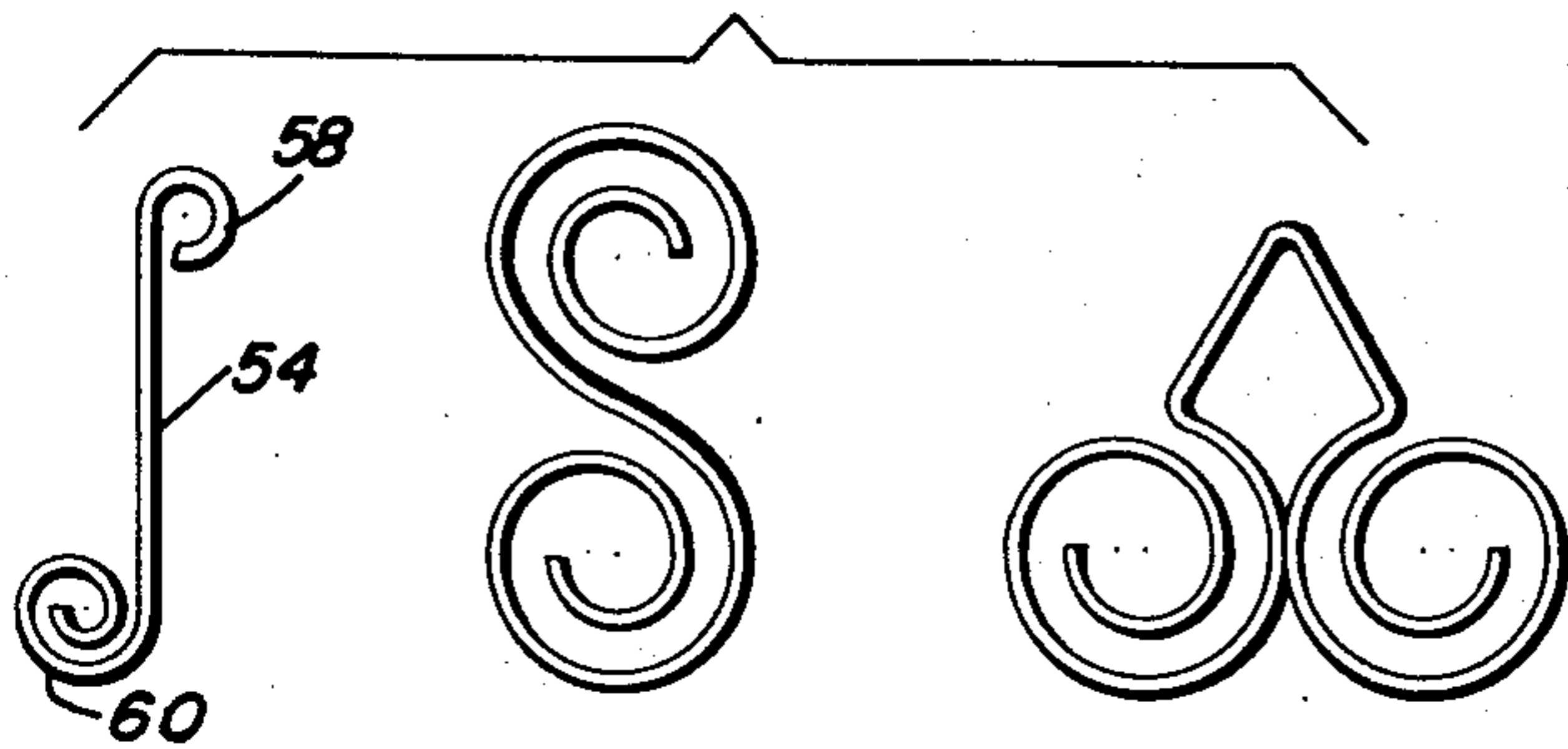
