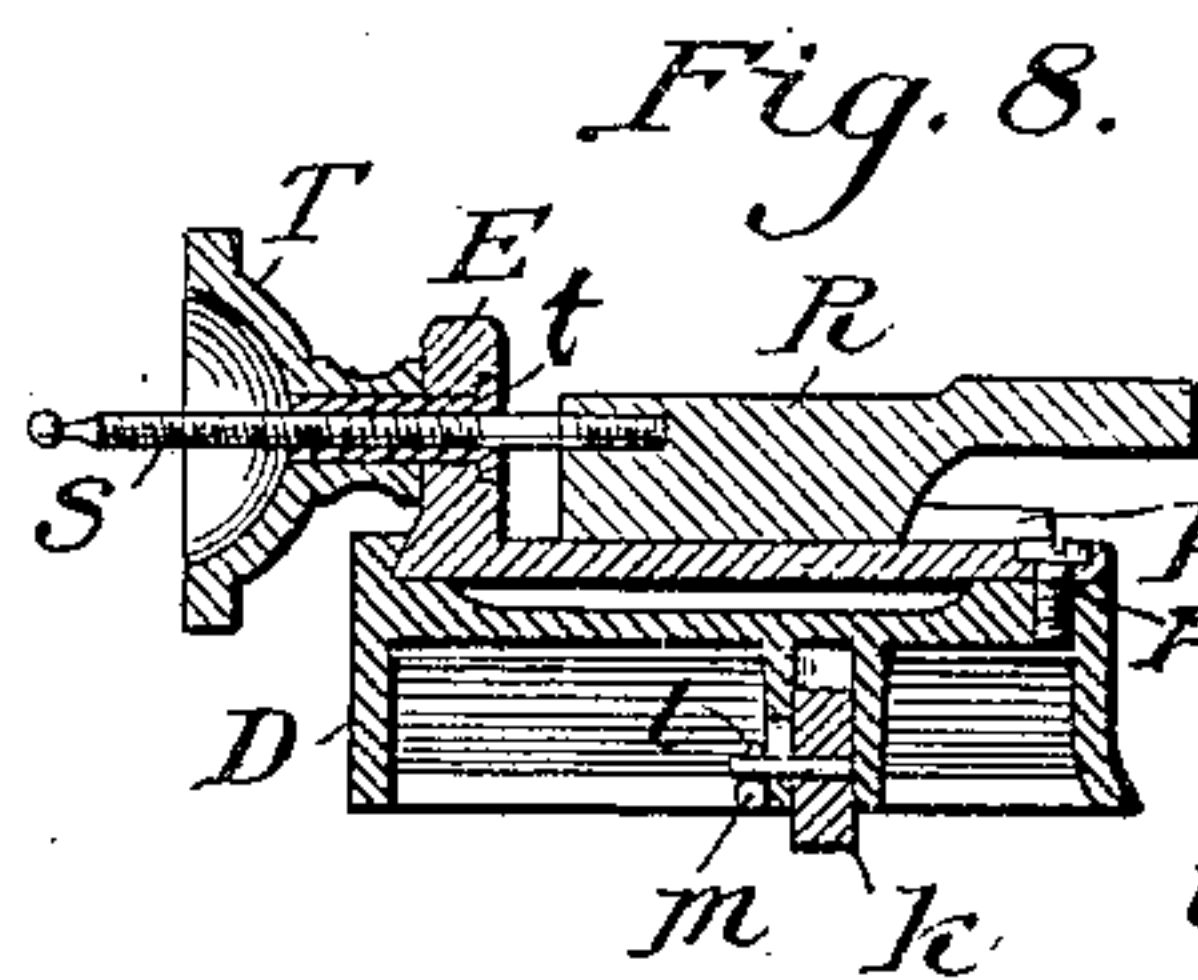
