(No Model.) 2 Sheets—Sheet 1.

H. W. OSTER.

ADJUSTABLE DIE STOCK.

No. 490,676. Patented Jan. 31, 1893.

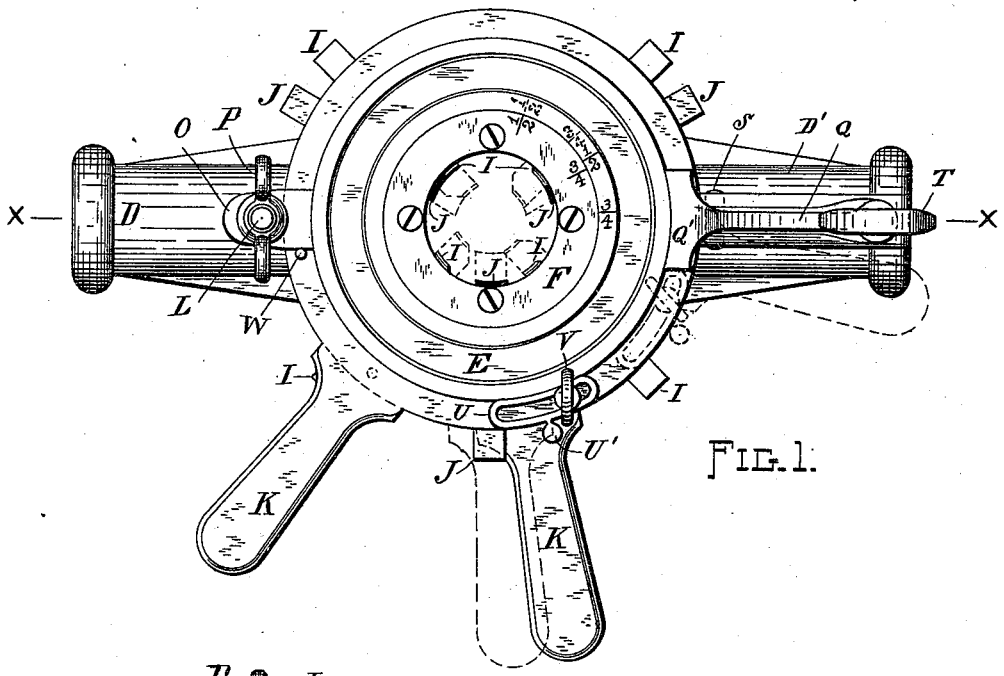

FIG. 1.

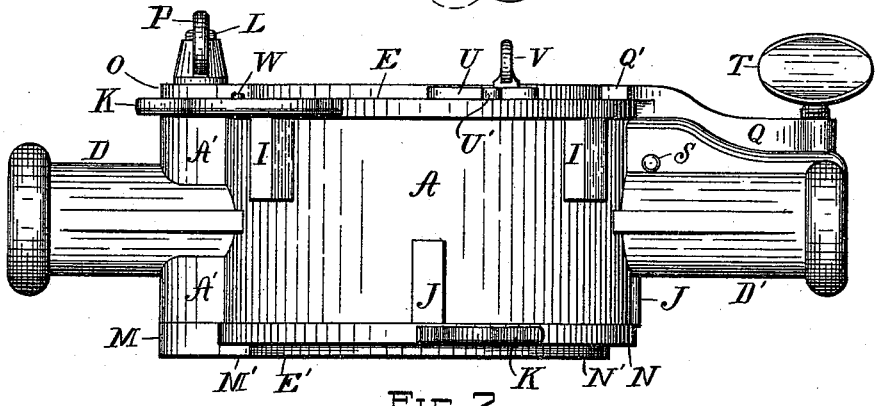

FIG. 2.

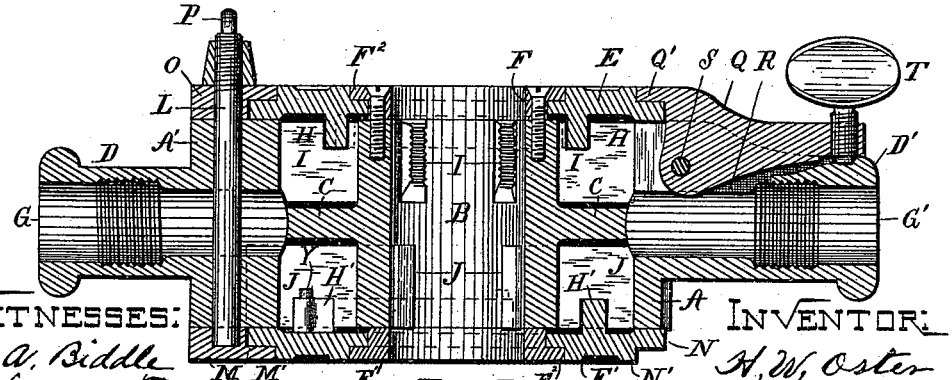

FIG. 3.

