Dec. 8, 1942. W. ARGUS 2,304,670

CENTERING TOOL

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Fig 1

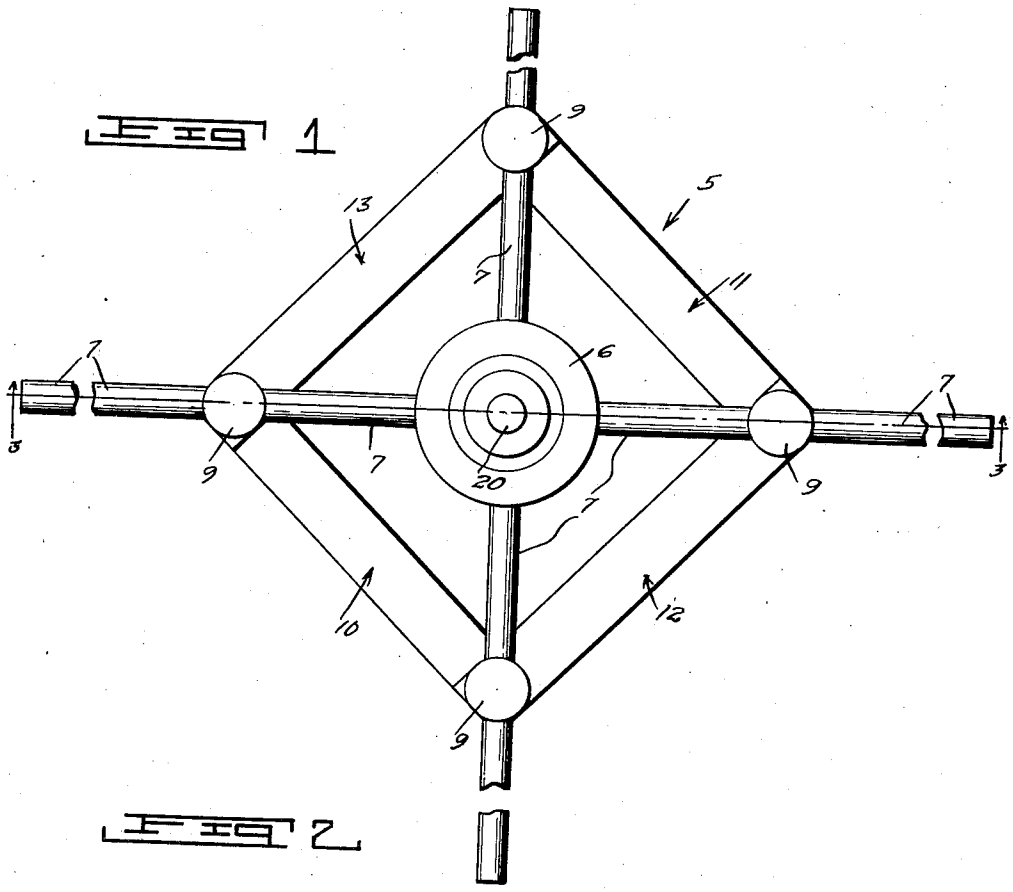
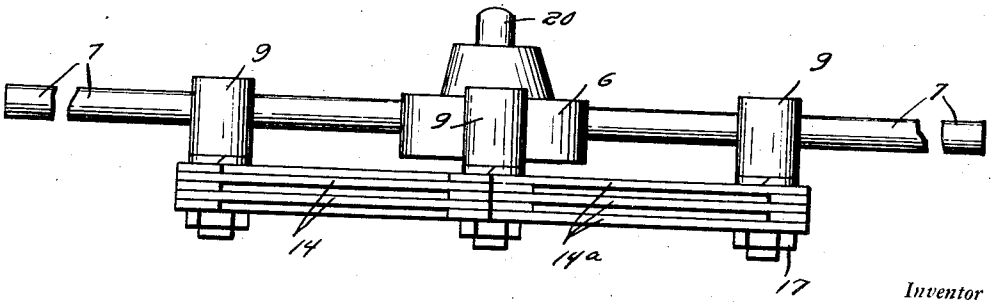


