

H. W. OSTER.

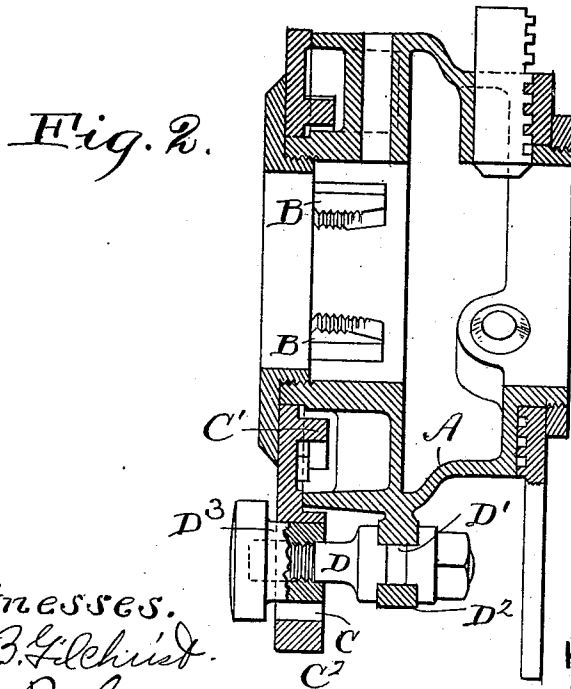
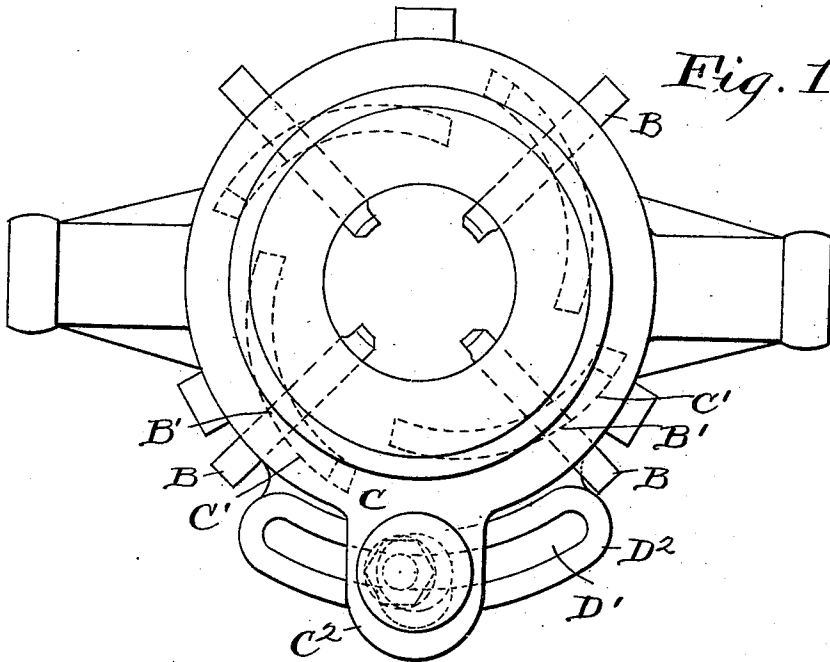
DIE STOCK.

APPLICATION FILED SEPT. 14, 1908.

977,541.

Patented Dec. 6, 1910.

2 SHEETS—SHEET 1.



Witnesses.

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H. B. Sullivan

Inventor.

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2 SHEETS—SHEET 2.

Fig. 3.

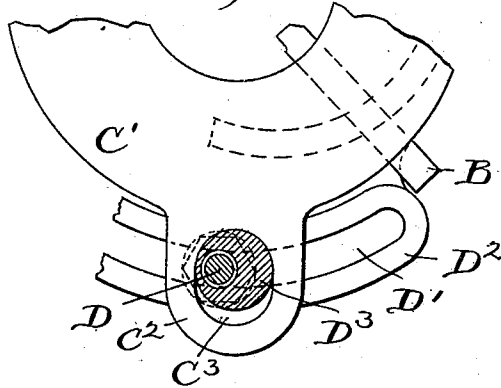


Fig. 4.

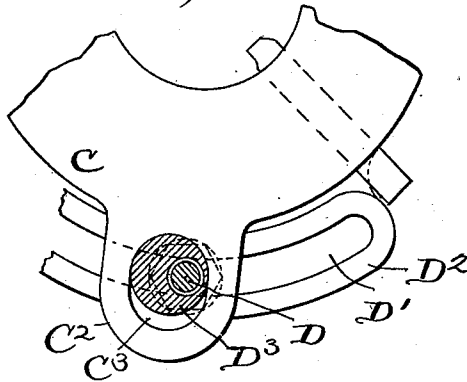
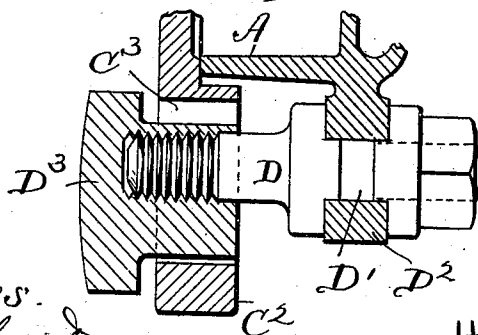


Fig. 5.



