

No. 655,061.

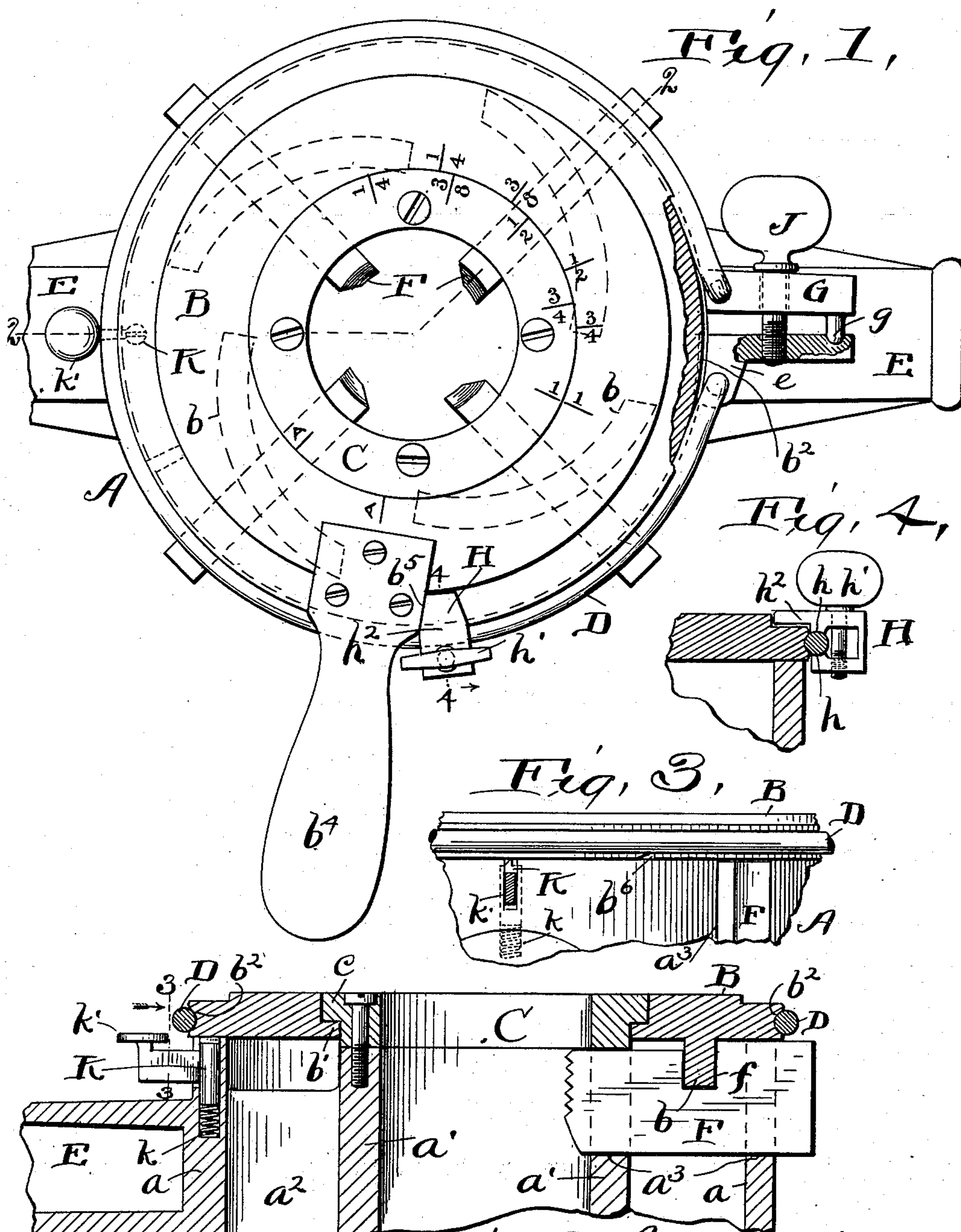
Patented July 31, 1900.

I. CULVER.

ADJUSTABLE DIE STOCK.

(Application filed June 12, 1899. Renewed Jan. 11, 1900.)

(No Model.)



Witnesses.
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Fig. 2. A Inventor:
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UNITED STATES PATENT OFFICE.

IRA CULVER, OF CLEVELAND, OHIO, ASSIGNOR TO THE BRONSON-WALTON COMPANY, OF SAME PLACE.

ADJUSTABLE DIE-STOCK.

SPECIFICATION forming part of Letters Patent No. 655,061, dated July 31, 1900.

Application filed June 12, 1899. Renewed January 11, 1900. Serial No. 1,144. (No model.)

To all whom it may concern:

Be it known that I, IRA CULVER, 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 Adjustable Die-Stocks, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

The object of my invention is to provide an adjustable die-stock of such character and construction that the oscillating ring which controls the movement of the dies may be firmly clamped in any desired position, but may when released be moved backward, so as to retract the dies, and then forward with certainty to some predetermined position, and may when desired, but not otherwise, be moved backward far enough to permit the withdrawal of the dies.

The invention consists in the construction and combination of parts hereinafter described, and pointed out definitely in the claims.

In the drawings, Figure 1 is a plan view of an adjustable die-stock embodying my invention. Fig. 2 is a vertical sectional view on line 2 2 of Fig. 1. Fig. 3 is a sectional side view on line 3 3 of Fig. 2, and Fig. 4 is a sectional view on line 4 4 of Fig. 1.

The die-stock may be of the usual form—that is to say, it may have an outer cylinder a , an inner cylinder a' , a plurality of connecting-webs a^2 , and radial guide-slots a^3 for the dies F .