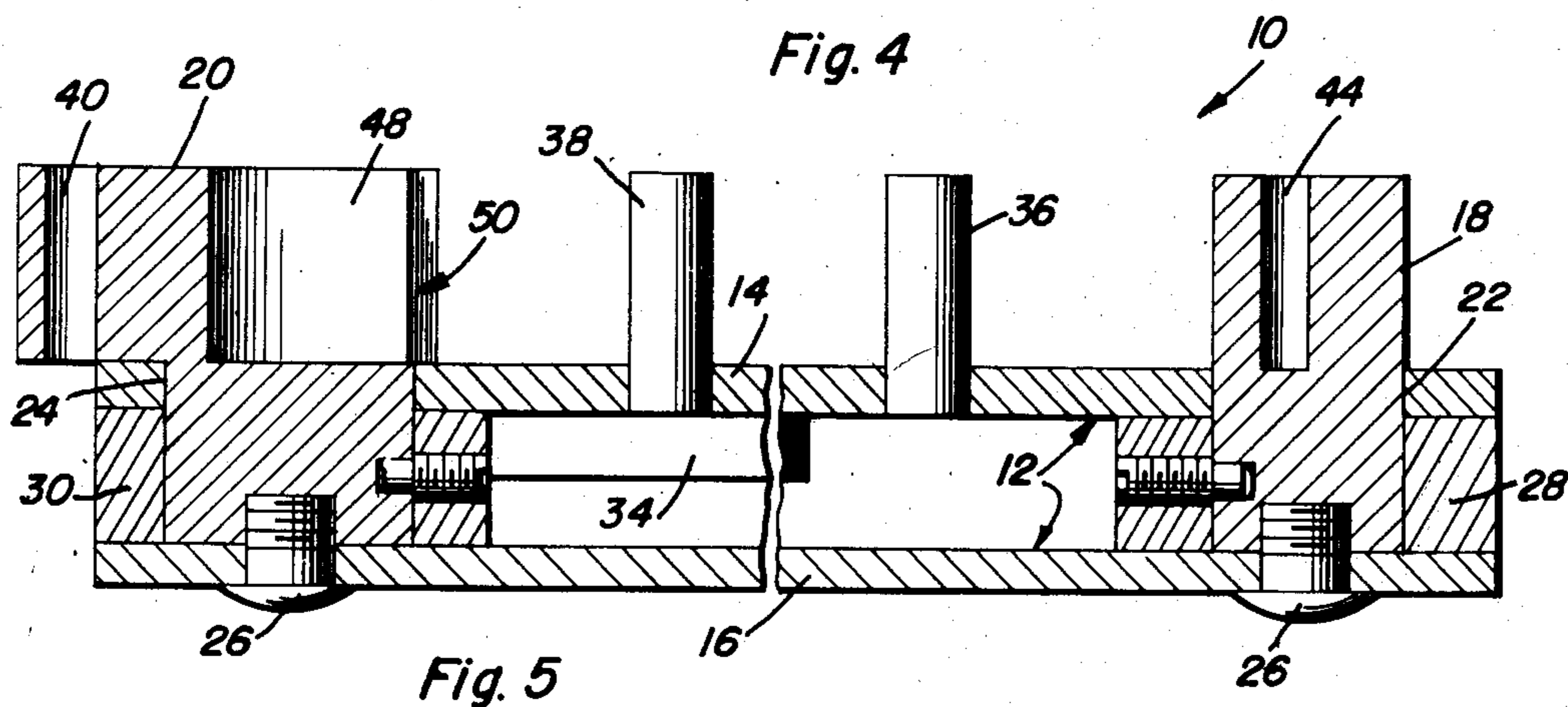
