June 30, 1925. 1,543,661

E. A. BAUMBACH

PUNCH HOLDER JACK

Filed Dec. 22, 1924

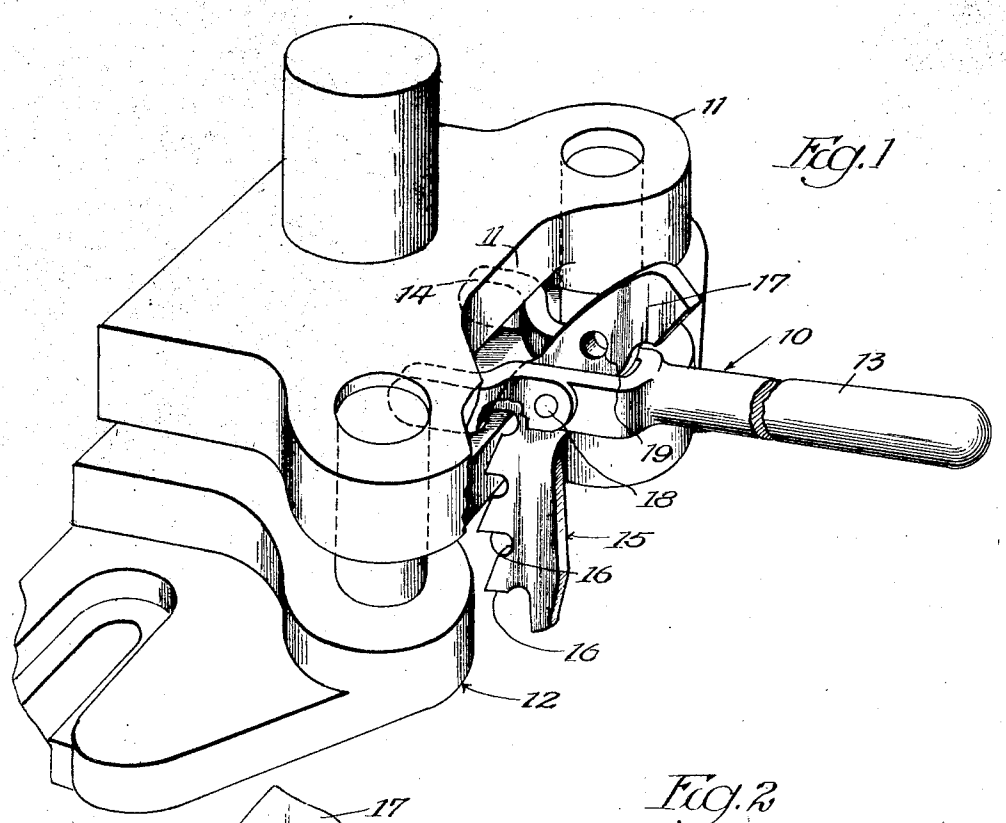


Fig. 1

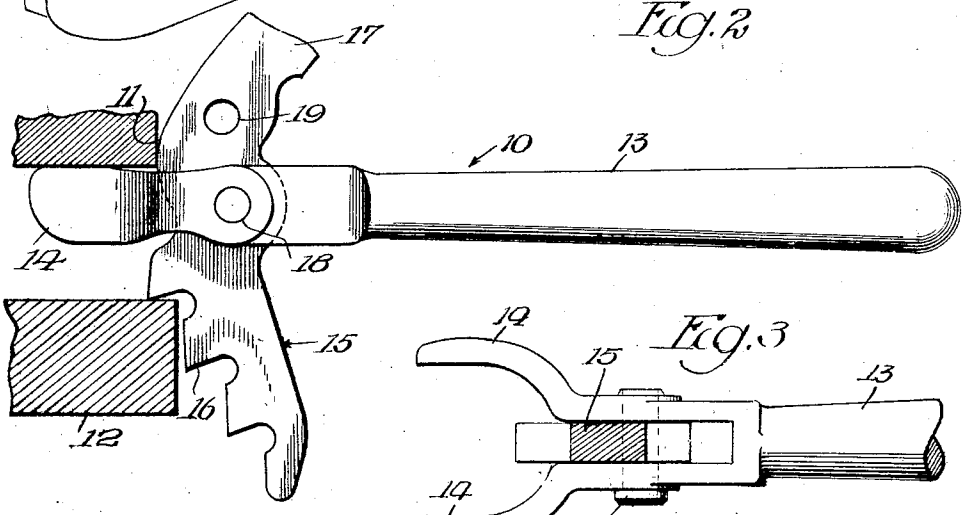


Fig. 2

Fig. 3

Witness:
H. C. Barrett.

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UNITED STATES PATENT OFFICE.

EMIL A. BAUMBACH, OF CHICAGO, ILLINOIS.

PUNCH-HOLDER JACK.