WITNESSES:
W. A. Biddle
Henry Ford

INVENTOR:
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By W. A. Burnidge
Atty.

(No Model.) 2 Sheets—Sheet 2.

H. W. OSTER.

ADJUSTABLE DIE STOCK.

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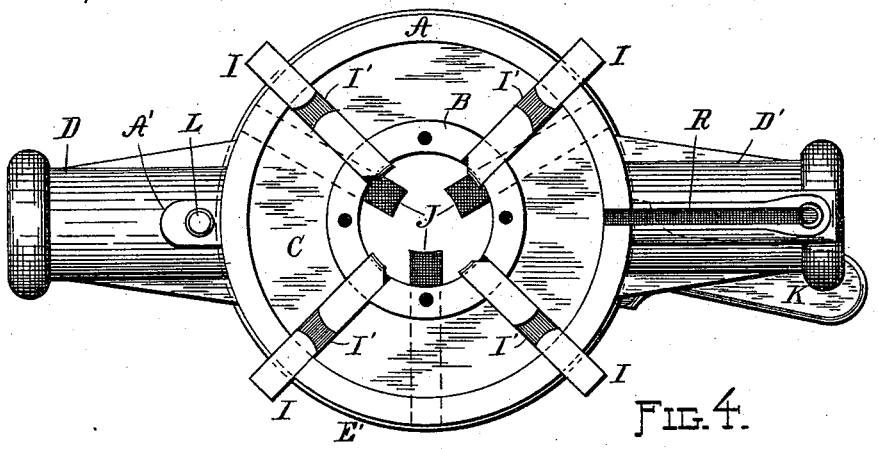

FIG. 4.

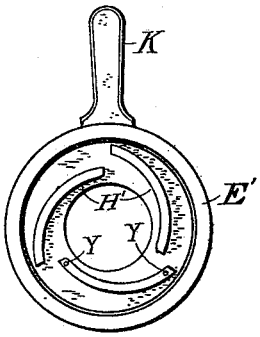

FIG. 7.

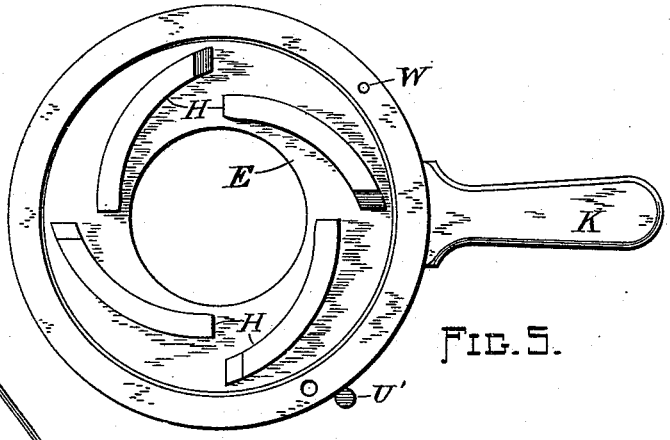

FIG. 5.