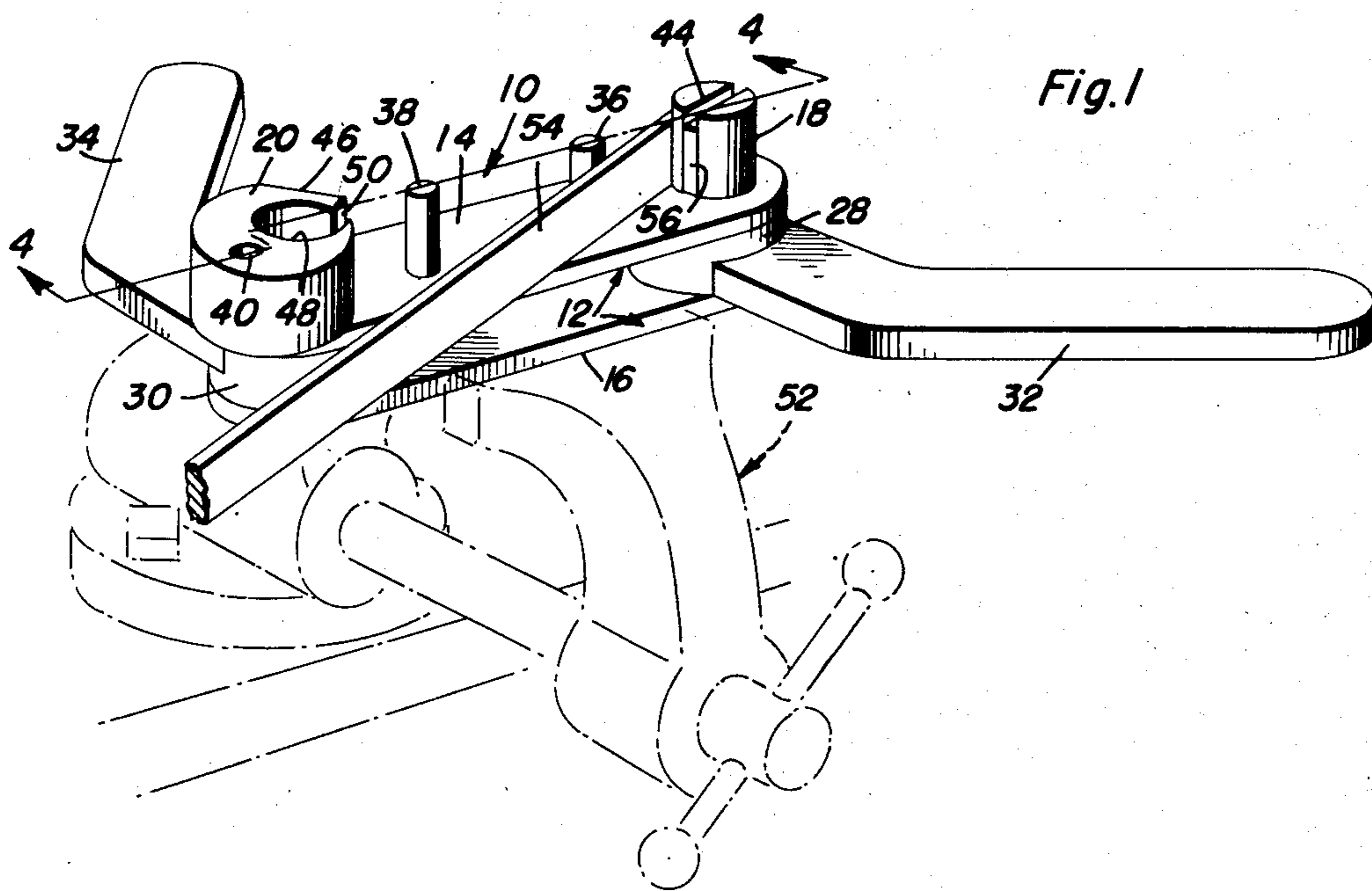


