

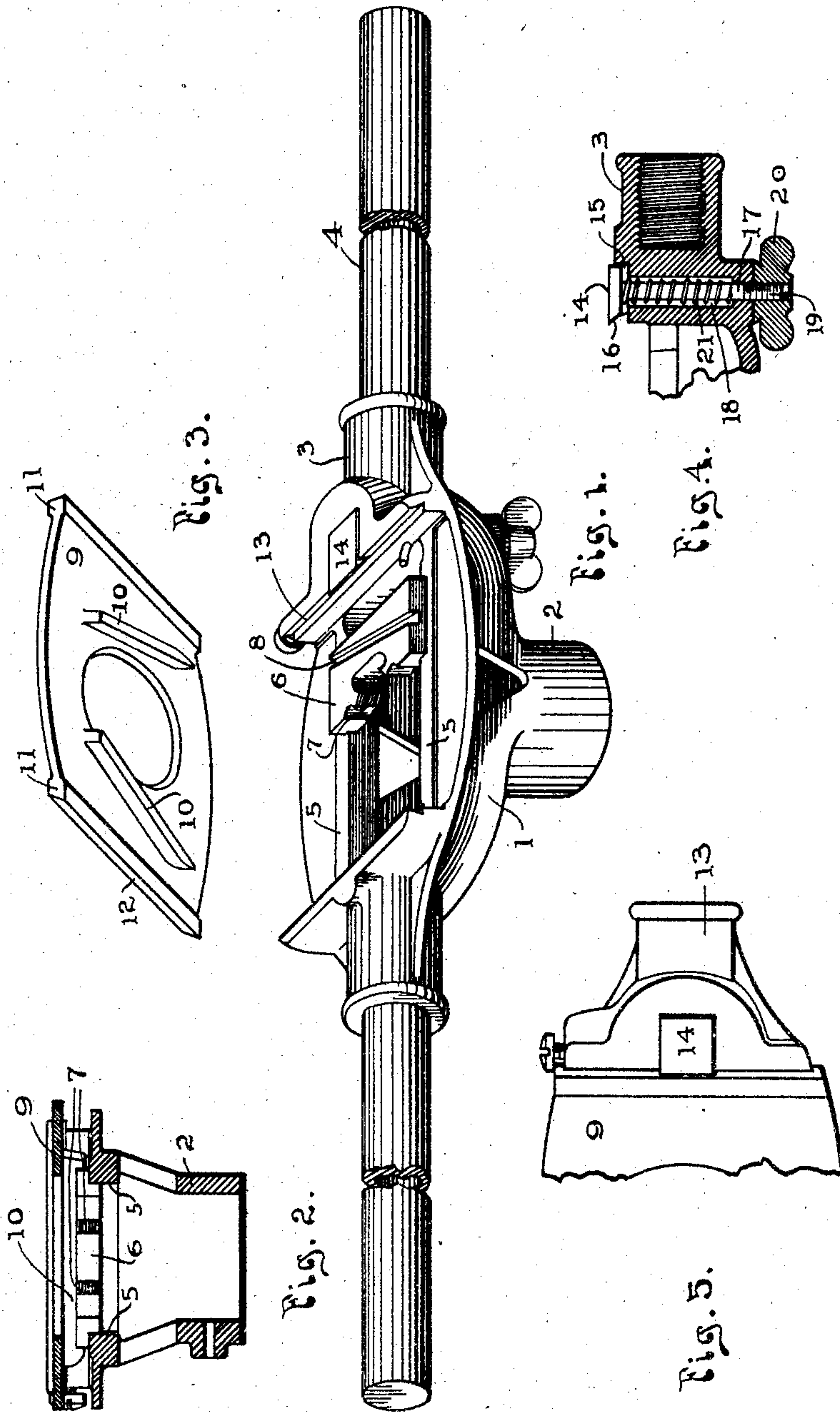
No. 790,255.

PATENTED MAY 16, 1905.

O. F. KADOW.  
DIE STOCK.

APPLICATION FILED JULY 5, 1904.

2 SHEETS—SHEET 1.



WITNESSES:  
Brennan D. West.  
C. M. Choy.

Otto F. Kadow,

INVENTOR.