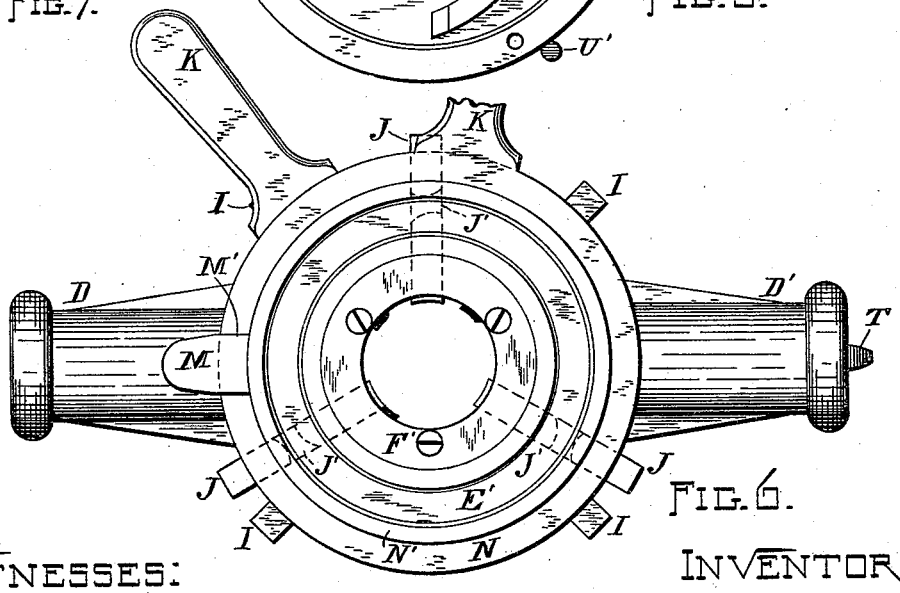

FIG. 6.

WITNESSES:
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UNITED STATES PATENT OFFICE.

HERMAN W. OSTER, OF CLEVELAND, OHIO.

ADJUSTABLE DIE-STOCK.

SPECIFICATION forming part of Letters Patent No. 490,676, dated January 31, 1893.

Application filed June 27, 1892. Serial No. 438,077. (No model.)

To all whom it may concern:

Be it known that I, HERMAN W. OSTER, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and Improved Adjustable Die-Stock, of which the following is a full, clear, and complete description.

My invention relates to an improved adjustable die stock, in which clamps and thumb screws are used, together with a movable adjusting link, in connection with the disks or cam plates of the die stock.

The object of my improvement is to provide a means for quickly adjusting the dies in a die stock, to cut any sized thread within the capacity of said stock, and securely locking the disks or cam plates which control the guide bars and dies. I attain this object by the means described in the following specification and illustrated in the accompanying drawings, forming a part thereof, in which—

Figure 1 is a top view of my die stock showing in dotted lines the guide bars and dies, thrown in toward the center. Fig. 2. a side view; Fig. 3. a longitudinal, vertical section on line *x. x.* Fig. 1. Plate 1. Fig. 4. is a top view of the stock and dies with the upper cam plate and clamps removed; Fig. 5. a view of the under side of the upper cam plate; Fig. 6. a bottom view of the die stock complete and Fig. 7. is a view of the upper side of the under cam plate.—Plate 2.

Similar letters of reference denote similar parts in the drawings and specification.

The stock consisting of the outer body A. Figs. 2. 3. and 4. and the cylinder B. Figs. 3. and 4. connected by the web C; also the arms D. D′, has the disks or cam plates E and E′ secured thereto by the collars F and F′ Figs. 1. 3. and 6. Each of the collars F and F′ is provided with a flange F^2, Fig. 3. which is received into an annular depression in the cam plate E. The collars F and F′ are of the same internal diameter as the cylinder B and are screwed to opposite ends thereof as shown in Figs. 1. 3 and 6. Both sides of the junction of the arm D, with the drum A. and forming an integral part thereof is the projection A′ Figs. 2. 3 and 4.

In the arms D and D′ are the screw threaded openings G and G′ respectively, substantially as shown in Fig. 3.

The plates E and E′ are capable of being turned upon the collars F and F′ and upon the inner surface of each is a series of cams. The upper plate E has the four cams H Figs. 3 and 5, corresponding with the number of dies I, and the under plate E′ has the three cams H′, Figs. 3 and 7 corresponding with the number of guide bars J. The cams H register with the slots I′ Fig. 4, in the dies I while the cams H′. register with the slots J′. in the guide bars J, shown by dotted lines in Fig. 6.

There are suitable openings in the walls of the body A, and the cylinder B, to receive the dies I, and the guide bars J, said dies and bars being held in place by the plates E and E′ and thrown in or out by the rotation of said cam plates. The cam plates E and E′ are each provided with the handle K. for rotating the same.

Near the outer circumference of the collar F. Fig. 1, is a scale, in this case $\frac{1}{2}$ and $\frac{3}{4}$, representing the sizes of the thread which the stock will cut and near the inner circumference of the cam plate E is a similar scale.

