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2,528,383

CENTER PUNCH

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Fig. 1

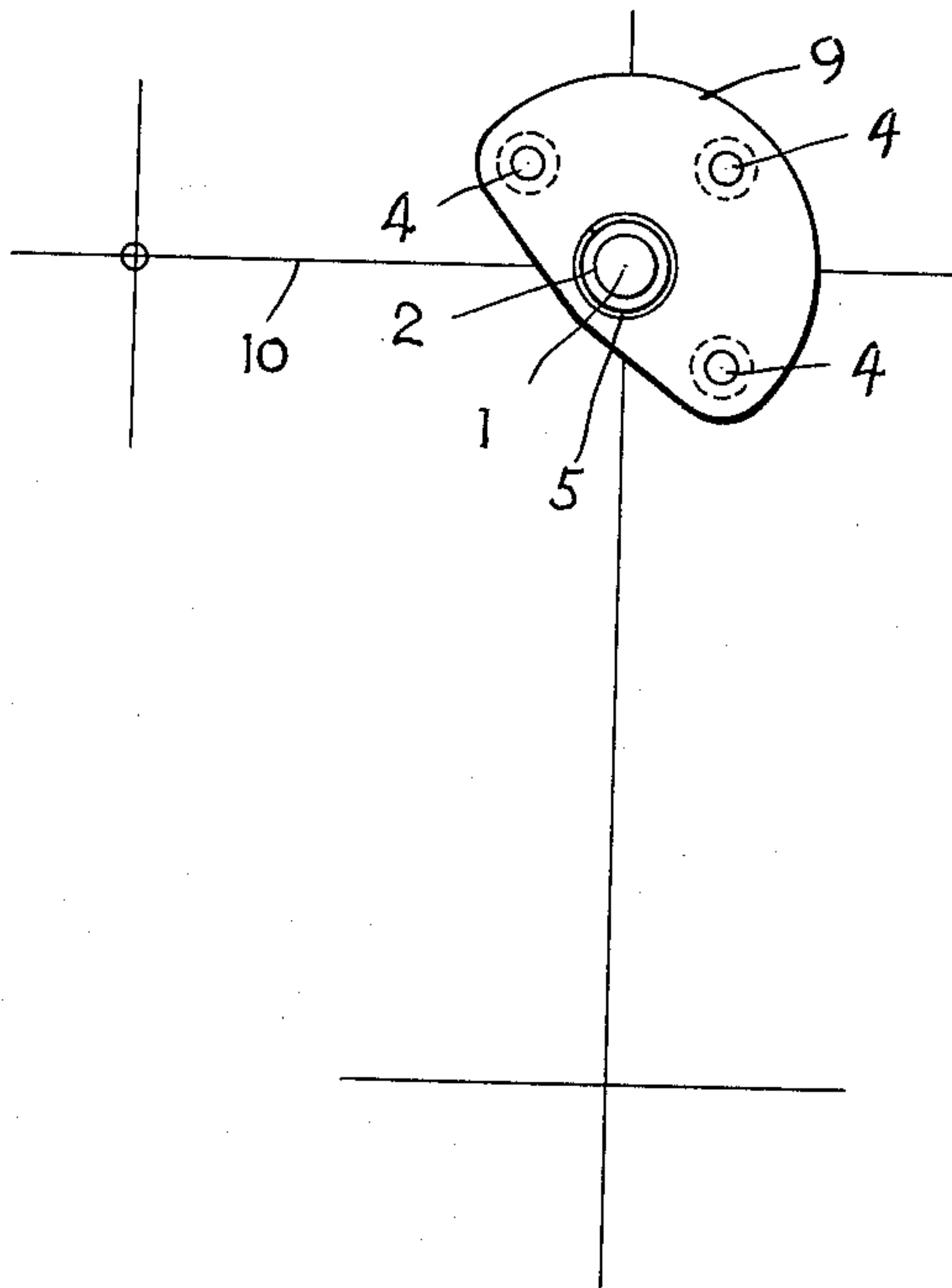