BY *Fruto & Hull*  
ATTORNEYS

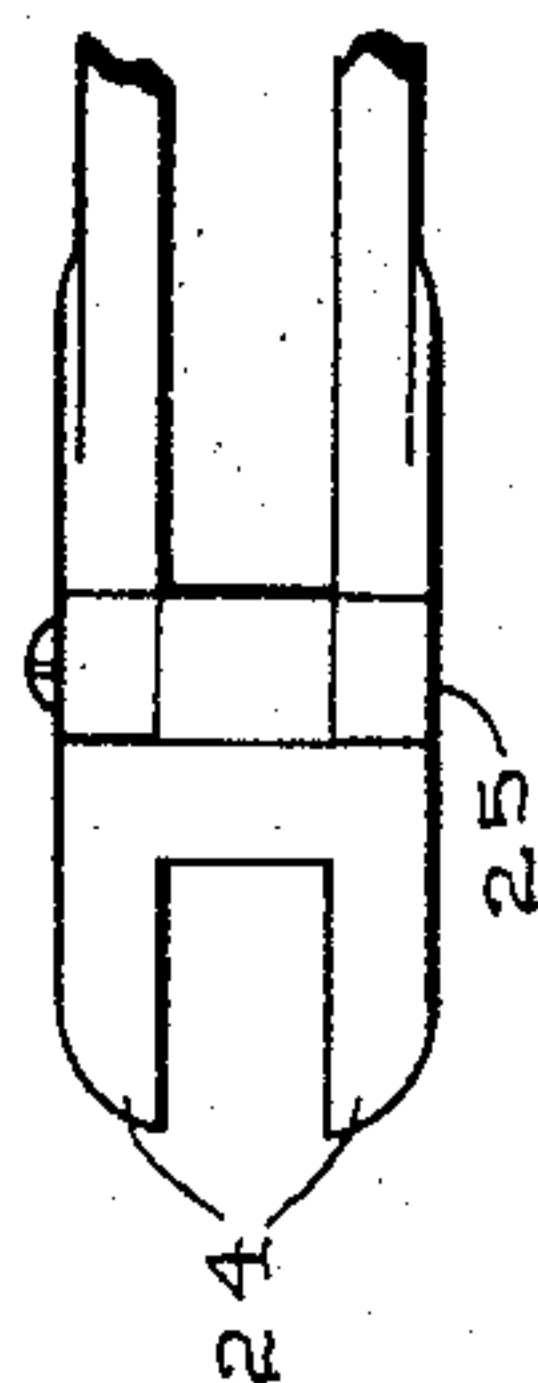