Application filed December 22, 1924. Serial No. 757,456.

To all whom it may concern:

Be it known that I, EMIL A. BAUMBACH, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Punch-Holder Jacks, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawing, forming a part of this specification.

My invention relates to a punch holder jack.

One of the objects of my invention is to provide a jack for separating the punch holder from the die shoe.

A further object is to provide such a jack which will be easy to manipulate and by means of which the punch holder can be raised by successive steps to separate it from the die shoe.

Further objects will appear from the description and claims.

In the drawings, in which my invention is shown:

Figure 1 is a perspective view showing the jack being inserted into position to lift the punch holder from the die shoe;

Fig. 2 is a side view showing the jack in lifting position;

Fig. 3 is a plan view of the jack with parts broken away.

The construction shown comprises the punch holder jack 10 for lifting the punch holder 11 away from the die shoe 12. In making dies, the die maker has to do a good deal of "cut and try" work and in doing this it is often necessary to bring the punch holder up to the die shoe and lift it up again and repeat this until the punch and die have been fitted and adjusted so as to cooperate properly. If the die shoe is provided with leader pins cooperating with holes in the punch holder, it may require considerable force to separate the punch holder from the die shoe, particularly if the punch holder is heavy. Often a crowbar is used for this work which is awkward and takes considerable time.

My improved jack comprises a lever 13 having lifting arms 14 insertable under the punch holder 11 between the punch holder and die shoe and a pendant supporting dog 15 pivotally connected to the lever intermediate the lifting arm and handle, this pendant having a series of foot portions 16 anyone of which can engage the die shoe whereby the punch holder can be raised step by step by successively engaging succeeding foot portions with the die shoe.

The jack is provided with stop means for limiting the distance to which the lifting arms can be inserted between the punch holder and the die shoe. In the form shown, these means comprise an upward extension 17 of the pendant dog, which upward extension engages the punch holder and limits the distance to which the lifting arm can be inserted. This serves to definitely position the lifting arm and insure the proper positioning of the lever and dog with respect to the die shoe and punch holder. The upward extension is so designed that when the lifting arms are inserted as far as they will go, the point of engagement of the engaging foot portion with the die shoe will be substantially underneath the pivot pin 18 connecting the lever and pendant or nearly enough so that the pendant and lifting arms will not be forced to slip when pressure is inserted on the handle.

The pendant dog may be provided with a plurality of holes 19, any one of which can receive the pivot pin, this series of holes being provided to enable a greater lift of the punch holder to be obtained when necessary.

While I have shown but one form of my invention, it is to be understood that I do not desire to limit myself to this particular construction since many changes and modifications may be made therein without departure from the scope of the following claims.

I claim:

1. A punch holder jack for separating the punch holder from the die shoe comprising a lever having a lifting arm insertable under the punch holder between the punch holder and die shoe and a handle portion, and a pendant supporting dog pivotally connected to said lever intermediate the lifting arm and handle and having a series of foot portions, any one of which can engage the die shoe whereby the punch holder can be raised step by step by successively engaging succeeding foot portions with the die shoe, said jack being provided with a stop for limiting the distance to which the lifting arm can be inserted between the punch holder and die shoe.

2. A punch holder jack for separating the punch holder from the die shoe comprising a lever having a lifting arm insertable under the punch holder between the punch holder and die shoe and a handle portion, and a pendant supporting dog pivotally connected to said lever intermediate the lifting arm and handle and having a series of foot portions, any one of which can engage the die shoe whereby the punch holder can be raised step by step by successively engaging succeeding foot portions with the die shoe, said supporting dog having a stop portion extending above said lever for limiting the distance which the lifting arm can be inserted between the punch holder and die shoes.

3. A punch holder jack for separating the punch holder from the die shoe comprising a lever having a lifting arm insertable under the punch holder between the punch holder and die shoe and a handle portion, and a pendant supporting dog pivotally connected to said lever intermediate the lifting arm and handle and having a series of foot portions, any one of which can engage the die shoe whereby the punch holder can be raised step by step by successively engaging succeeding foot portions with the die shoe, said supporting dog having a stop portion extending above said lever for limiting the distance which the lifting arm can be inserted between the punch holder and die shoe, the portion of said dog above the lever extending away from the punch holder to serve as a counterweight to hold the foot portion toward the die shoe.

4. A punch holder jack for separating a punch holder from a die shoe comprising a lever having two spaced lifting arms to be inserted under the punched holder between the punch holder and die shoe, and a handle portion, and a pendant supporting dog pivotally connected to said lever between said lifting arms and having a series of foot portions, any one of which can engage the die shoe, whereby the punch holder can be raised step by step to successively engage succeeding foot portions with the die shoe.

In witness whereof, I have hereunto subscribed my name.

EMIL A. BAUMBACH.