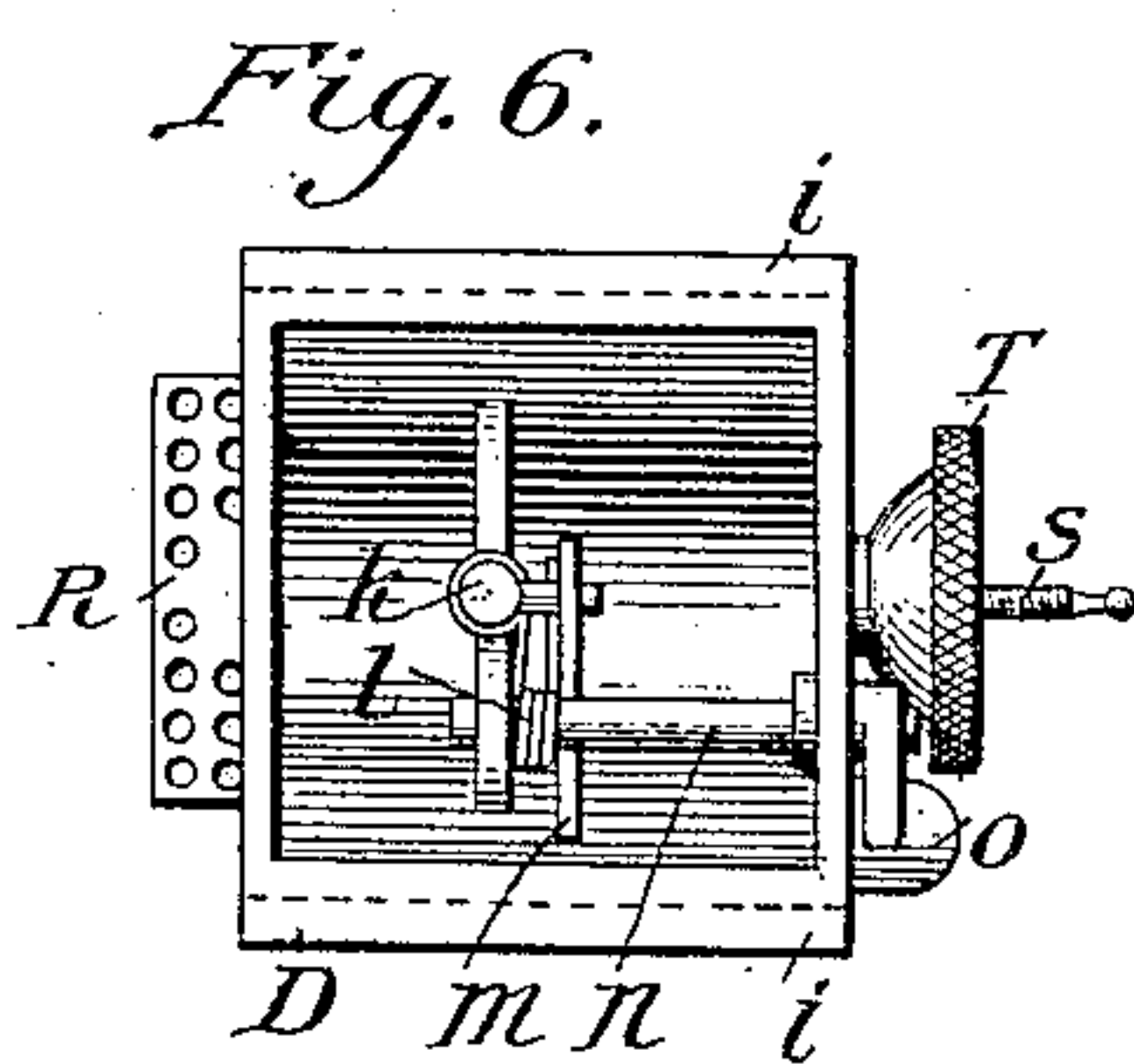
