

Oct. 17, 1944.

C. WALKER

2,360,746

WIRE DRAWING DIE HOLDER ASSEMBLY

Filed Sept. 22, 1943

FIG. 1.

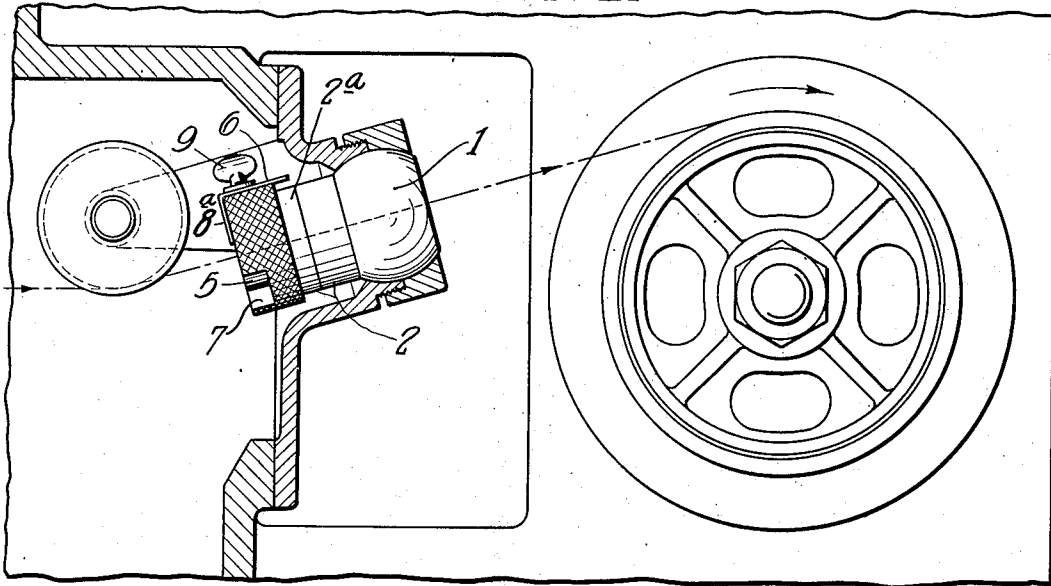


FIG. 2.

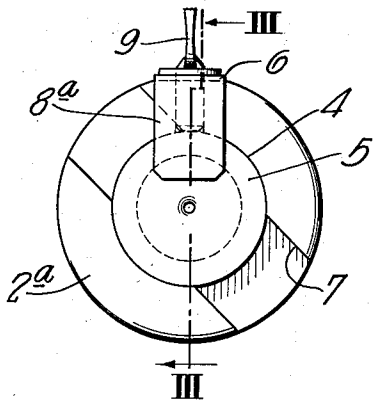


FIG. 3.

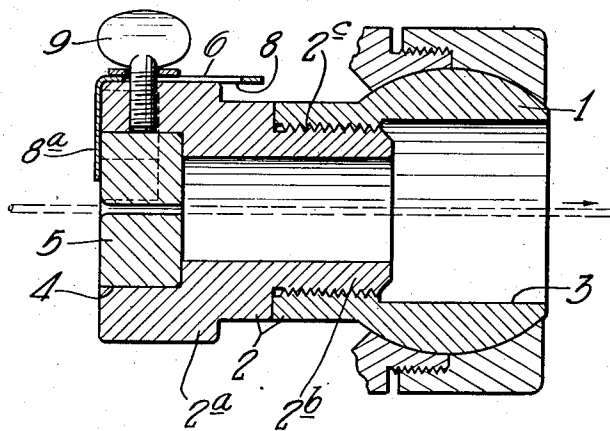
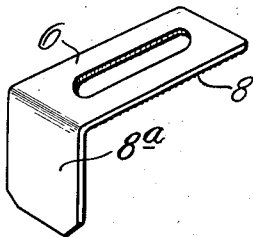


FIG. 4.



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2,360,746

WIRE DRAWING DIE HOLDER ASSEMBLY

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Application September 22, 1943, Serial No. 503,415

2 Claims. (Cl. 205—25)

This invention relates to wire drawing, die holder assemblies of the type used to hold the finishing die through which the drawn wire exits through the casing of a continuous wire drawing machine for the purpose of providing both a finishing draft and preventing loss of the die coolant splashing around inside the casing. Heretofore, die holder assemblies of this type have been characterized by the disadvantage of requiring their complete removal and disassembly from the casing when it was necessary to inspect or change the die and during threading-up of the machine, the object of the present inventor being to provide a holder obviating this disadvantage.