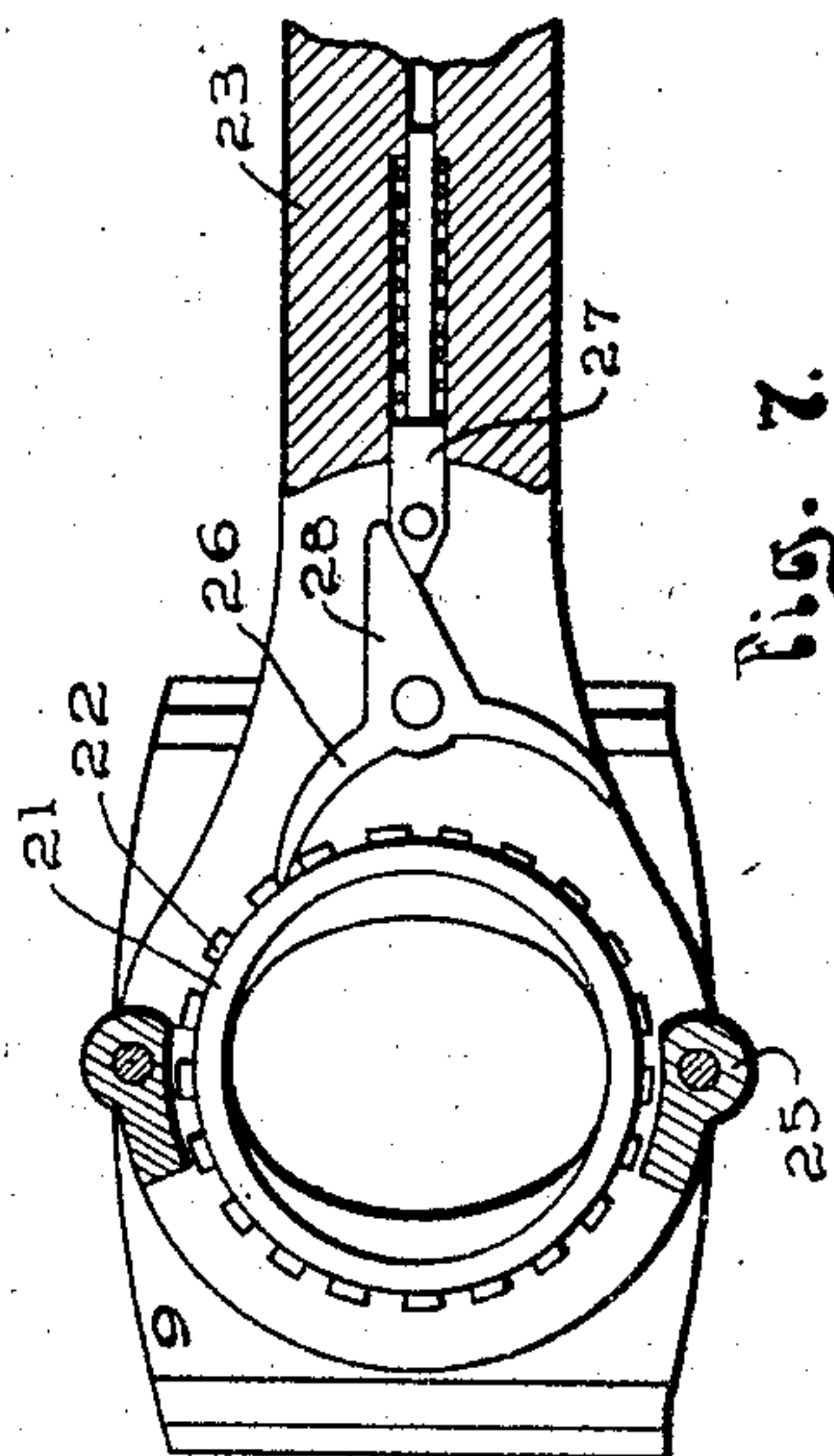
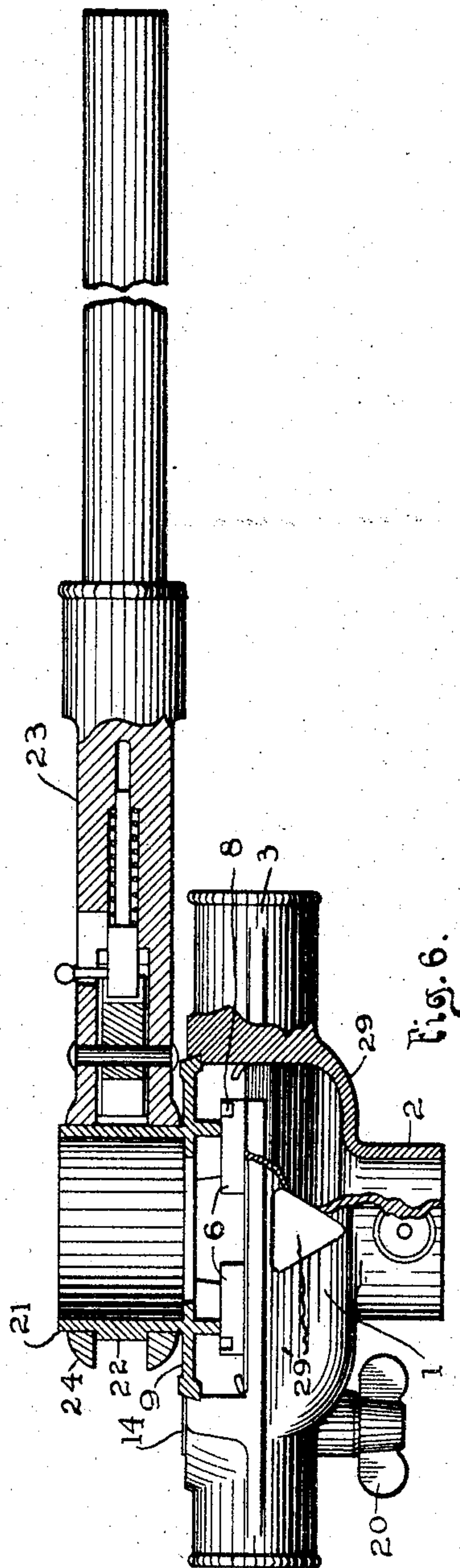
No. 790,255.

