

No. 724,200.

PATENTED MAR. 31, 1903.

J. J. MULLANEY.

DIE STOCK.

APPLICATION FILED APR. 23, 1902.

NO MODEL.

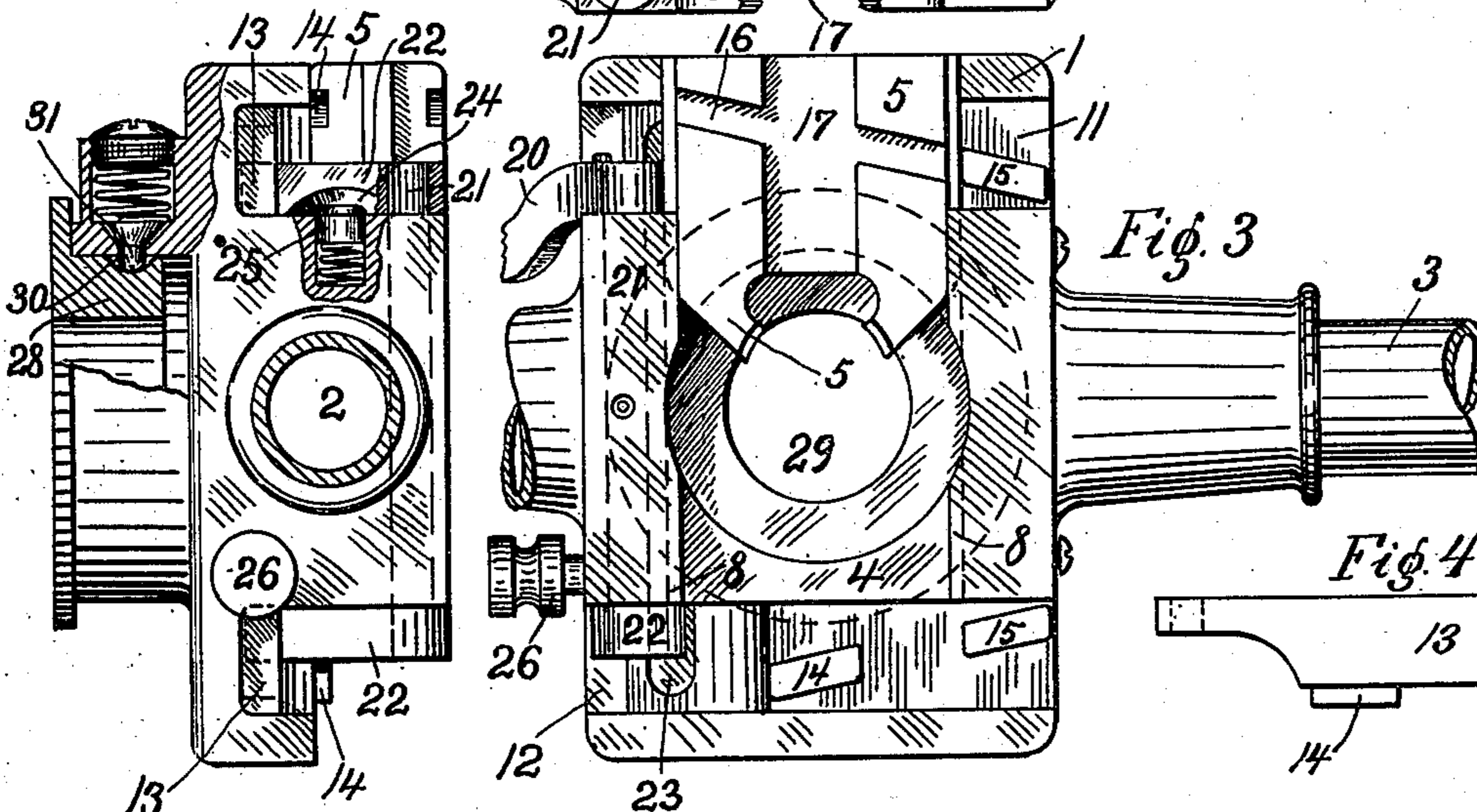
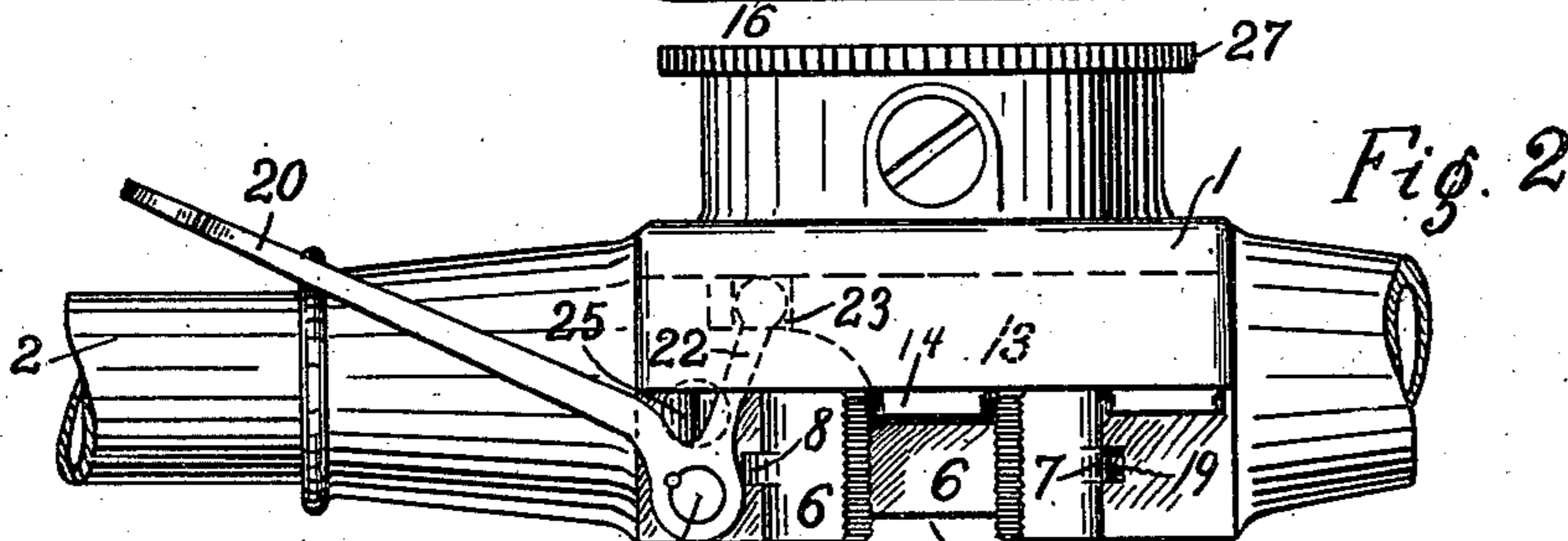