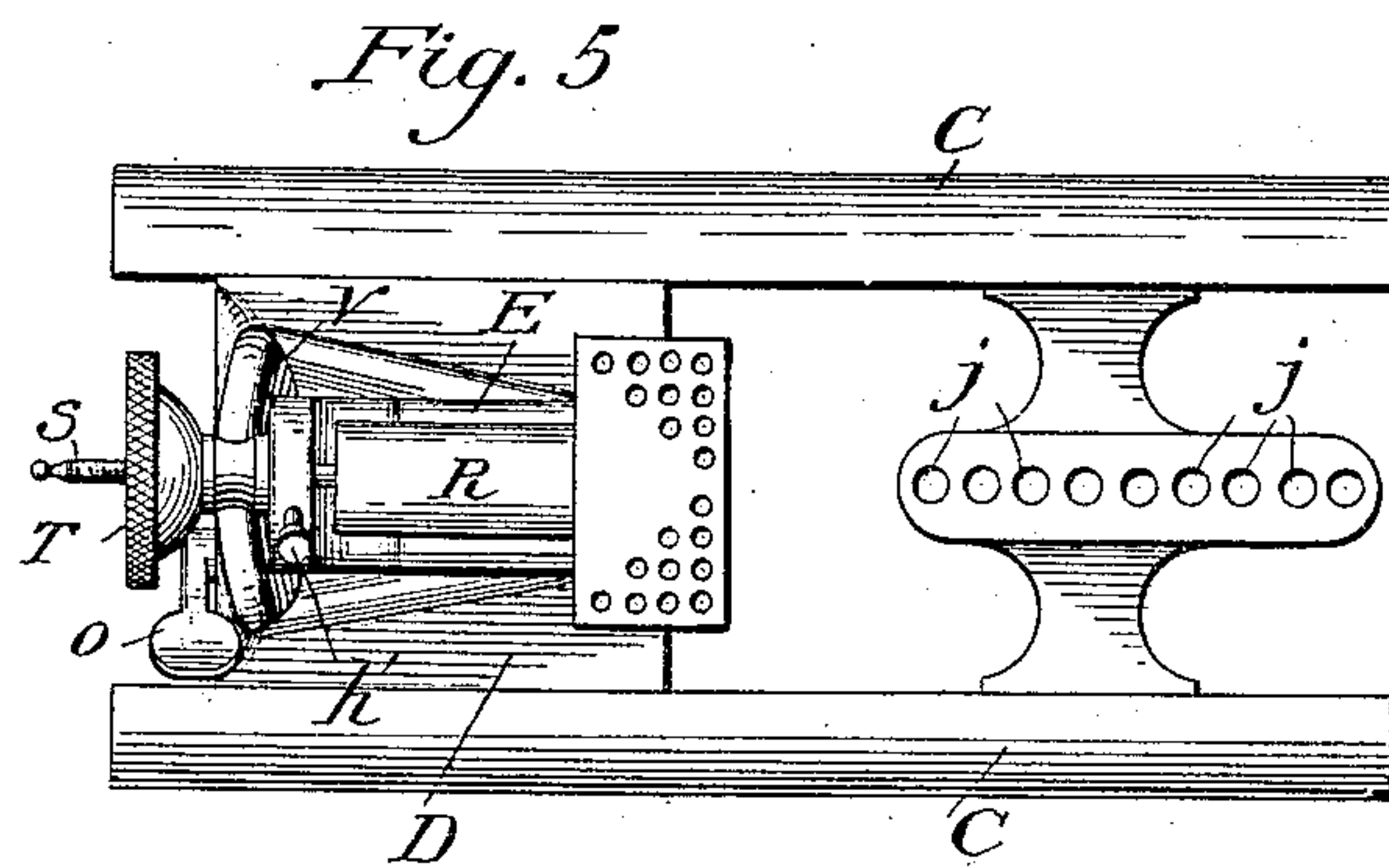
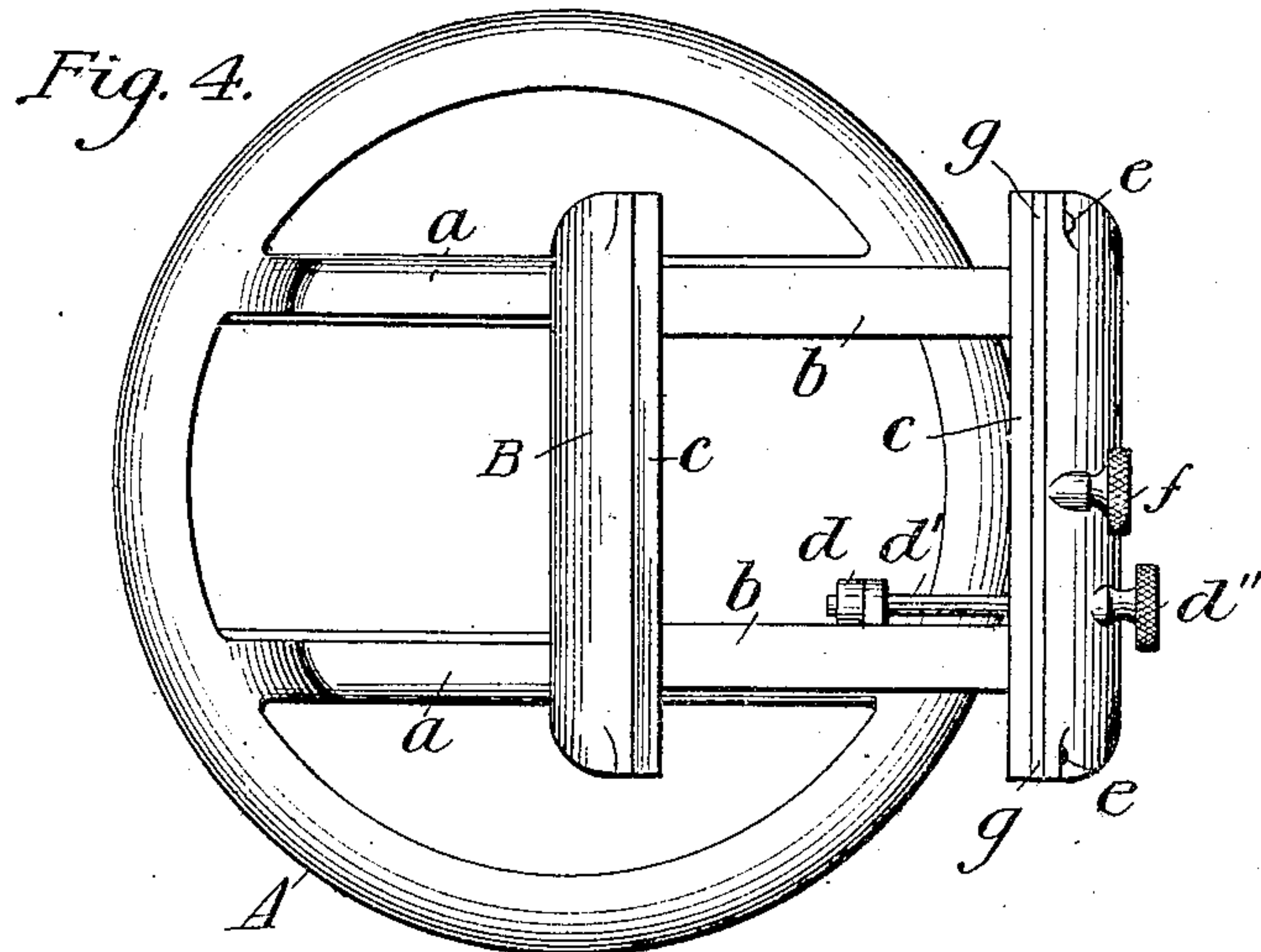
Inventor:
Allan E. Francis