Fig. 2

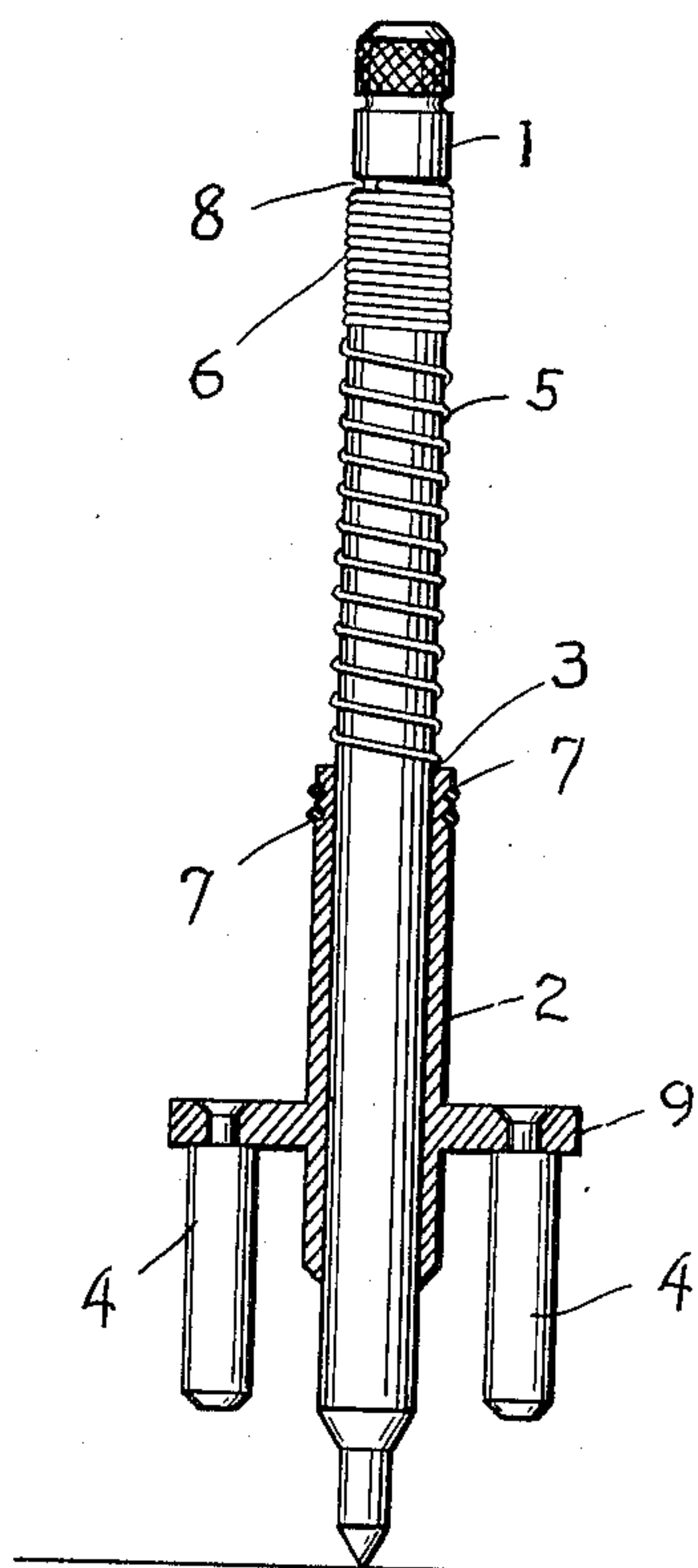


Fig. 4