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UNITED STATES PATENT OFFICE.

HERMAN W. OSTER, OF CLEVELAND, OHIO, ASSIGNOR TO THE OSTER MANUFACTURING COMPANY, A CORPORATION OF OHIO.

DIE-STOCK.

977,541.

Specification of Letters Patent.

Patented Dec. 6, 1910.

Application filed September 14, 1908. Serial No. 452,816.

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 useful Improvement in Die-Stocks, of which the following is a full, clear, and exact description.

The present invention relates to devices for cutting threads upon cylindrical pipes and bars.

It is directed to an improvement in means for withdrawing the dies from engagement with the thread after it has been cut upon the work and so permit the separation of the work and the device without having to turn the die carrying device backward.

An especial object of my invention has been to provide means for accurately returning the dies "to size," after they have been retracted to clear the threads and permit separation of the work and the threading machine.

The above object and other advantages it will be seen are obtained by that embodiment of my invention illustrated in the accompanying drawing, in which;

Figure 1 is a front elevation of a die stock constructed in accordance with my invention. Fig. 2 is a central longitudinal section of the same. Fig. 3 is a detail section showing the die cam plate and its controlling device in a position different from that in which they appear in Fig. 2. Figs. 4 and 5 are detail front elevations showing the controlling device in section, in different positions.

The threading apparatus here illustrated comprises a body A having suitable ways for the threading dies B, said dies being provided with slots B' receiving the cam ribs C' of the cam plate C. The stock here shown has no work holder and travels along the work with the thread, but my invention plainly may be applied to a stock with a suitable work holder of conventional type connected with the die holder in such manner as to permit the rotation and longitudinal reciprocation of the latter.

For the purpose of positioning the dies radially in cutting threads on pipes or bars of different diameters, I provide the cam plate with a projecting ear C² having an ellipsoid perforation C³ therethrough. Projecting into this perforation is a post D ad-

justably held in an arcual slot D' of an elongated ear D² suitably located. In the present embodiment, this ear D² is shown as rigid and integral with the body A. It will be noted that at the end of this post where it projects into the ellipsoid perforation of the cam plate ear I provide a rotatable cylindrical nut or thimble D³. The exterior cylindrical surface of this nut or thimble is eccentric from the axis of rotation. The ellipsoid opening is of a width to receive the cylinder and preferably of a length to permit a less than full rotation thereof.

By this construction it will be seen that when the adjusting post has been moved to any definite position in its arcual slot, the cam plate is carried with it to a corresponding position, relative to the die holder, and will change the position of the threading dies correspondingly. The exact position of the dies, however, will be determined by the rotation of the eccentric surface of the thimble which obviously may throw the cam plate either forward or backward according to the direction of rotation, and the extent of such throw is dependent upon the eccentricity of the curved surface from the axis of rotation. When the thimble has been turned to its extreme position in one direction, as shown in Fig. 4, the dies will be thrown inward so far as it is possible to send them with the controlling post D fixed in the particular location shown. Assuming the thimble to be in this position and the post to be adjusted so that the dies will cut "to size,"—that is to say, will thread the diameter of pipe desired, the threading operation may thereupon proceed. After the thread has been cut, the turning of the thimble in the direction of the arrows shown in Fig. 5, and toward its other extreme position, will obviously shift the cam plate so as to retract the dies from the thread cut, and the throw of the plate should be sufficient to cause the dies to entirely clear the thread. Thereupon the work and the threading mechanism may be separated without the necessity for turning the dies backward over the thread which they have cut, as is necessary in many forms of threading apparatus. When a new piece of work is inserted the dies may be instantly returned to their former position—that is, "to size", as it is termed in the shop, and the process repeated continuously and indefinitely with-

out any chance for error through inattention or carelessness on the part of the operator. It is needless to point out the great practical advantage of securing this ready and accurate return of the threads to the proper diameter after the quick release from the work in such a manner.

While I have shown the eccentric thimble as secured to the post D by means of screw threads, this is a mere convenience of construction and obviously need not be followed, since the rotatable connection may be had in many other ways. Further, while I do not prefer such a construction, it is plain that the ellipsoid perforation may be of such length that the eccentrically mounted cylinder may have a complete rotation therein, in which case it would be advisable to have a couple of registering marks upon the cylinder and the ear through which the perforation is made in order that the operator may determine always when the extreme inward throw,—that is to say, the operating position, is attained.

It will be seen that the invention which I

have described is not only applicable to the form of threading apparatus shown, but may be used in other similar and kindred structures, and I do not desire to be considered as limiting my claim to the particular modification illustrated.

Having thus described my invention, I claim:

Threading apparatus comprising a head, radially movable dies carried thereby, a cam plate rotatable upon said die holder and engaging said dies, said cam plate having a laterally extended ear through which is an ellipsoid opening, a flange fixed to the die holder and having an arcual slot concentric with the die holder, a post adjustably fixed in said slot, and an eccentric sleeve rotatable upon said post and lying in said ellipsoid opening.

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

HERMAN W. OSTER.

Witnesses:

R. B. TEWKSBURY,
M. R. SPAYD.