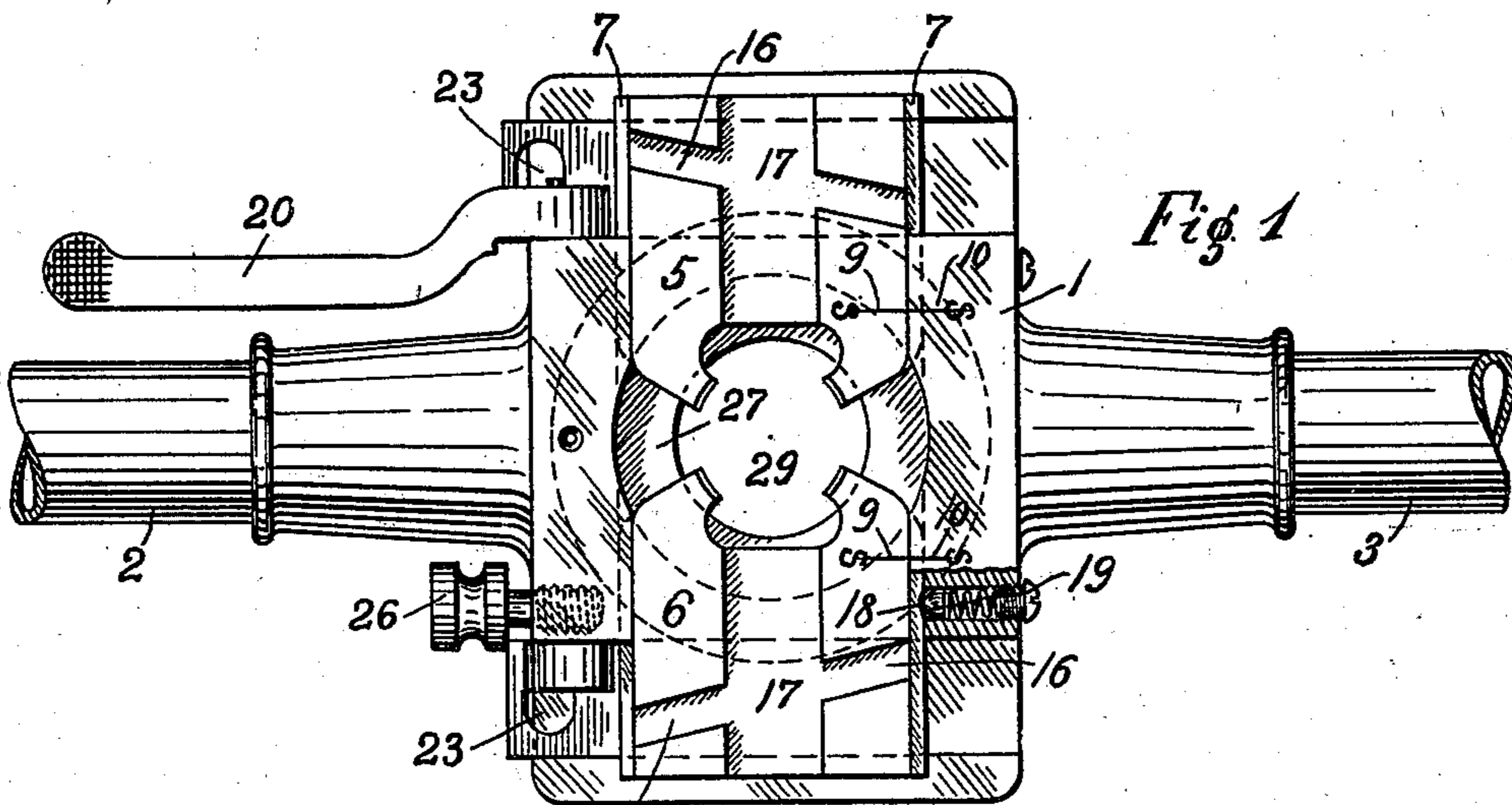
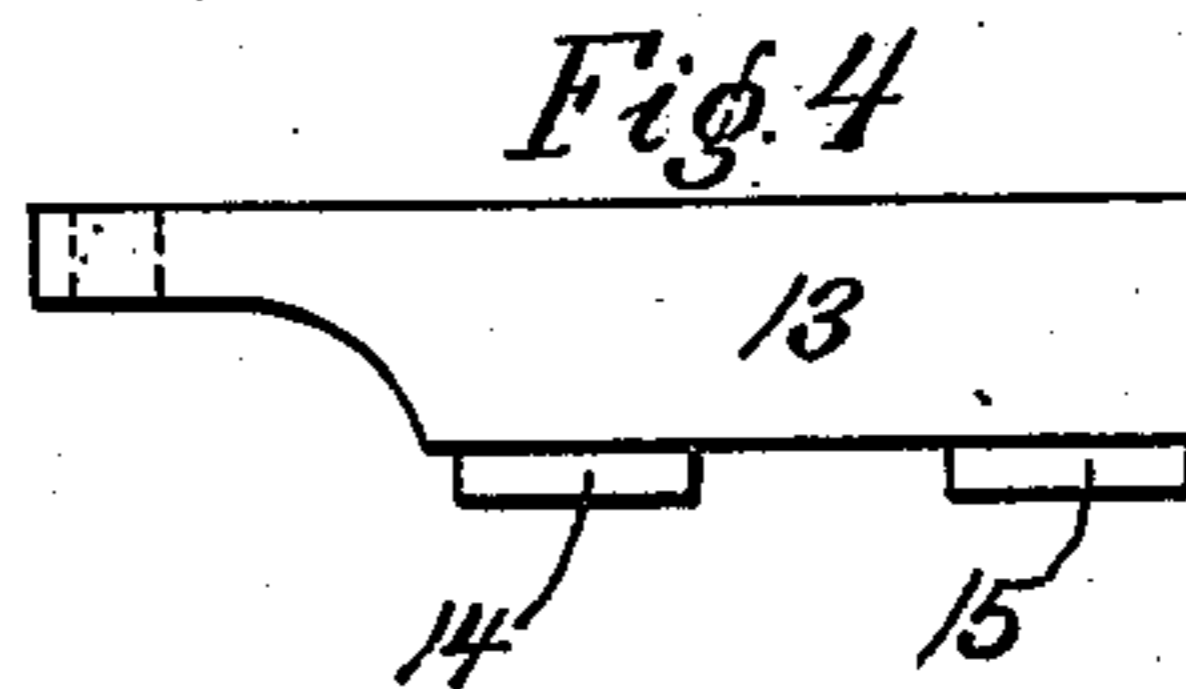