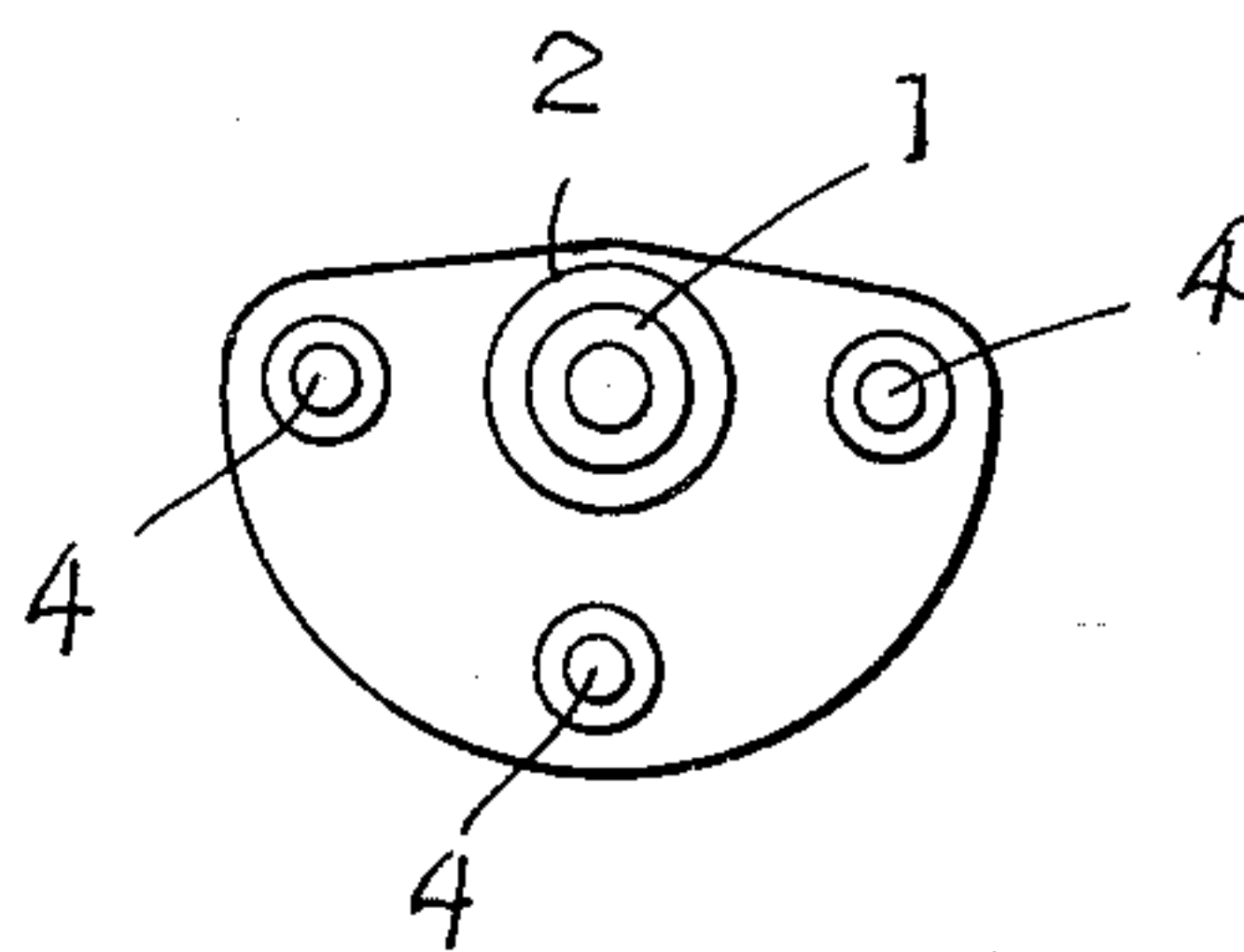
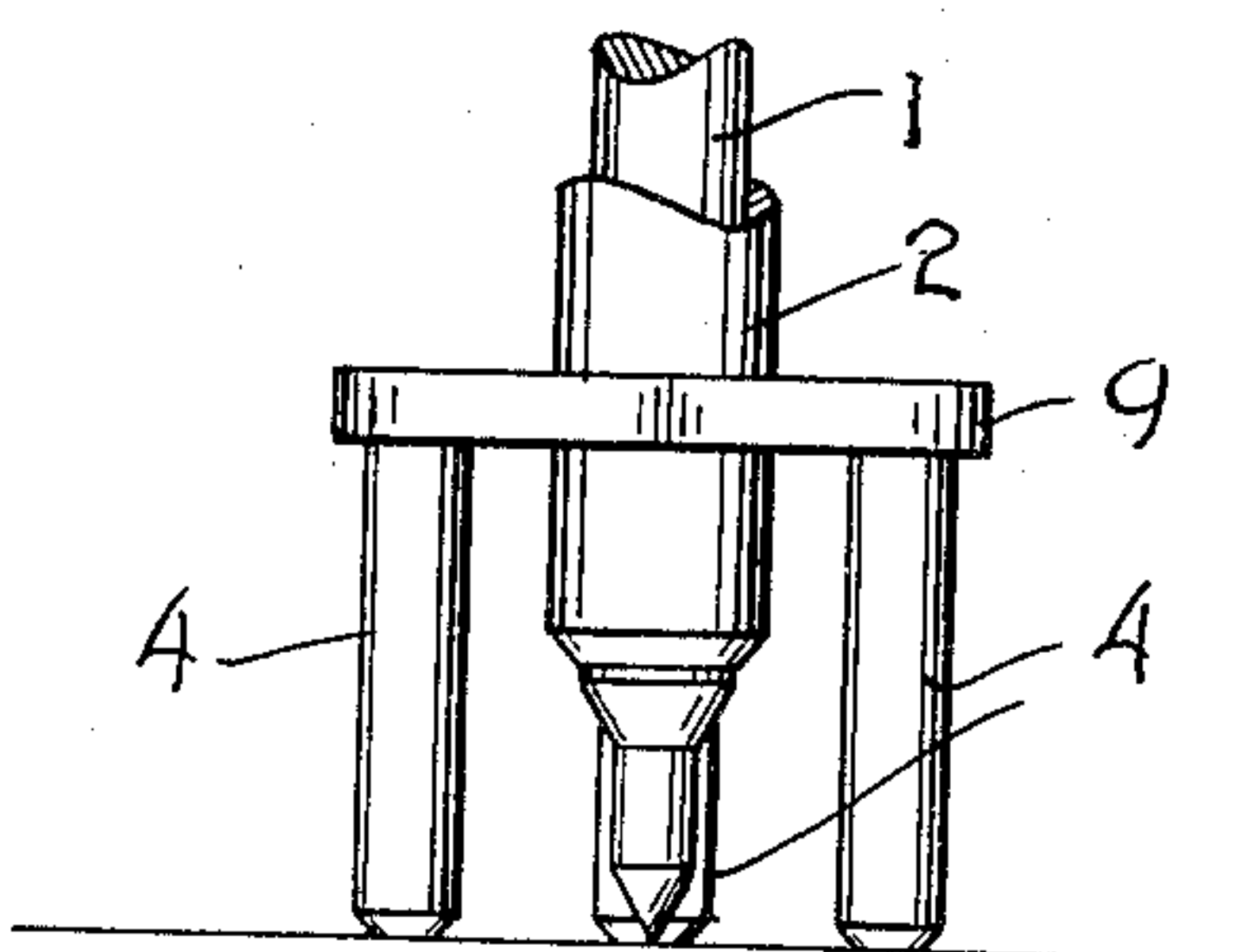