Fig 2



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Fig 3

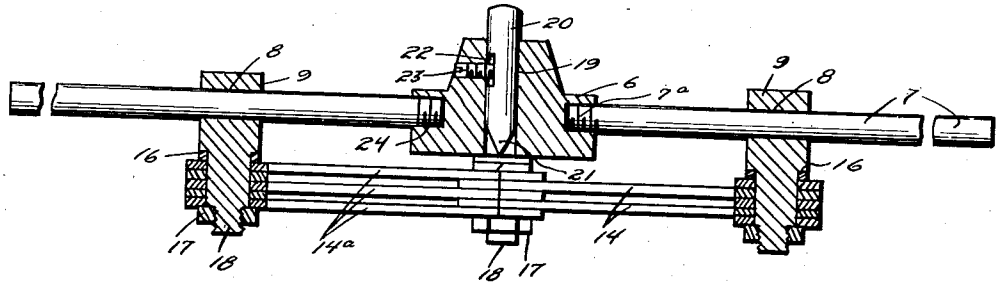


Fig 4

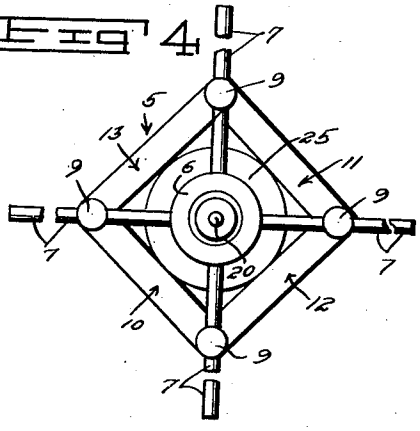


Fig 5

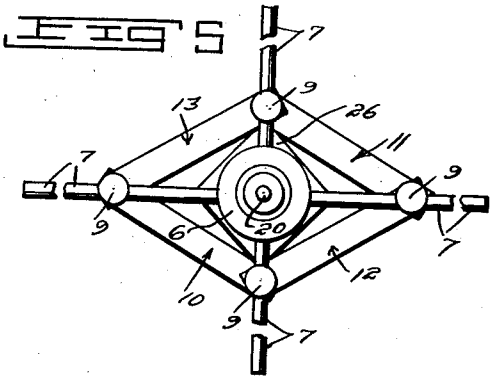


Fig 6

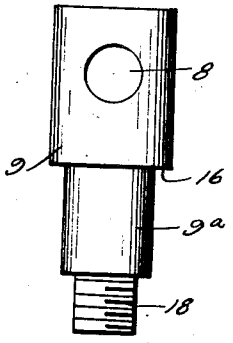
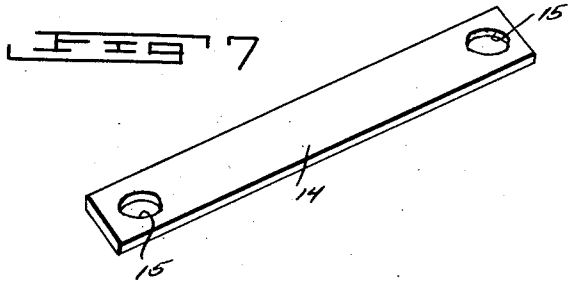


Fig 7



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Patented Dec. 8, 1942 2,304,670

UNITED STATES PATENT OFFICE

2,304,670

CENTERING TOOL

William Argus, Gary, Ind., assignor of one-half to Anna B. Argus, Gary, Ind.

Application August 9, 1941, Serial No. 406,228

2 Claims. (Cl. 33—191)

This invention relates to tools or devices for quickly and accurately punching a center in the work; and an object of the invention is to provide a tool or device of this character which may be used with facility in determining and punching a center in round, square, rectangular, octagonal, hexagonal, or symmetrically shaped objects.

A further object of the invention is to provide a tool, or device of this character which is comparatively simple in construction, easy to operate, and otherwise well adapted for the purpose designed.