Fig. 5.



Witnesses
Lester C. Taylor
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John J. Mullaney Inventor
By his Attorney C. V. Edwards.

UNITED STATES PATENT OFFICE.

JOHN J. MULLANEY, OF MAYWOOD, NEW JERSEY, ASSIGNOR TO IDEAL
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DIE-STOCK.

SPECIFICATION forming part of Letters Patent No. 724,200, dated March 31, 1903.

Application filed April 23, 1902. Serial No. 104,262. (No model.)

To all whom it may concern:

Be it known that I, JOHN J. MULLANEY, a citizen of the United States, residing at Maywood, in the county of Bergen and State of New Jersey, have invented certain new and useful Improvements in Die-Stocks, of which the following is a full, clear, and exact specification.

This invention relates to die-stocks; and its object is to construct a stock in which the dies may readily be moved into and out of engagement with the work in which no independent tools are necessary to assemble or adjust the device to the particular work or to manipulate the same.

The invention also embodies an improved arrangement of the parts and various features of advantage, which will be pointed out more in detail hereinafter and referred to in the accompanying claims.

In the drawings, Figure 1 is a front view of a die-stock embodying my invention. Fig. 2 is a top view of the same with the upper die removed. Fig. 3 is a detail front view showing the lower die removed. Fig. 4 is a detail showing one of the die-actuating plates; and Fig. 5 is an end view of the stock, parts being shown in section.

The frame 1 is provided with the usual handles 2 and 3 and with the usual central opening, through which the pipe upon which the thread is to be cut is passed. The frame is also provided with the guideway 4, into which fit the dies 5 and 6, the dies being adapted to slide into the guideway to move the thread-cutting teeth into and out of engagement with the pipe fastened through the central opening. To insure accurate movement of the dies, the latter are provided upon their opposite sides with projecting ribs 7 7, which slide into the tracks 8 8, formed in the walls of the guideway 4. In order to aid in the adjustment of the device, I place the jaws in the position in the guideways that they will assume when the jaws are in engagement with the work in cutting a thread of standard depth. I then mark upon the edge of the dies a line 9 and upon the frame a line 10, these lines coinciding with each other and being drawn between points S S on the die and the frame. In order to cut threads other than

the standard, I provide means for limiting the inward movement of the dies, and the extent of this limitation may be observed by the respective position of the lines 9 and 10. In the frame 1 are formed guideways 11 12, extending in a direction transverse to the guideway 4, and in each of the guideways 11 and 12 is slidably mounted a plate 13, said plates having obliquely-arranged projections 14 15, which projections are adapted to engage and slide in the oblique tracks 16, formed in the respective dies 5 and 6, thereby insuring that as the plates 13 are moved in their guideways the projections 14 and 15 will engage the tracks 16 in the dies 5 and 6, and thus move the latter into and out of engagement with the work. In order to permit the removal of the dies, I form longitudinal recesses 17 therein, which recesses will clear the projections 14 when the slides are in the position shown in Fig 3 of the drawings, and in order to facilitate the ready assembling of the parts in such position that the projections 14 and 15 will engage the tracks 16 I cut in the side of each die a niche 18 in such position that when the dies are in position that the tracks 16 will be engaged by the projections 14 and 15 the niche 18 will be engaged by a spring-pressed pin 19, mounted in the frame 1.