Fig. 3



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CENTER PUNCH

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2 Claims. (Cl. 33—189)

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The invention relates to center punches for marking centers in metal sheets to be drilled, an object of the invention being to provide such a punch capable of being maintained at a correct angle relative to the work, either in normal right angular position or tilted for correction of previously inaccurately punched centers. Other objects and advantages will appear hereinafter or will be obvious.

The invention consists in the novel construction and combinations of parts as hereinafter set forth in the claims.

In the accompanying drawings,

Figure 1 is a top plan view of the punch, certain scribed lines and a punched center being shown as they would appear upon a metal work sheet.

Figure 2 is a central longitudinal section through the punch assembly.

Figure 3 is a fragmentary side elevation of the punch, in position to be hammered.

Figure 4 is a bottom plan view of the punch.

In these drawings, the numeral 1 designates the center punch, having a mount 2 provided with a bearing 3 slidably engaged by the punch, said mount being provided with three legs 4 the lower ends of which are squarely ground to be located in a plane at right angles to the longitudinal axis of the punch for contact with the work to maintain the punch squarely at right angles thereto.

The punch is provided with a coiled spring 5 surrounding the same, certain coils of said spring being contracted at 6 to frictionally engage the punch. As shown this spring forms a connection between the punch and the mount, the lower coils of the spring engaging grooves 7 of the upper end of the bearing 3 and the upper coil or coils of the spring engaging an annular groove 8 of the punch.

The legs 4 are secured at their upper ends to a transverse flange 9 of said bearing, and are spaced apart and of equal length, two of these legs being located diametrically opposite each other upon opposite sides of the punch. The feet or lower free ends of these legs would be ground in a surface grinder to bring them in a plane precisely at right angles to the longitudinal axis of the punch, these free ends having their circumferential edges beveled so that they will not scratch the work as the tool or instrument is being moved from point to point.

Due to the action of the spring 5, the mount is held normally retracted and the punch projected below the free ends of the legs 4 so that it may be drawn along a scribed line 10 of the work to a position to be punched.

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The punch being correctly located, the mount 2 is depressed to contact the legs 4 with the work and to tension the spring 5 to elastically press the punch against the work, the punch being thus held at precisely right angles to the work while being struck by the hammer.

The location of two of the legs 4 diametrically opposite each other upon opposite sides of the punch enables the workman, grasping the transverse flange or cross head 9 of the bearing 3 of the mount and holding the mount with its legs 4 pressed down against the work with the spring 5 tensioned to elastically press the punch against the work and the point of the punch in the same plane as the lower free ends of said legs, to tilt the punch out of the vertical if desired for correction of a previously inaccurately punched center.

In so doing the punch and its mount are rotated into proper position with respect to the work and the center to be punched before the mount is pushed down as aforesaid. In tilting the punch the diametrically opposite lower free ends of the legs 4 are placed at right angles to a line through the correct and incorrect centers so that the punch may not be inclined out of the correct direction.

The contracted coils 6 of the spring maintain a slight frictional pressure or bind on the punch while it is being used. The punch may be withdrawn from coils of the spring and from the slide bearing of the mount and another punch substituted.

The punch is also capable of being withdrawn against the tension of its spring, while the mount is held down against the work, the punch being then released to make a slight impression in the work, useful as a center for a compass point, thereby saving wear upon the compass point commonly used for the same purpose.

I claim:

1. In a center punch, a mount having an elongated tubular bearing, a pointed punch slidably engaging said bearing, said bearing having a handle flange at right angles thereto provided with a plurality of spaced legs of equal length the lower ends of which are squared and located in a plane at right angles to the longitudinal axis of said punch, and a spring connecting the mount and the punch for normally holding the mount retracted and the punch projected below the mount legs so that the punch may be drawn along a scribed line of the work to a center to be punched, said mount being depressible to contact the squared ends of said legs with the work

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and to simultaneously tension said spring to securely hold the punch to the center to be punched squarely at right angles to the work while the punch is being struck with a hammer.

2. In a center punch, a mount having an elongated tubular bearing, a pointed punch slidably engaging said bearing, said bearing having a handle flange at right angles thereto provided with three spaced legs of equal length the lower ends of which are squared and located in a plane at right angles to the longitudinal axis of said punch, and a coiled spring surrounding the punch and secured at opposite ends thereof to said bearing and to said punch for normally holding the mount retracted and the punch projected below the mount legs so that the punch may be drawn along a scribed line of the work to a center to be punched, said mount being depressible to contact the squared ends of said legs with the work and to simultaneously tension said spring to se-

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curely hold the punch to the center to be punched squarely at right angles to the work while the punch is being struck with a hammer, two of said legs being located diametrically opposite each other at opposite sides of said punch, said mount being tiltable upon said diametrically opposite legs to tilt the punch for correction of a previously made inaccurate punching.

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

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