Filed June 22, 1951

## BENDING APPARATUS

2 Sheets-Sheet 1



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2,659,411

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2 Sheets-Sheet 2

Fig. 2

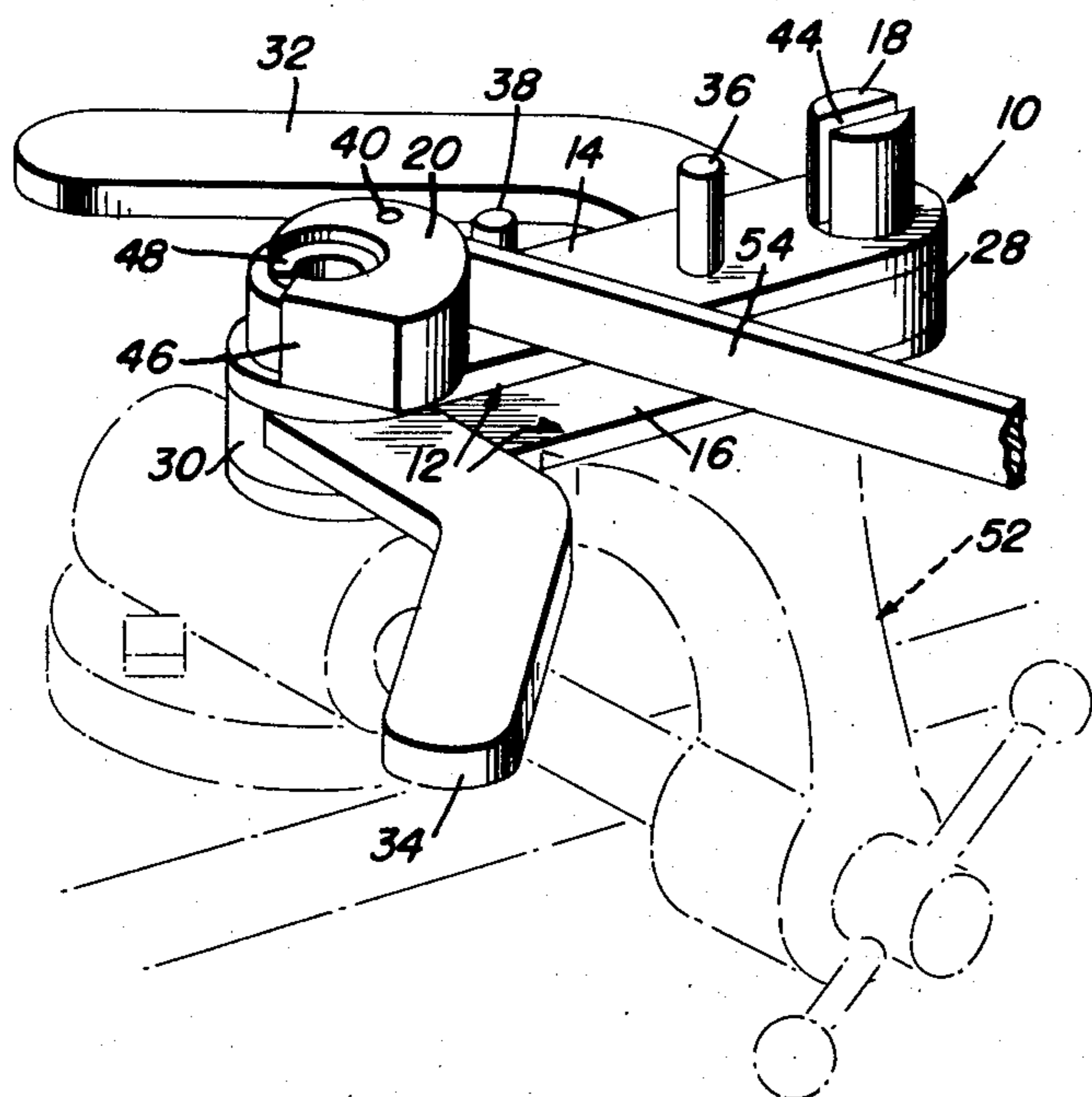
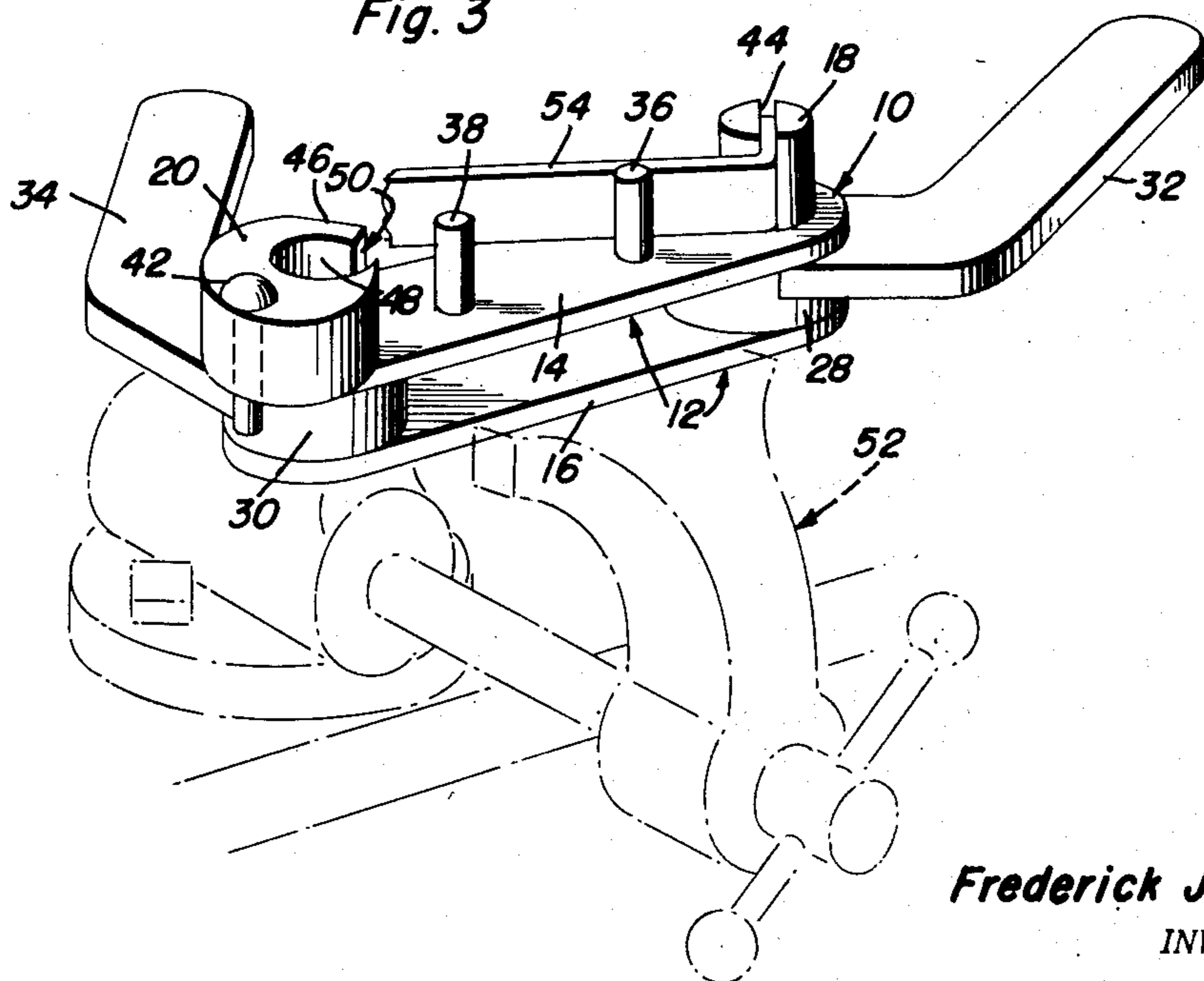