The invention together with its objects and advantages will be best understood from a study of the following description taken in connection with the accompanying drawings wherein:

Figure 1 is a plan view of the tool of the invention.

Figure 2 is an edge elevational view thereof.

Figure 3 is a sectional view taken substantially on the line 3—3 of Figure 1.

Figure 4 is a plan view of the tool and illustrating the manner of using the same for punching a center in round or cylindrical work.

Figure 5 is a view similar to Figure 4 and illustrating the manner of using the tool in locating and punching a center in a square piece of work.

Figure 6 is an elevational view of a pivot stud.

Figure 7 is a perspective view of a link forming part of the frame portion of the invention.

Referring more in detail to the drawings it will be seen that my improved centering tool or device embodies, generally, a quadrilateral frame 5, a center piece 6, and rods or arms 7 extending radially from the center piece 6 and having a working fit through transverse openings 8 provided therefor in pivot or hinge studs 9.

The frame 5 is composed of opposed sides 10 and 11, respectively, and opposed sides 12 and 13, respectively.

Each of the sides 10 and 11 consists of a pair of flat, oblong links 14, while each of the sides 12 and 13 is composed of three similar links 14a.

The links 14, 14a at the ends thereof are apertured as at 15 to receive the diametrically reduced portions 9a of the pivot or hinge studs 9.

At the joints between the sides of the frame the links forming the respective sides are arranged in overlapping relation as shown and are secured on the portions 9a of the studs between shoulders 16 on the studs and nuts 17 threaded home on the threaded sections 18 of the studs.

The center piece 6 has an axial bore or opening 19 therethrough.

Freely slidably fitted in the bore 19 is a combined centering and punch pin 20 having a conical pointed end 21 designed to be driven into the work to indicate the center thereof.

The pin 8 is flattened upon one side throughout a portion of its length as at 22, and a set screw 23 is threaded through the wall of the bore 19 and, by engagement with the shoulders at the ends of the flattened portion 22 of the pin, is designed to limit the sliding movement of the pin in the center piece 6.

As shown in Figure 3, the rods or arms 7 have threaded ends 7a that thread into sockets 24 provided in the periphery of the center piece 6 and spaced equidistantly circumferentially about the center piece.

To obtain the center of the work, the work is placed within the confines of the frame 5, as suggested in Figures 4 and 5, when two opposite pins or studs 9 are grasped and moved toward one another to bring, when it is desired to find the center of round work 25 as shown in Figure 4, the sides 10, 11, 12 and 13 into engagement with the periphery of the work; and when it is desired to find the center of a square piece of work 26, as shown in Figure 5, to bring opposing angles formed between the sides of the frame 5 into engagement with the work at opposite corners of the work. After the frame has been properly engaged, in the manner just described, with the work, the center piece 6 will have been properly centered, whereupon the punch pin 20 is struck, causing the pointed end of the punch to be driven into the work, thereby indicating the center of the work.

From the foregoing it will be seen that I have provided a device by which one may readily obtain the center of work, regardless of the shape thereof, and which consists of relatively few parts, and can be quickly and easily manipulated in use.

While I have described what is considered the preferred embodiment of the invention, I am well aware that in practical application changes may be made therein from desire or expediency without departing from the spirit of the invention as herein illustrated, described and claimed.

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

1. In a centering tool, a hinge-jointed quadrilateral frame with the hinge joints between the sides of the frame embodying studs having transverse openings therethrough, a center piece having arms radiating therefrom and having a working fit in the openings in said studs, said

center piece having an axial punch-accommodating bore therethrough, and a punch pin having a working fit in said bore.

2. A centering device comprising a work-embracing, hinge-jointed quadrilateral frame, each of the sides of said frame being composed of a plurality of oblong links, hinge studs connecting the links together at the joints between the sides of the frame, said studs having transverse openings therethrough, a center piece having arms extending radially therefrom and through the openings in said studs, and said center piece having an axial punch pin-accommodating bore therethrough, and a punch pin having a working fit in said bore.

WILLIAM ARGUS.