PATENTED MAY 16, 1905.

O. F. KADOW.  
DIE STOCK.

APPLICATION FILED JULY 5, 1904.

2 SHEETS—SHEET 2.



WITNESSES:  
Brennan T. West.  
C. McElroy.

Otto F. Kadow. INVENTOR.

BY Fouto & Hull  
ATTORNEYS.



# UNITED STATES PATENT OFFICE.

OTTO F. KADOW, OF CLEVELAND, OHIO, ASSIGNOR OF SIXTY ONE-HUNDREDTHS TO SAMUEL G. MORRIS, OF CLEVELAND, OHIO.

## DIE-STOCK.

SPECIFICATION forming part of Letters Patent No. 790,255, dated May 16, 1905.

Application filed July 5, 1904. Serial No. 215,216.

*To all whom it may concern:*

Be it known that I, OTTO F. KADOW, 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, reference being had to the accompanying drawings.

My invention relates to die-stocks, and has for its objects to simplify the construction thereof, particularly of the means for adjusting and permitting the interchange of the dies and for clamping such adjusting means and dies in any desired position, to economically strengthen the construction of such stocks, and to provide such stocks with ratchet mechanism so combined therewith as to greatly enhance the effectiveness thereof. Generally speaking, it may be defined as consisting of the combinations of elements embodied in the claims hereto appended.

Referring to the drawings, Figure 1 represents a perspective view of my die-stock with the adjusting-plate and one of the dies removed. Fig. 2 represents a reduced transverse section through the central portion of the die shown in Fig. 1, the adjusting-plate being in position. Fig. 3 represents a bottom perspective view of the adjusting-plate for the die. Fig. 4 represents a sectional detail view showing the clamp for the adjusting-plate and the means for adjusting said clamp. Fig. 5 represents a plan view of one end of the die-stock, showing the clamp. Fig. 6 represents a view, partly in elevation and partly in section, of a die-stock similar to that shown in Fig. 1, having applied thereto my ratchet construction. Fig. 7 is a sectional plan view of the ratchet mechanism shown in Fig. 6, and Fig. 8 is an elevation of a portion of such mechanism.

Describing the parts by reference characters, 1 represents the body of the die-stock, said body being provided with a depending tubular portion 2 for the reception of the article to be threaded. At each end of the upper portion of the die-stock is the customary tubular portion 3 for the reception of the operating-handle 4. In the upper portion of

the body there are provided guideways 5, on which the dies 6 are supported. These dies are each provided with the thread-cutting portions 7 and with an inclined groove 8 in the top thereof for the purpose of adjusting them toward or from each other to permit them to operate upon articles of different sizes. For clearness of illustration but one such die is shown in Fig. 1; but, as will be readily understood by those skilled in this art, another die, corresponding to and opposite said die, is employed in the actual operation of the device, Fig. 6 showing a pair of such dies. In order to adjust these dies to any desired position, I employ therewith the cover and adjusting-plate 9. (Shown in Figs. 2, 3, 5, 6, and 7.) This plate is provided on the under side with inclined ribs 10, corresponding to the grooves 8 in the dies. At each end of this plate there is provided a rib 11, each of said ribs having a beveled edge 12 fitting in a correspondingly-beveled recess or bearing 13 in the body of the die-stock above the guides 5. The arrangement of the parts is such that when the plate 9 is inserted into its appropriate bearings 13 the ribs 10 will engage the grooves 8 to adjust the position of the dies 6. In order to clamp the dies in any desired position, I have devised the following construction: A vertically-adjustable clamp 14 is provided adjacent to the inclined wall 13 of one of the grooves which receive the ribs 11 of the adjusting-plate. The upper body of the stock is recessed, as at 15, to permit the vertical movement of said clamp therein. The inner face of said clamp is beveled, as shown at 16, to correspond to the bevel or inclination of its groove 13, whereby it overhangs the beveled face 12 of the rib 11 and is substantially flush with said groove when adjusted to clamp the rib. A bolt 17 extends through a recess 18 near one end of the body portion of the die and is rigid with or secured to the clamp 14. The lower end of this bolt is threaded at 19, and a nut 20 is fitted on said threaded portion in order to adjust the clamp. A spring 21, surrounding the bolt 17 and having one end in engagement with the wall at the bottom of the recess 18 and the other end in engagement



with the clamp 14, lifts the clamp out of engagement with the adjusting-plate 9 when the nut is loosened. By simply loosening the nut 20 the plate 9 may be at once withdrawn, the dies 6 removed, and another pair substituted therefor, the entire operation occupying but a very short time. In Figs. 6, 7, and 8 I have shown the ratchet attachment which I employ with my die-stock. In the embodiment disclosed in said figures I provide the adjusting-plate 9 with a collar 21 rigid therewith. This collar has intermediate of the top and bottom thereof the ratchet-teeth 22. 23 designates a pawl-lever, which may be of any approved construction. In the embodiment herein disclosed said pawl-lever comprises a pair of straps 24, spaced to clear the teeth 22 and hinged at 25 to permit the convenient application to the collar. Pivoted in a recess in the lever is the double-acting pawl 26. The pawl is constructed to permit the rotation of the stock in either direction, as by means of the spring-pressed plunger 27, which engages one side or the other of the inclined projection 28 of said pawl. By forming the ratchet-collar rigid with the adjusting-plate I do not interfere with the facility of adjustment of said plate to position the dies nor the removal of said plate to replace the dies with others. On the other hand, I locate the ratchet mechanism at a very convenient place in front of the work. In the prior constructions with which I am familiar the ratchet mechanism is applied to the rear of the work, as by securing a toothed collar to the tube 2. This locates the ratchet mechanism in the rear of the work. In threading the end of a pipe which projects but a short distance through the wall of a trench or building it will be inconvenient if not sometimes impossible to apply the ratchet mechanism to the rear of the work. The construction which I have devised meets this difficulty in a simple and effective manner.

