(No Model.)

J. E. SANDERS.

DIE PLATE.

No. 277,163. Patented May 8, 1883.

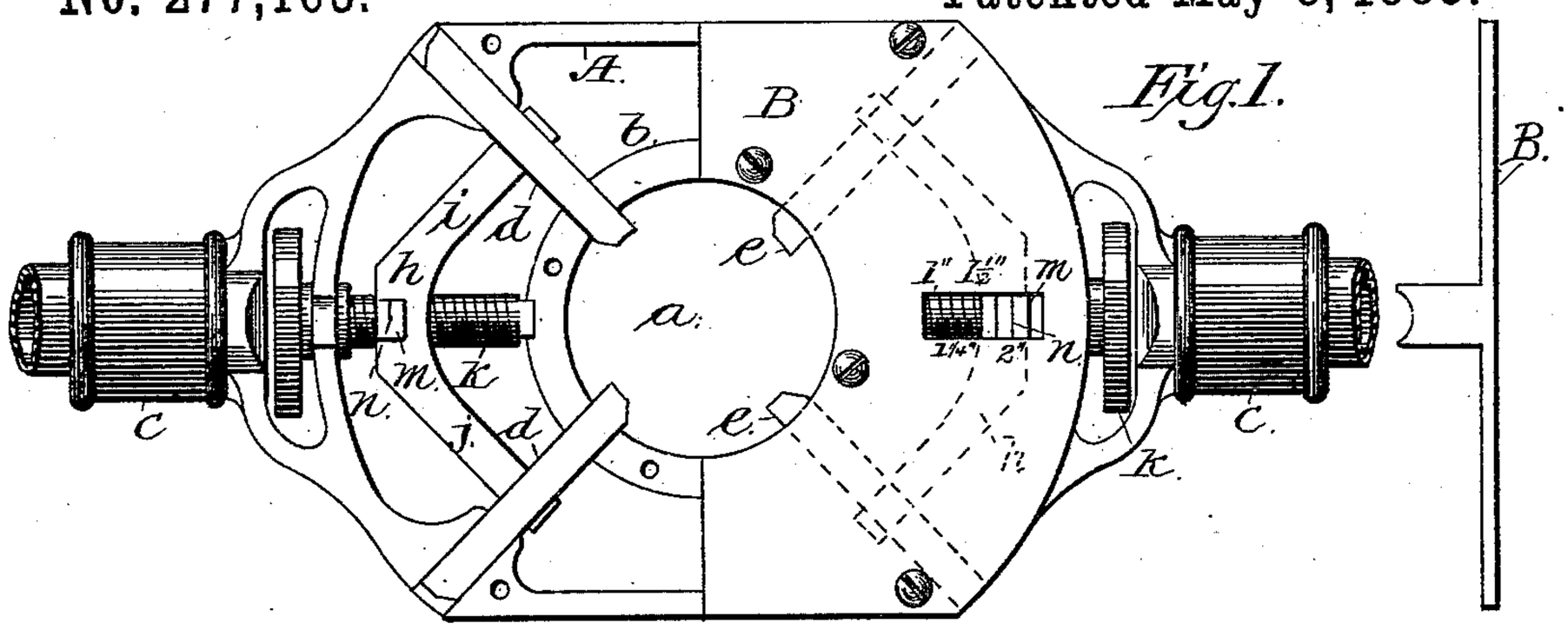


Fig. 1.

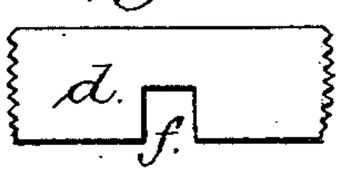


Fig. 4.

