

J. STRATTON & E. A. CLAREMONT.

APPARATUS FOR DRAWING WIRE.

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931,971.

Patented Aug. 24, 1909.

Fig 1.

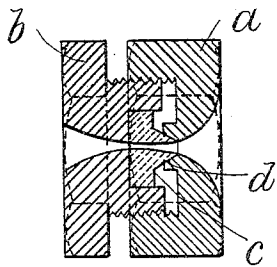


Fig 2.

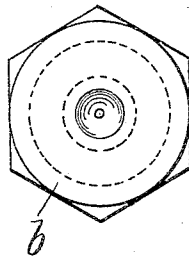


Fig 3.

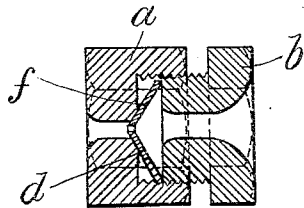
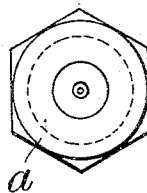


Fig. 4.



WITNESSES

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JOHN STRATTON AND ERNEST ALEXANDER CLAREMONT, OF OLD TRAFFORD, MANCHESTER, ENGLAND.

APPARATUS FOR DRAWING WIRE.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, JOHN STRATTON and ERNEST ALEXANDER CLAREMONT, both being subjects of the King of Great Britain, the former residing at 37 Park avenue, Old Trafford, Manchester, in the county of Lancaster, England, and the latter residing at Throstle, Nest House, Old Trafford aforesaid, have invented new and useful Improvements in Apparatus for Drawing Wire, of which the following is a specification.

In machines for drawing wire it is frequently necessary to reduce the size of the aperture or opening of the die by reason of its having become enlarged through use or for any other reason. In order to reduce the aperture of the die it is the common practice in the case of a die sufficiently plastic and malleable to hammer the die and cause it to extrude into and partly or wholly close the aperture and then ream the aperture out to its original gage while if the die is not sufficiently plastic to be so treated a new die must be substituted.

The object of our invention is to construct an apparatus consisting of a die of steel or other suitable metal or alloy sufficiently plastic and a die holder by the manipulation of which the circumference of the aperture can when required be reduced to its original or any other desired gage within the practical limits of the metal without hammering or any other such process and without even withdrawing the wire from the die or the die from the machine and that with a greatly reduced expenditure of time, labor and materials.

We construct a die of steel or other suitable metal or alloy and mount the same in a die holder (which die holder may be a fixed part of a wire drawing machine or may be detachable and apart in itself) such that the internal space of the die holder can be contracted with considerable force and the metal die by reason of the force or pressure brought to bear caused to yield and by reason of its plasticity the size of the aperture decreased. We prefer to make the die of a conical shape and to construct the wall of the die holder on which it rests of a conical shape as shown in Figures 1 and 3 referred to below.

In the accompanying drawings Figs. 1, 2, 3 and 4 we describe two examples of our invention.

Referring to the accompanying drawings Figs. 1 and 2 show a section and an elevation respectively of one form of our apparatus and Figs. 3 and 4 show another form. The letters used herein in describing the drawings refer equally to both forms.

a is a disk of metal recessed bored and threaded on the inside.

b is a plug of metal bored and threaded on the outside to fit into the threaded interior of *a*.

a and *b* constitute that which is herein referred to as a die holder. The external parts of the die holder may be of a hexagonal square or any other suitable shape for the purpose of screwing together the parts of the die holder by a spanner wrench or other suitable means.

c herein referred to as a die is a circular piece of metal bored of a conical shape or having a tapered cone at one end adapted to fit into the counter-sunk hole or seat *d* in the wall of the die holder. *f* is another form of die made of metal bored and adapted to fit into the counter-sunk hole or seat *d*.

The method of operating both the above described devices is as follows:—The die is placed in the die holder and the two parts of the die holder are screwed together so as to retain the die in position as shown in Figs. 1 and 3. When it is required to reduce the circumference of the aperture of the die the apex of the cone of the die is forced or pressed against the counter-sunk hole or seat *d* in the wall of the die holder by screwing together the parts of the die holder to an extent sufficient to reduce the circumference of the aperture to the desired gage. This reduction of the aperture is thus capable of being effected without removing the wire from the die or the die away from the machine and is in fact capable of being effected while the wire is in process of being drawn through the die.

It is not new to make an apparatus consisting of a die made of wire twisted spirally and a die holder the die holder being such that pressure can be brought to bear on the die so as to cause the orifice of the die to be contracted, but it is new to construct an apparatus consisting of a solid die and a die holder such as described by us.

We declare that what we desire to secure by Letters Patent of the United States is:—

1. A die holder comprising a plug having

an opening therethrough and a central seat, a die adapted to fit in the said seat, and a cap having a central opening and resting against the die, said cap being movable on the plug to compress the die.

2. A die holder comprising a hollow plug formed with a funnel shaped mouth having a central annular seat, a solid metal conical die adapted to fit in the said seat, and a hollow cap formed with a central funnel shaped opening in its solid end adapted to receive the apex of the conical die.

3. A die holder comprising two parts *a* and *b*, the first part *a* being hollow and internally screw threaded, and the second part *b* being in the form of a hollow exter-

nally screw threaded plug with a funnel shaped mouth adapted to screw into the part *a*, and a solid metal conical die *c*, said hollow plug having a central seating for the conical die, and the part *a* having a central conically dished opening in its end to receive the apex of the conical die.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

JOHN STRATTON.

ERNEST ALEXANDER CLAREMONT.

Witnesses:

S. W. GILLET,

HERBERT ROWLAND ABBEY.