To move the slides 13, I provide a lever 20, which is attached to a shaft 21, passing through the frame parallel to the guideway 4. Upon the ends of shaft 21 are mounted the arms 22 22, the ends of which project into openings 23 in the ends of the slides 13. This arrangement insures that when the shaft 21 is rocked by means of the lever 20 the arms 22 will move the slides 13 back and forth. To lock the dies when in or out of engagement with the work, as the case may be, I bevel the under side of one of the arms 22 in such manner as to form the bevel-faces 24, thus providing a sharpened edge upon the under side of the arm 22. A spring-pressed stud 25, the upper face of which is also beveled to form a sharpened edge thereon, is located in the frame 1 beneath the arm 22. When the dies are out of engagement with the work, as shown in Fig. 2, the beveled face of the spring-pressed stud 25 rides up against

the edge of the under surface of the arm 22 and holds the latter in an open position. As the arm moves around in the opposite direction the beveled lower edge of the same depresses the stud until the sharpened edges of the stud and arm pass each other. The stud then begins to ride up and tends to prevent the arm from moving backward. A stop 26 screws into the frame 1 and may be readily adjusted to different positions. The movement of the slide 13 is limited by this stop. By varying the position of the stop the inward movement of the die may be varied, and thus the standard at which the dies are to be set may be varied.

Obviously various dies of the standard size or having threads varying in size and pitch may be employed. In order to adjust the stock for varying sizes of pipes, I make the diameter of the central opening through the frame of a standard size, and in this opening I fit a guide-plate 27, having an annular shoulder 28 of a diameter sufficient to fit the diameter of the standard central opening. The washer is provided with a central opening 29 of the proper size for the pipe to be worked upon. With this arrangement any number of plates 27 with the proper-sized openings 29 may be employed, according to the sizes of the pipe to be cut. To maintain the plate 27 in rigid position, I provide an annular groove 30 in the shoulder 28, and into this groove a spring-pin 31, carried by the frame, projects. The plate 29 may there- by be sprung into position and removed to permit the insertion of another plate for a different-sized pipe.

It will be noted that the device may be assembled without the aid of screw-drivers or other independent tools. The slides 13 are placed in position in their guideways and the arms 22 moved into openings 23. The dies are then placed in position and slide in the guideway 4 until the spring-pin 19 engages the niche 18. The stop 26 is adjusted according to the depth the thread is to be cut, and the stop is placed in position upon the pipe to be cut, the pipe passing through the opening 29. Lever 20 is then moved to draw the plates 13 toward the dies. The projections 14 and 15 engage the tracks 16. This moves the dies inward into engagement with the pipe. To remove the stock from the pipe, it is only necessary to move the lever 20 back into the position shown in Fig. 2, which will cause the slides 13 to move the dies away from the pipe.

The dies, as shown, are reversible, the oblique track and longitudinal slot being formed in each side of the die, and this is the preferred form; but obviously it is not an essential feature of the invention.

It will be understood that numerous modifications from the construction above described may be made without departing from the invention, and I therefore desire it to be

understood that I do not limit myself herein to the specific construction shown.

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

1. The combination with the frame having a central opening, of dies slidably mounted therein, an independent die-actuating plate for operating each of said dies, a rock-shaft mounted in said frame, and a connection between said rock-shaft and each of said die-actuating plates, substantially as described.

2. The combination with the frame having a central opening, of dies slidably mounted therein, an independent die-actuating plate for each of said dies, an obliquely-disposed track and a projection traveling therein, said track and projection being carried by the dies and die-actuating plates, a rock-shaft mounted in said frame, and a connection between said rock-shaft and each of said die-actuating plates, substantially as described.