Extending vertically through the projection A′, is the rod L Figs. 1. 2. 3. and 4. screw threaded at the top and having the clamp M. Figs. 2. 3. and 6 secured to the bottom thereof. The clamp M. has the lip M′ which projects onto the annular flange N, of the cam plate E′, as far as the shoulder N′. Figs. 2. 3 and 6. The clamp O. Figs. 1. 2. and 3 of similar construction as the clamp M, except that it is not fast to the rod L but receives said rod through an opening therein, and in like manner to clamp M, projects onto a flange surrounding a raised annular shoulder upon the cam plate E. The thickness of the clamps M and O, is so nicely proportioned that a slight downward turn of the thumb screw P. Figs. 1. 2 and 3. will compress the projecting lips of said clamps tightly against the annular flanges of the cam plates E and E′ and prevent the turning of the same. The clamp Q. Figs. 1. 2 and 3. having a lip Q′, which projects onto the annular flange of the cam plate E, opposite the clamp O. said clamp Q is let into a slot or

opening R. Figs. 3 and 4 in the arm D′ and is secured therein by the pin S. which passes through the sides of the slot R.

At the outer end of the clamp Q. is the thumb screw T, which bears with the end of the clamp upon the arm D′. beyond the slot R, and when the thumb screw T is turned down, the pivot S serves as a fulcrum upon which the end of the clamp opposite the lip Q′ is raised thereby depressing said lip upon the flange of the cam plate E and assisting the clamp M. to prevent the rotation thereof. The clamp Q, is sufficiently powerful to hold the cam plate E when the clamp O is released. By means of the clamp Q, and the thumb screw T, threaded at the end thereof, so arranged in connection with cam plate E, that by the action of the thumb screw, a leverage or power is obtained to securely hold the cam plate in place.

In order to facilitate the adjustment of the dies for cutting any desired sized thread within the capacity of the device, the link U Figs. 1 and 2. secured to the flange of the cam plate E, by means of the thumb screw V, is used. The ear U′. upon the link U, is for the purpose of sliding said link upon the flange of the cam plate E. When it is desired to cut a half inch thread, for example, the cam plate E is turned until the ½ marks form one continuous line, which position is retained by means of the clamp Q. The link U, is now pushed forward until it comes in contact with the edge of the lip Q′, when the thumb screw V, is turned down; thus holding the link securely in place.

The above described arrangement is fully illustrated by the dotted lines in Fig. 1. The link U, prevents further movement or rotation of the cam plate E, in the direction of the clamp Q, and the pin W Figs. 1 and 2. limits the rotation in the opposite direction by striking against the clamp O. The pins Y. Y. Figs. 3 and 7. fulfill a similar office for the cam plate E′. The dies I being thrown in the necessary distance, by the cam plate E, as described above, a pipe or rod, upon which it is desired to cut a thread is inserted into the cylinder B from the end nearest the guide bars J, and thrust forward until its end comes in contact with the dies, when the guide bars are closed in upon said pipe or rod by rotating the cam plate E′, and the thumb screw P is then turned down sufficiently to tighten the clamps M and O, upon the flanges of both cam plates. By ordinary suitable appliances attached to the arms D. and D′, the stock is revolved until a thread of the desired length is obtained, when the clamps are all loosened and the guide bars and dies thrown out sufficiently to permit of the easy removal from the stock of the pipe or rod on which a thread has been cut. The cam plate E is once more turned upon the collar F until the link U. strikes the clamp Q when said clamp is again tightened and the stock is ready for the insertion of another pipe or bar, to be threaded. The same general action applying to the cutting of a half inch thread applies to the cutting of any sized thread.

What I claim as my invention described and desire to secure by Letters Patent is—

1. In an adjustable die stock, the cam plate E, held in place by the collar F, and having a scale on said collar and plate, in combination with the pivoted clamp Q and set screw T, in the manner substantially as and for the purpose set forth.

2. In an adjustable die stock, the cam plate E, having an adjusting link attached by a suitable set screw to an outer annular flange thereof, in combination with a pivoted clamp and a set screw in the manner substantially as and for the purpose set forth.

3. In an adjustable die stock, the upper and under cam-plates, two clamps at opposite ends of a rod passing through a projection of the stock and a set-screw, said clamps overlapping said cam-plates, in combination with the pivoted clamp Q having a thumb-screw at the outer terminal thereof, said clamp Q being pivoted to the stock arm D′ and projecting onto the upper cam-plate, in the manner substantially as and for the purpose set forth.

4. In an adjustable die stock, the combination of two cam plates, an adjusting link and set screw, an upper and under clamp connected by a rod with a set screw threaded thereto, and a pivoted clamp having a set screw in one end thereof substantially as described.

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

HERMAN W. OSTER.

Witnesses:
W. H. BURRIDGE,
L. T. GRISWOLD.