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J. M. KINSEY

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GATE BOX TURNING TOOL

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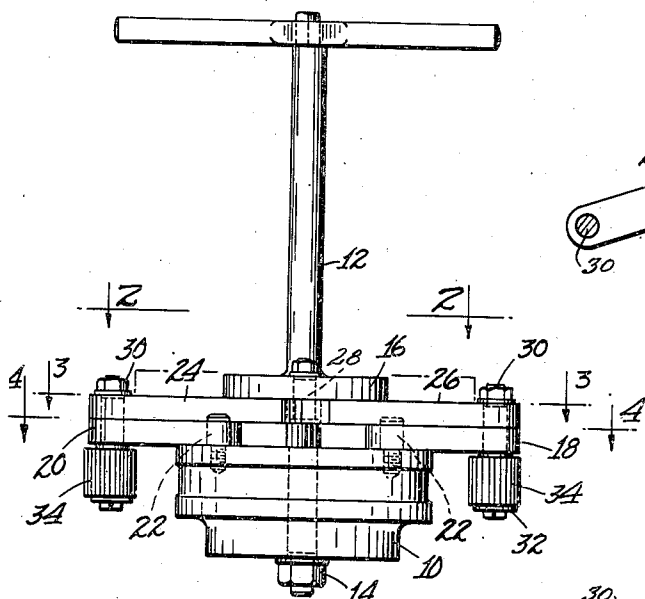


Fig. 1.

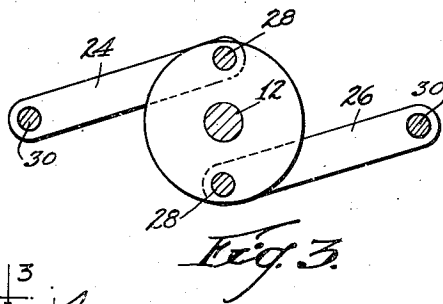


Fig. 3.

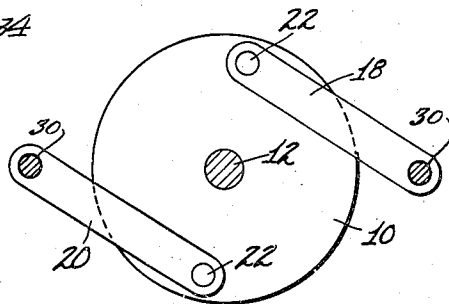


Fig. 4.

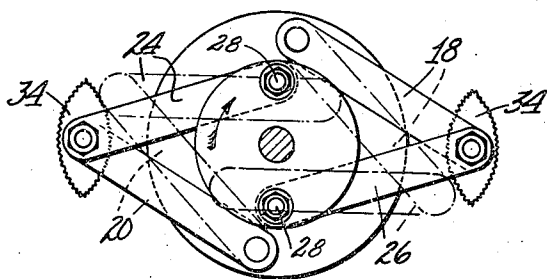


Fig. 2.

INVENTOR.
Johere M. Kinsey
BY
Charles R. Fey,
Attorney

UNITED STATES PATENT OFFICE

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GATE BOX TURNING TOOL

John M. Kinsey, Fitchburg, Mass.

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2 Claims. (Cl. 81-72)

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This invention relates to a gate box turning tool or wrench and the principal object of the invention resides in the provision of a tool of the class described which is extremely effective in operation but which, at the same time, is economical to manufacture.

Another object of the invention is the provision of a tool of the class described comprising a head having pivoted thereto two pairs of levers, each pair of levers being interpivoted at corresponding extending ends and at the pivot points of the levers there being provided a gripping jaw pivoted thereto, said jaws being in the form of ovoids, said jaws being located in operative relation to the head, and there being a handle which is rotatable in either direction and connected to the levers so as to draw them in or out with relation to the head to grip an object between the jaws and the head or merely between the jaws without relation to the head.