Fig. 3



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# UNITED STATES PATENT OFFICE

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## BENDING APPARATUS

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Application June 22, 1951, Serial No. 232,886

1 Claim. (Cl. 153—39)

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This invention relates to new and useful improvements and structural refinements in bending apparatus, and the principal object of the invention is to provide an apparatus of the character herein described which may be conveniently and effectively employed for bending straight bar stock into the form of ornamental scrolls of many different designs.

Some of the advantages of the invention reside in its extreme simplicity of construction, in its expeditious and convenient operation, and in its adaptability to economical manufacture.

With the above more important objects and features in view, and such other objects and features as may become apparent as this specification proceeds, the invention consists essentially of the arrangement and construction of parts as illustrated in the accompanying drawings, in which:

Figure 1 is a perspective view of the invention in the process of one form of bending operation;

Figure 2 is a perspective view showing the invention in the process of another form of bending operation;

Figure 3 is a perspective view illustrating the invention in still another form of bending operation;

Figure 4 is a vertical sectional view of the invention per se, this view being taken substantially in the plane of the line 4—4 in Figure 1; and

Figure 5 is a plan view of several different scrolls such as may be formed with the use of the invention.

Like characters of reference are employed to designate like parts in the specification and throughout the several views.

Referring now to the accompanying drawings in detail, the invention consists of a bending apparatus which is designated generally by the reference character 10, the same embodying in its construction an elongated base 12 including a pair of vertically spaced plates 14, 16.

First and second work engaging and forming heads 18, 20, respectively are rotatably mounted at the opposite ends of the base 12, this being accomplished by providing the upper base plate 14 with circular apertures 22, 24 to rotatably receive the respective heads 18, 20, while pivot screws 26 extend through the lower base plate 16 into base portions 28, 30 of the respective heads, which are located between the plates 14, 16 as is clearly shown in Figure 4.

The heads 18, 20 are rotated by means of angulated levers or arms 32, 34 which are rigidly

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secured to the base portions 28, 30 of the respective heads, as shown.

A pair of upwardly projecting, mutually spaced work engaging stop elements or pins 36, 38 are provided on the upper base plate 14 between the heads 18, 20, while means are provided for restricting the extent of rotation of the head 20 when so desired, these means involving the provision of a vertical bore 40 in the head 20 to receive a removable stop pin 32. This stop pin projects downwardly from the head 20 and may abut the side edges of the upper base plate 14 so as to render a complete rotation of the head 20 impossible.

The head 18 is provided with a transverse work receiving slot 44 which is open at the ends and top thereof as shown, the lateral surface of the head 18 being cylindrical, as is the lateral surface of the head 20, with exception that the latter is provided with a flat spot 46. Moreover, the head 20 is substantially larger in diameter than the head 18 and is formed with an eccentrically disposed, circular recess 48 which is open at one side of the head as shown at 50.

When the invention is placed in use, the entire apparatus is preferably supported by clamping the lower base plate 16 in the jaws of a vise indicated at 52, so that the levers or arms 32, 34 may be swung in a substantially horizontal plane.

A flat bar stock such as is shown at 54 may then have one end portion 56 thereof inserted in the slot 44 of the head 18 and with the stock abutting the stop pin 36, the head 18 may be rotated by means of the arm or lever 32 so that the end portion of the stock is wrapped partly around the head 18 to form an open eye such as is shown at 58 in Figure 5.

A similar eye may then be formed at the other end of the stock 54 and one of the eyes may then be inserted in the recess 48 of the head 20, whereupon rotation of the head 20 will cause the stock to be formed into a spiral scroll as shown at 60.

It will be apparent that by selectively employing the heads 18, 20, selectively utilizing the stop pins 36, 38 or the stock, and restricting rotation of the head 20 by means of the stop pin 32, scrolls of various different sizes and forms may be made, as exemplified in Figure 5. The different designs which are to be created depend entirely on the procedure used in forming them, which is believed incidental to the provision of the bending apparatus and will be readily apparent to those skilled in the art to which the invention pertains.

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It is believed that the advantages and use of the invention will be clearly understood from the foregoing disclosure and accordingly, further description thereof at this point is deemed unnecessary.

While in the foregoing there has been shown and described the preferred embodiment of this invention, it is to be understood that minor changes in the details of construction, combination and arrangement of parts may be resorted to without departing from the spirit and scope of the invention as claimed.

Having described the invention, what is claimed as new is:

In a bending apparatus of the type described, the combination of an elongated base plate having a semi-circular end edge and a pair of mutually parallel side edges tangential to said end edge, said plate being provided with a circular aperture concentric with said end edge, a cylindrical shank rotatable in said aperture, an enlarged substantially cylindrical bending head provided eccentrically on said shank, said head being of such size that a segmental portion thereof projects beyond the edges of said base plate,

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said segmental portion being provided with a bore parallel to the axis of the head, and a stop pin removably positioned in said bore and projecting downwardly therefrom, the projecting portion of said pin being movable in an arcuate path at the outside of the semi-circular edge of said plate but being engageable with the side edges of the plate to provide stop means for limiting the extent of rotation of the head.

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