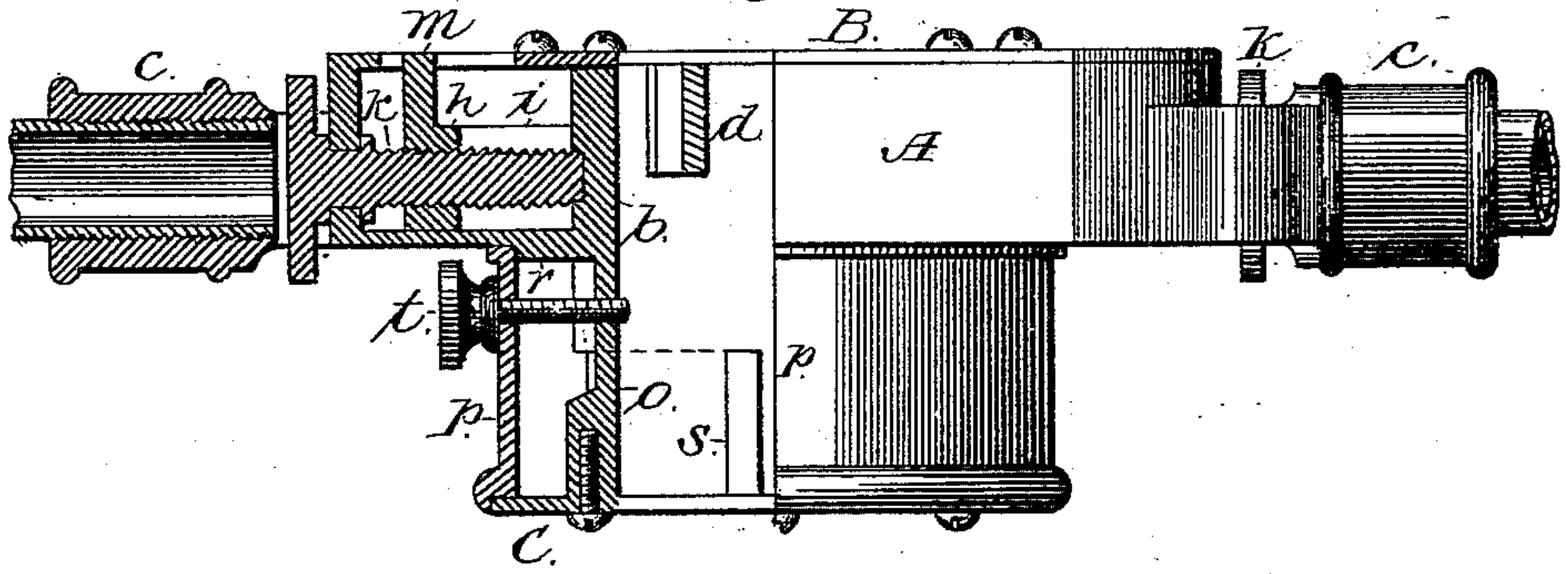
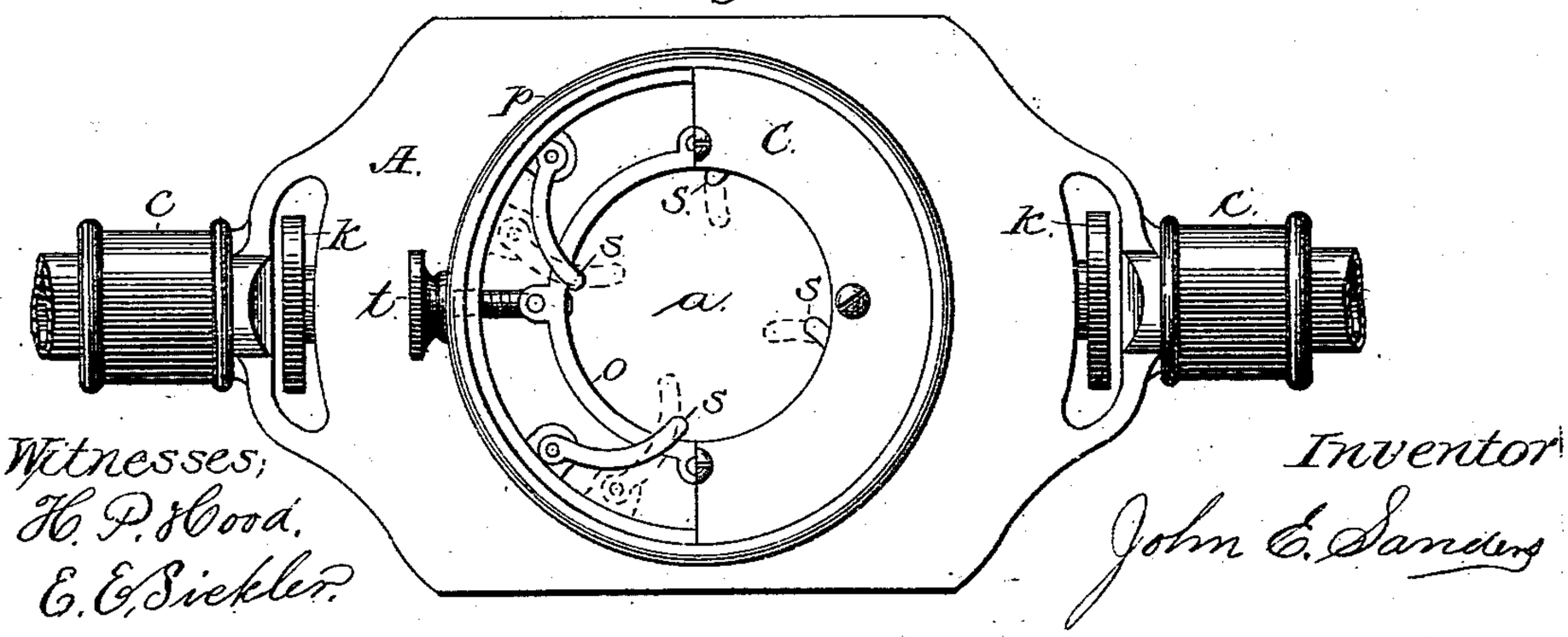


Fig. 2.