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2 SHEETS—SHEET 2.



Witnesses.

M. C. Francis
J. L. Francis.

Inventor:

Alvan E. Francis

UNITED STATES PATENT OFFICE.

ALLAN E. FRANCIS, OF CLEVELAND, OHIO.

ENGRAVING-MACHINE.

No. 829,771.

Specification of Letters Patent.

Patented Aug. 28, 1906.

Application filed May 23, 1903. Serial No. 158,469.

To all whom it may concern:

Be it known that I, ALLAN E. FRANCIS, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented a new and useful Improvement in Engraving-Machines, of which the following is a specification.

My invention relates to improvements in engraving-machines in which a pantograph works above a bed suitably arranged to hold the article to be engraved, and it is an improvement of the arrangement for holding the work that my invention consists.

In machines of this class where a circular base is used it has been surmounted by a turn-plate or upper circle, to which posts were fastened supporting a vise to hold the work. To this circle I have attached slides upon which rests the following-described arrangement, the object of which is to provide a more convenient and secure means for holding articles and to enlarge the field on the bed of the machine in which articles can be held, thus saving a considerable work in bringing the graver to bear upon the article as desired.

I attain these objects by mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of the whole improvement. Fig. 2 is a side elevation. Fig. 3 is an end elevation. Fig. 4 is a plan view showing circle and its ways, also cross-slide, partly in position, and its gibbed ways for the long slide that holds the vise. Fig. 5 is a long slide with one vise-slide removed to show how the long slide is constructed, both ends being alike. It also shows a plan view of the vise-slide in position occupied in use. Fig. 6 shows the under side of a vise-slide and its means of fastening. Fig. 7 is a sectional view of vise-slide made on line X, Fig. 2, the drawing showing right-hand portion of same. Fig. 8 is a longitudinal section of vise-slide made on median line.

Similar letters refer to similar parts throughout the several views.

The turn-plate or circle A has long been used having posts attached in diametrically-opposed positions supporting vise-arms, for which I substitute slides *a a*, to which slides *b b* on the under side of cross-slide B are fitted. Cross-slide B has gibbed slides *c c*, to which long slide C is fitted, and it is provided with a small cam *d* and shaft *d'*, to the end of which a thumb-button *d''* is affixed. The cam is forced against slide *a*, securing cross-

slide B anywhere desired on slides *a a*. A steel gib *g* is inserted between the slides of C and those of B, and the gib is provided with adjusting-screws *e e* and with a set-screw *f* for securing slide C in any required position. C is provided on the inner side of its parallel bars with grooves *h h*, in which tongues *i i* on vise-slides D D act. Long slide C is made with centrally-located portions at each end, having holes *j j j* for reception of vise-bolt *k*, which is thrown down by spring *l* and is lifted by pin *m* through shaft *n* by downward pressure on levers *o o*. Vise-slides D D have slides *p p* representing segments of circles, the centers of which are located in screws *p' p'*, upon which the ends of the vise-jaw slides E E swing on elevated portion *z* and to which the rear ends of vise-jaw slides E E are fitted, so that in action they are held by slides *v v*. The vise-jaw slides E E swing from side to side at the rear ends, and they are secured in any position to fit duplicate irregular-shaped articles by thumb-screws *h' h'*, which by lifting the ends of slides E E against the overhanging semicircular slide of D holds it firmly when set. Vise-jaw slides E E have slides for vise-jaws R R, and vise-jaws R R are provided with screws *s s*, which work in threaded shells driven into thumb-wheels T, by which the vise-jaws are moved forward or back. It will be seen that by this arrangement compound ways are provided by which the vise can be quickly moved to any position in its field and that the two jaws of vise are locked to the long slide C, making it unyielding when brought against the article to be held and that as the vise-jaws work from pivoted slides swinging from side to side they adapt themselves to irregular forms as held by vise-pins inserted in some of the holes *q q*.

Having thus described my invention, what I claim is—

A work-holder for engraving-machines, said holder having a plate with circular bottom and a slideway on top; a cross-slide thereon having a second slideway; a long vise-holding slide adjustable in said second slideway; and the vise-slides with their latches to lock them in position on said long slide, substantially as described.

ALLAN E. FRANCIS.

Witnesses:

M. C. FRANCIS,
JENNY L. FRANCIS.