3. The combination with the frame having a central opening, of dies slidably mounted therein, a die-actuating plate for operating each of said dies, a rock-shaft mounted in said frame, arms mounted upon said rock-shaft and adapted to move said die-actuating plates, and a spring-pressed pin adapted to lock the arm on one or the other side of the same, substantially as described.

4. The combination with the frame having a central opening, of dies slidably mounted therein, a die-actuating plate for each of said dies, an obliquely-disposed track and a projection traveling therein, said track and projection being carried by the dies and die-actuating plates, a rock-shaft mounted in said frame, arms mounted upon said rock-shaft and adapted to move said die-actuating plates, and a spring-pressed pin adapted to lock the arm on one or the other side of the same, substantially as described.

5. The combination with the frame having a central opening, of a guideway therein open at both ends, two separate transverse guideways one on each side of the central opening, dies movable in said first-named guideway, plates moving in said transverse guideways and adapted to actuate said dies, a lever mounted in the frame, and connections between said lever and each of said die-actuating plates, substantially as described.

6. The combination with the frame having a central opening, of a guideway therein, two separate transverse guideways one on each side of the central opening, dies movable in said first-named guideway, plates moving in said transverse guideways and adapted to actuate said dies, a rock-shaft mounted in the frame, connections between said rock-shaft and said die-actuating plates, and a lever adapted to move said rock-shaft, substantially as described.

7. The combination with the frame having a central opening, of dies slidably mounted

therein, a die-actuating plate for each of said dies, an obliquely-disposed track and a projection traveling therein, said track and projection being carried by the dies and die-actuating plates, a rock-shaft mounted in said frame, a connection between said rock-shaft and each of said die-plates, a stop adapted to limit the movement of said die-plates, and means for adjusting the position of the stop, substantially as described.

8. The combination with the frame having a central opening, of dies slidably mounted therein, a die-actuating plate for each of said dies, an obliquely-disposed track and a projection traveling therein, said track and projection being carried by the dies and die-actuating plates, a rock-shaft mounted in said frame, a connection between said rock-shaft and each of said die-actuating plates, and a spring-pressed pin mounted in the frame and adapted to engage said dies when the latter are in position to bring said track and said projection in line with each other, substantially as described.

9. The combination with the frame having a central opening, of dies slidably mounted therein, a die-actuating plate for operating each of said dies, a rock-shaft mounted in said frame, an opening in each of said die-actuating plates, and arms carried by said rock-shaft and projecting into said openings, substantially as described.

10. The combination with the frame having a central opening, of a guideway therein open at both ends, two separate transverse guideways one on each side of the central opening, dies movable in said first-named guideway, plates moving in said transverse guideways and adapted to actuate said dies, a lever mounted in the frame, connections between said lever and each of said die-actuating plates, and means for adjusting the length of travel of said die-actuating plates, substantially as described.

11. The combination with the frame having a central opening, of an open-ended guideway therein crossing said opening, two separate transverse guideways one at each side of said central opening and located below the first guideway, dies movable in said first guideway, plates movable in said transverse guideway and adapted to actuate said dies, and means for simultaneously moving said plates, substantially as described.

12. The combination with the frame having a central opening, of an open-ended guideway therein crossing said opening, two separate transverse guideways one at each side of said central opening and located below the first guideway, dies movable in said first guideway, plates movable in said transverse guideway, projections carried by the opposite ends of said plates, an oblique track in said dies engaged by said projections, and a slot in the side of the die adapted to clear said projections when the die is withdrawn, substantially as described.

13. As an article of manufacture, a die having an oblique track and a longitudinal slot formed in the sides of the die, the said slot being adapted, when the die is in a given position, to clear such actuating projection as may move in said track, substantially as described.

14. The combination of a die having upon each of its sides an oblique track and a longitudinal slot, a die-actuating plate, and a projection carried by said die-actuating plate and sliding in said track, the said longitudinal slot being adapted to clear said projection when the latter is in a determined position, substantially as described.

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

JOHN J. MULLANEY.

Witnesses:

C. V. EDWARDS,
HENRY BEST.