May 6, 1952 P. S. H. FLEMMING 2,595,347

CENTER PUNCH

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FIG. 1.

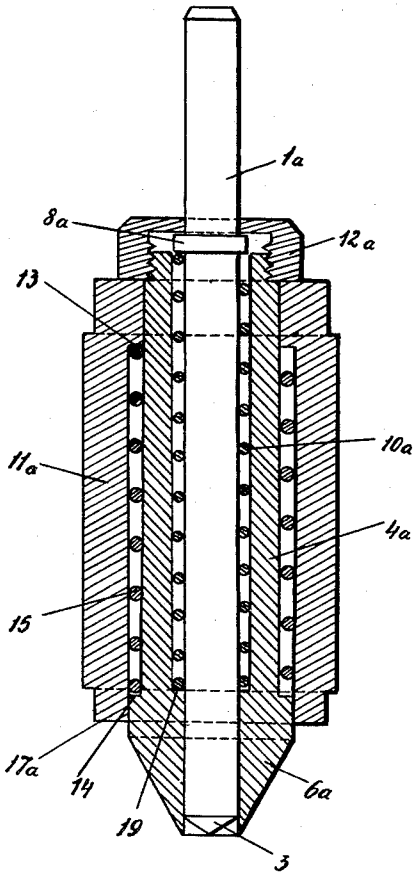
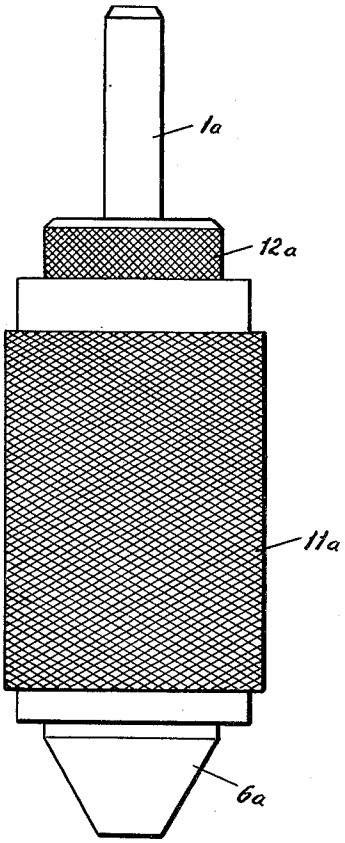


FIG. 2.



Inventor:

Paul S. H. Flemming

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CENTER PUNCH

Paul Svend Hakon Flemming,
Copenhagen, Denmark

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1 Claim. (Cl. 33—191)

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This invention relates to center punches for marking off workpieces prior to drilling bolt holes or the like, the punch being positioned relative to the workpiece by means of a jig or fixture provided with holes presenting the outlines of the holes to be marked off and drilled.

More specifically, the invention aims to provide a self-centering punch of a simple and compact construction which is easy to handle and effective in operation.

Furthermore, it is the object of the invention to provide a center punch of the kind referred to having a simple and efficient means for insuring a position of the axis of the punch perpendicular to the face of the workpiece to be marked off.

Another object is to generally improve the center punches of the type in question.

Referring now to the drawing:

Fig. 1 is an axial sectional view of a center punch in accordance with this invention, and

Fig. 2 is a side elevation thereof.

In the drawing, 4*a* is a tubular guide having a conical end 6*a* so as to present the shape of a truncated cone at its lower end. The axial bore of the guide 4*a* is restricted at the conical end of the same so as to provide an interior shoulder 19. A cylindrical punch rod 1*a* having a conically pointed end 3 adapted to project from the conical end 6*a* of the guide 4*a* is mounted for axially sliding movement in the guide, the pointed end of the punch rod 1*a* being guided in the restricted portion of the bore of the guide, and the opposite end, which is adapted to project from the guide, being guided in a cap or nut 12*a* screwed on the upper or rear end of the guide. The punch rod 1*a* is formed with a flange 8*a* or like laterally projecting member, and a helical spring 10*a* is interposed between said flange and the shoulder 19 to hold the punch rod 1*a* in a retracted position, as indicated in Fig. 1, the cap 12*a* constituting an abutment cooperating with the flange 8*a* to limit retraction of the punch rod. The construction so far described is known.

The guide 4 is slidable longitudinally within a holder 11*a* abutting with its upper end against the cap or nut 12*a*. The inner wall of the holder 11*a* is formed with a shoulder 13, whilst the circumference of the guide 4*a* is formed with another shoulder 14, and between these shoulders is interposed a coil spring 15 which acts to hold the member 11*a* resiliently against the nut 12. The lower end of the holder 11*a* is formed with an end face 17*a* at right angles to the axis of the punch rod 1*a*.

When using the center punch described, a suitable jig (not shown) is placed on the workpiece

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to be marked off, and the conical end 6*a* of the punch is inserted in the hole of the jig or fixture, the operator gripping the preferably knurled circumference of the holder 11*a* and urging the holder downwards against the action of the spring 15 to cause the face 17*a* to engage the jig so as to insure that the axis of the punch rod 1*a* is perpendicular to the face to be marked off. The upwardly projecting end of the punch rod is now struck with a hammer to cause the pointed end 3 to mark off the center of the hole to be drilled.

I claim:

A center punch comprising in combination a tubular guide, an interior shoulder in said guide, a punch having a pointed end and mounted for longitudinal sliding movement in said guide, means associated with said punch and projecting laterally therefrom within said guide, spring means interposed between said interior shoulder and said laterally projecting means for holding said punch with the pointed end thereof in a retracted position in the mouth of said guide and with the opposite end of said punch projecting from the opposite end of said guide, a tubular holder mounted for axially sliding movement on said guide, said holder being at one end provided with an interior shoulder engaging the circumference of said guide, and said guide being provided with a circumferential shoulder engaging the inner wall of said holder, spring means interposed between said lastnamed interior shoulder and said circumferential shoulder and adapted to retract said holder from the end of said guide surrounding the pointed end of said punch, and a nut screwed onto the end of said guide remote from the pointed end of said punch and formed with means constituting abutments for limiting retraction of said holder and said punch, respectively.

PAUL SVEND HAKON FLEMMING.

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