45 In die-stocks with which I am familiar it is customary to flare the collar 2 upward at the sides in the manner shown in Fig. 2 to unite with the guide portions 5 and to cut out a portion of said collar below and between said guides, thereby leaving the end portions of said guides unsupported from beneath. The result of this construction is to permit the distortion of the die-guides under continued operation, thereby preventing the dies from cutting a true thread. To obviate this objectionable feature, I provide an arch 29, extending from the collar to each end of the stock-body. The arch extends across from the lower side of one guide to the lower side of the other guide, and by reason of its arch shape the material thereof need not be any thicker than the material of which the collar is made. At the same time an opening may be provided at 29' below the center portion of each guide for the purpose of oiling the dies and the

work adjacent said dies, the arch construction more than compensating for the weakening produced by forming such openings. This arch construction forms in its details no part of the invention covered by this application, the same being described at length and claimed in my application, Serial No. 227,596, filed October 7, 1904, a division of this application.

By the apparatus heretofore described I have produced a die-stock that is simple and efficient and extremely convenient of operation.

While I have described the invention in detail, it will be understood that such details may be changed or departed from more or less without violating the spirit of my invention, and I do not propose to be limited to such details except as they may be included in the claims hereto annexed or may be rendered necessary by the state of the art.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a die-stock, the combination of guides, dies mounted on said guides and adjustable toward and from each other, bearings above the guides, one of said bearings having an upwardly and inwardly inclined surface, an adjusting-plate engaging said bearings and having an inclined edge corresponding to the inclined surface of the bearing, a clamp, the inner face of which forms in effect a portion of said inclined bearing, and means for adjusting said clamp to lock the adjusting-plate in position, substantially as specified.

2. In a die-stock, the combination of guides, dies mounted on said guides and adjustable toward and from each other, a plate for adjusting said dies, bearings for said plate, one of said bearings having a recess therein, a reciprocating clamp in said recess, said clamp having a portion forming a portion of the bearing and overhanging the portion of the plate adjacent thereto, and means for securing said clamp in engagement with said plate, substantially as specified.

3. In a die-stock, the combination of a body portion, guides in said body portion, dies mounted on said guides and adjustable toward and from each other, an adjusting-plate mounted in said body portion and having an upwardly-inclined portion, and an adjustable clamp mounted in said body portion and having an inclined overhanging portion positioned to engage the inclined portion of the plate, substantially as specified.

4. In a die-stock, the combination of adjustable dies, of an adjustable cover-plate for operating said dies, means for clamping said cover-plate to the body of the die-stock, a collar rigid with said plate and provided with ratchet-teeth, and a ratchet-lever cooperating with said teeth for rotating said cover-plate and die-stock, substantially as specified.

5. In a die-stock, the combination of the



body thereof, guides in said body, dies on said guides and adjustable toward and from each other, bearings in said body, an adjusting-plate for said dies mounted in said bearings, 5 said body having a recess therein adjacent one of said bearings and including a portion thereof, a clamp in the recess in the body arranged to be reciprocated transversely of said bearing and having an overhanging portion in the 10 recess in the bearing, substantially as specified.

6. In a die-stock, the combination of the body thereof, guides in said body, dies on said guides and adjustable toward and from each other, bearings in said body, an adjusting-plate for said dies mounted in said bearings, 15 said body having a recess extending there-through adjacent one of said bearings and including a portion thereof, a clamp in the re-

cess in said body, said clamp consisting of an enlarged clamping member having an over- 20 hanging portion in the recess in the bearing and a bolt connected to said enlarged clamping member, said bolt extending through the recess in the body and having a threaded end, a spring surrounding said bolt, within the body 25 and arranged to force the clamp in a direction to disengage it from the plate, and a nut on the threaded end of the bolt, substantially as specified.

In testimony whereof I affix my signature in 30 the presence of two witnesses.

OTTO F. KADOW.

Witnesses:

R. S. GILES,  
GEO. J. PAUL.