Fig. 3.



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DIE-PLATE.

SPECIFICATION forming part of Letters Patent No. 277,163, dated May 8, 1883.

Application filed December 4, 1882. (No model.)

To all whom it may concern:

Be it known that I, JOHN E. SANDERS, a resident of Indianapolis, in the county of Marion and State of Indiana, have invented a new and useful Improvement in Die-Plates, of which the following is a specification, having reference to the accompanying drawings.

My invention relates to that class of die-plates in which the dies are adjustable in relation to each other for the purpose of cutting screw-threads on pipes of different diameters.

The objects of my invention are to provide an improved means of adjusting the dies, to so construct the plate that straight dies may be used, and also to provide an adjustable guide for centering and squaring the dies on the pipe to be threaded.

My invention consists in the means employed to accomplish the above-mentioned objects, as hereinafter fully described, and particularly pointed out in the claims.

The accompanying drawings illustrate my invention.

Figure 1 is a view of the front side, with one-half of the front plate removed. Fig. 2 is an elevation, one-half being shown in section. Fig. 3 is a plan of the back side, with one-half of the back plate removed to show the guides. Fig. 4 is a side elevation of one of the dies.

A represents a hollow case forming the body of the die-plate, open on one side, and having a central opening, *a*, surrounded by a circular rib, *b*. The ends of case A terminate in cylindrical bosses *c c*, adapted to receive short rods or pipes, to form handles by which the die-plate may be turned. In the open side of case A are inserted four dies, *d d* and *e e*, which slide in radial grooves formed in the walls thereof and in the central circular rib, *b*. Said grooves extend radially from the center toward each end of the case, and are about two-thirds the depth of the hollow interior thereof. Each die is formed of a flat straight bar of steel, having sections of a screw-thread cut upon one or both ends, and is notched on the lower edge, as shown at *f*, Fig. 4. Dies *d d* are caused to slide simultaneously in their grooves in case A by means of a screw, *k*, having bearings in the case, and a nut, *h*, which is provided with arms *i j*, which nicely fit and slide in notches *f* in the lower edges of the dies. As the screw is turned the nut is carried toward or from the center, carrying the pair of dies with it, and sliding in the notches *f* as the points of the dies approach or recede from each other. Dies *e e* are moved by a duplicate screw and nut in an exactly similar manner. The top edges of the dies are flush with the top edges of the walls of case A and central rib, *b*, and they are held in their grooves by a removable plate, B, secured to and covering the open side of the case. Each of the nuts *h h* is provided with a stud, *m*, which projects outward through a slot in plate B. Said stud is provided with an index-mark, *n*, which registers with graduations on the face of the plate, which are marked and numbered to indicate the proper position of the dies to cut threads on corresponding sizes of pipe. Projecting from the back side of case A is an annular ring, *o*. A larger ring, *p*, is slipped over ring *o*, and is held concentric therewith by means of a shoulder, *r*, on the case. An annular space is thus formed between the two rings, ring *o* being fastened upon the case and ring *p* free to revolve about *o*. Four guides, *s s s s*, are hinged to the interior of ring *p* and project through slots in *o* into the central space, *a*. An annular plate, C, is secured to ring *o* and overlaps ring *p*, thus holding it in place and covering the annular space between the rings, and, together with shoulder *r*, forms a bearing on which ring *p* turns.

The operation of my device is as follows: Guides *s s s s* are forced toward or drawn from the center of space *a* by turning ring *p* until the guides will just admit the pipe which is to be threaded between their inner ends, and ring *p* is secured at the proper point by tightening set-screw *t*, the ring being slotted to admit of its movement over the screw. The dies *d d* and *e e* are now adjusted to leave a central opening between their inner ends by turning screws *k k*, thus sliding nuts *h h* and their respective pairs of dies, their proper position being shown by the graduations on plate B.

I claim as my invention—

1. The combination, with a die-plate, of ring *p*, adapted to turn thereon, guides *s s s s*, hinged

to the interior of ring *p*, ring *o*, having slots through which said guides project, annular plate C, and means for securing ring *p* in different positions, all substantially as shown and described, for the purpose specified.

2. A tool for cutting screw-threads, consisting of hollow case A, dies *d d* and *e e*, adapted to slide radially therein, and each provided with a notch, *f*, two nuts *h h*, having arms adapted to engage and operate said dies, and two screws, *k k*, adapted to engage and operate said nuts, all combined substantially as shown and described.

3. In a tool for cutting screw-threads, the combination, with dies *d d* and nut *h* and means for moving the same, of stud *m*, provided with index-mark *n*, and graduations on plate B, marked as shown and described, and for the purpose specified.

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