A further object of the invention resides in the provision of a wrench for turning gate boxes and for general use on pipes and comprising a head which is insertable within the gate box or pipe, said head having pivoted thereto four levers arranged in pivoted pairs and each pair of levers being provided with a serrated pivoted jaw of ovoid form, said head being provided with a handle for turning the same so that the jaws are drawn inwardly during rotation of the head to grip the exterior of the gate box or pipe and turn the same in either direction.

Other objects and advantages of the invention will appear hereinafter.

Reference is to be had to the accompanying drawings in which

Fig. 1 is a view in front elevation of a device according to the invention;

Fig. 2 is a section on line 2-2 of Fig. 1; and

Figs. 3 and 4 are sections taken on lines 3-3 and 4-4 respectively, and showing the relation of the levers to the head.

In carrying out the present invention there is provided a circular head 10 having a central bore therethrough for accommodating a rotatable handle 12, said handle being held in position as, for instance, by means of a nut and washer assembly 14 and a flange 16.

The head 10 at its upper surface has pivoted thereto a pair of levers 18 and 20 by means of pins 22, these pins being diametrically opposite. At the underside of the flange 16 there are pivoted a pair of levers 24 and 26 by means of pins 28 located at diametrically opposite points as clearly shown in Fig. 3.

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Lever 24 is pivoted at its free end to the free end of lever 20 and lever 26 is pivoted at its free end to the free end of lever 18 as by means of pins 30, so that levers 20 and 24 make a pair and 18 and 26 make a pair, each pair having a lever pivoted to the head 10 and a lever pivoted to flange 16.

Each pin 30 depends below the top surface of head 10 as clearly shown in Fig. 1, and it will be noted that levers 18 and 20 are underneath levers 24 and 26. Each pin mounts thereon by means of a washer or the like 32 a serrated pivoted jaw 34 of ovoid shape, these jaws being located diametrically opposite to each other, as shown in Figs. 1 and 2.

When the head 10 is placed within a pipe or gate box of, for instance, annular form, such pipe or gate will extend substantially up to the underside of levers 18 and 20 and upon turning the handle 12 in either direction the levers will cause the jaws 34 to be brought inwardly due to the relative rotation of flange 16 relative to head 10, so that this tool may be used to turn the pipe or gate box either clockwise or counterclockwise depending upon the direction of rotation of the handle.

In Fig. 2 there is shown in dotted lines the action of the levers where the handle is turned in a clockwise direction. In this case lever 24 draws its jaw 34 clockwise and inwardly and lever 26 performs the same action but diametrically opposite to lever 24. The levers 18 and 20, of course, hold the jaws to a definite path. If the handle is turned in the opposite direction the action of the levers will be opposite and the jaws will move oppositely for the purpose of turning a pipe or gate box in the opposite direction, and the shape of the jaws always insure proper gripping on the workpiece.

I claim:

1. A device of the class described comprising a head, a shaft-like handle rotatable thereon about the longitudinal axis of the handle, a pair of levers pivoted to the handle in radially offset relation thereto at diametrically opposite points, a pair of levers pivoted to the head in radially offset relation to the center of the head and the axis of the handle, each lever of each pair being pivoted to a lever of the other pair, forming two interpivoted pairs of levers, and a gripping jaw on each interpivoted pair of levers.

2. A tool of the class described comprising a substantially circular head having an axial bore, a handle shaft in the bore, a pair of levers each

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pivoted at one end to the head at diametrically opposite points thereon and extending in opposite directions therefrom in substantially parallel relation to each other, a second pair of levers each pivoted at one of its ends to the extending end of one of the first pair of levers and overlying the same, a flange on the handle shaft overlying the second pair of levers, the flange being pivoted to the levers of the second pair at the opposite ends thereof, at diametrically opposite points on the flange, said two pair of levers being arranged in a parallelogram, and gripping jaws

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pivoted to the levers at their points of inter-pivoting.

JOHN M. KINSEY.

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The following references are of record in the file of this patent:

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