A specific example of the invention is illustrated by the accompanying drawing, in which:

Figure 1 shows the invention in use;

Figure 2 shows the front;

Figure 3 is a longitudinal section taken from the line III—III in Figure 2; and

Figure 4 is a detail.

More specifically, this drawing shows a die holder assembly comprising a ball 1 and a neck 2, forming a unit, a hole 3 being bored through both longitudinally of the neck with a counterbore 4 in the neck for receiving the die 5 to a depth not much greater than the length of the die, a releasable fastener 6 being provided for fastening the die in the counterbore. Formerly the counterbore extended deep into the neck 2 and the die was positioned by an apertured screw screwed into the counterbore on top of the die, so when the die had to be removed, the entire assembly had to be removed from the casing of the continuous wire drawing machine since there was no other way to dislodge the die from the counterbore.

For the benefit of those unfamiliar with the use of this type of assembly it might be best to explain at this time that the casing of the continuous wire drawing machine has a socket in which one end of the ball 1 sits for universal action and a nut which screws over the ball 1 and which contains a socket for fitting the ball 1 at the other end thereof, the ball being thereby retained in the casing. The universal action obtained by this arrangement is necessary because the die must be carefully aligned with the natural traveling path of the wire being drawn through the die, and this makes it particularly objectionable to have to remove the entire assembly, this meaning, for instance, that each time the machine is threaded-up to draw a new

length of wire the assembly must be readjusted for the purpose of realigning the die with the wire. All this is obviated by the present invention since the die may be easily removed from the counterbore 4 due to its shallow depth.

Continuing, the end of the neck has a transverse slot 7 extending through the counterbore 4 and giving access to the side of the die to facilitate its removal upon release of the fastener 6. Thus, in case the die becomes stuck in the die holder, it is possible to use a tool to effect its dislodgement.

The fastener 6 is in the form of a flat metal strip having a roughened surface 8 resting parallel, longitudinally, on the outside of the neck with a thumb screw 9, passed through a longitudinal slot in the strip, fastening it thereto, this strip having an inwardly bent outer end 8a overlying the outside end of the die 5.

A further feature of the new holder is that the neck portion 2a, having the counterbore 4, is separate from the remainder of the neck, which is integral with the ball 1, and is releasably fastened thereto by having a threaded end 2b screwed into a threaded counterbore 2c in the remainder of the neck 2 integrally joined with the ball 1. This is of advantage should extreme difficulty be experienced in dislodging the die 5 in spite of its accessibility since, without removing the entire unit, it is possible to unscrew the neck portion 2a and remove it from the machine's casing so that the die can be attacked more vigorously. When a new die is replaced in the unscrewed neck portion with the wire threaded through this die, the wire may then be passed through the hole through the integrally joined neck portion 2 and ball 1 and the end portion 2a screwed back to complete the assembly, all without realignment of the die since the ball 1 has not been moved respecting its association with the casing. Of course, the same thing prevails when the die is simply plucked from the counterbore 4 without unscrewing the neck apart, which is a practicable procedure excepting when the die becomes too firmly stuck.

I claim:

1. A wire drawing die holder assembly comprising a ball and neck unit having a hole through both longitudinally of the neck with a counterbore in the neck for receiving the die to a depth not much greater than its length and a releasable fastener for fastening the die in the counterbore, the end of the neck having a

transverse slot extending through the counterbore and giving access to the side of the die to facilitate its removal upon release of the fastener, the latter being in the form of a flat metal strip resting parallel longitudinally on the outside of the neck with a screw fastening it thereto and an inwardly bent outer end overlying the outside end of the die.

2. A wire drawing die holder assembly comprising a ball and neck unit having a hole through both longitudinally of the neck with a counterbore in the neck for receiving the die to a depth not much greater than its length and a releasable fastener for fastening the die in the

counterbore, the neck portion having the counterbore being separate from the remainder and releasably fastened thereto by having a threaded end screwed into a threaded counterbore in the remainder, the end of this separate neck portion having a transverse slot extending through the counterbore and giving access to the side of the die to facilitate its removal upon release of the fastener, the latter being in the form of a flat metal strip resting parallel longitudinally on the outside of the neck with a screw fastening it thereto and an inwardly bent outer end overlying the outside end of the die.

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