B indicates an oscillating "cam-ring," so called because it has on its under side as many cams b as there are dies F . It is rotatably mounted upon the body of the die-stock and is secured thereon and guided in a rotary path by means of a circular ring C , which is fastened to the inner cylinder a' by screws, and is provided with an external annular flange c , which overhangs an internal annular flange b' on the ring B . The dies F have slots f in which the cams b engage, whereby said dies are moved radially inward or outward. So much of the device as is above described is old.

In the outer periphery of the cam-ring B

is a shallow groove b^2 , in which lies a flexible clamping-wire D . One end of this wire is bent downward and inserted in a hole in an ear e on one of the handle-sockets E . The other end of this band is likewise turned down and inserted into a hole in a tightening-lever G . This lever has at its outer end a lug g , which enters a shallow socket in the ear e and serves as the fulcrum for said lever. A screw J , passing through the lever between said fulcrum and the hole in which the end of the wire is inserted, screws into said ear, and as it is screwed up it tightens the clamping-wire D , whereby the cam-ring B is held immovable.

The cam-ring is provided with a handle b^4 for turning it to cause the dies to move inwardly or outwardly. It is customary in operating devices of this kind to turn this ring until certain graduations upon the ring and upon the inner ring C are in alinement to indicate when the dies are in the proper position for operating upon pipes or rods of a certain size. For example, the two marks 1 1 upon the two rings are shown in alinement in Fig. 1, and this indicates that the dies are set for cutting a thread upon one-inch pipe. Sometimes a lot of pipe or rods which are represented to be of a certain diameter are of greater or less diameter than represented. In such a case the cam-ring B cannot occupy a position which brings the two marks into alinement and be adapted to cut a good thread on the pipe. One learns by experiment exactly how far in the dies should be moved for each lot, and when once this is ascertained by experiment a stop is adjusted so that if the ring be moved away from this position for the purpose of withdrawing the dies after a thread has been cut it may with certainty be again returned to this position, whereby it is adapted to cut a thread upon another like piece of pipe. A clamp for this purpose is shown in the drawings and is indicated by H . It has a pair of jaws $h h$, which are adapted to engage with the clamping-wire and to be firmly clamped thereon by a screw h' . A stop-arm h^2 , which forms a part of this stop-clamp, overhangs the cam-ring, whereby it may engage with a shoulder b^5 on said ring. This

shoulder, as shown, is formed by the inner end of the handle by which the ring is turned.

After a thread has been cut it is desirable to withdraw the dies, so that the die-stock
5 may be removed from the pipe without the necessity for unscrewing it. This may be effected with the device shown by unloosening the clamping-wire and then turning back the cam-ring by means of its handle. It is desirable, however, that this backward move-
10 ment of the ring shall not be sufficient to entirely withdraw the cams on the ring from the slots in the dies. To prevent this action, a beveled notch b^6 is cut in the inner face of
15 the cam-ring close to its edge. A spring-pawl K, which has a beveled end, is vertically movable in a socket in the die-stock body and is forced upward by a spring k . When the cam-ring is moved backward far enough to with-
20 draw the dies, the pawl enters the beveled notch and prevents further movement in that direction; but it offers no obstacle to the movement of the cam-ring in the opposite direction. When it is desired to withdraw the
25 dies, this spring-pawl is moved downward by means of an outwardly-projecting arm k' . This permits the cam-ring to move farther, so that the notch b^6 therein passes the said spring-pawl and to such a position that the
30 cams move out of the slots in the dies, whereupon the dies may be withdrawn.

Having described my invention, I claim—

1. In a die-stock, the combination of the body, dies radially movable therein, and a
35 cam-ring rotatably mounted on said body and having cams for engaging the said dies, and having also a grooved periphery, with a clamping-wire which engages in said groove and is connected at one end to the body, and a tight-
40 ening device to which the other end is connected, substantially as specified.

2. In a die-stock, the combination of the body, dies radially movable therein, and a cam rotatably mounted on said body and hav-
45 ing cams for engaging the said dies, and having also a grooved periphery, with a clamping-wire which engages in said groove and is connected at one end to the body, a lever fulcrumed to an ear on the body, a screw pass-
50 ing through the lever and screwing into said ear, one end of said clamping-wire being con-

nected with said lever, substantially as specified.

3. In a die-stock, the combination of the body, dies radially movable therein, and a
55 cam-ring rotatably mounted on said body and having cams for engaging the said dies, and having also a grooved periphery, with a clamping-wire which engages in said groove and is connected at one end to the body, and a tight-
60 ening device to which the other end is connected, a stop-clamp adjustably fastened to said clamping-wire and adapted to engage with a shoulder on said cam-ring, substantially as specified. 65

4. In a die-stock, the combination of a body, radially-movable dies mounted therein, and a cam-ring rotatably mounted on said body hav-
70 ing cams for engagement with said dies, and having also a grooved periphery, with a clamping-wire having its ends turned down, one end being inserted in a hole in an ear on the body, a tightening-lever fulcrumed to said ear and having a hole in which the other end of said clamping-wire is inserted, and a screw pass-
75 ing through said lever between said hole and fulcrum and screwing into said ear, substantially as specified.

5. In a die-stock, the combination of the body, radially-movable dies and a cam-ring
80 rotatably mounted on the body and having cams for engagement with said dies, and having also a beveled notch, with a beveled spring-pawl mounted in the body and adapted to automatically engage in said notch, substan-
85 tially as specified.

6. In a die-stock, the combination of a body, radially-movable dies, and a cam-ring rotatably mounted on the body and having cams
90 for engagement with said dies, and having also a beveled notch in its inner face, a vertically-movable spring-pawl mounted in the body beneath the ring, said pawl having a beveled upper end and an outwardly-projecting operating-arm, substantially as specified. 95

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

IRA CULVER.

Witnesses:

E. L. THURSTON,
PHILIP E. KNOWLTON.