G. A. JOYCE.

WIRE DRAWING DIE.

APPLICATION FILED JUNE 25, 1910.

978,301. Patented Dec. 13, 1910.

Fig. 1

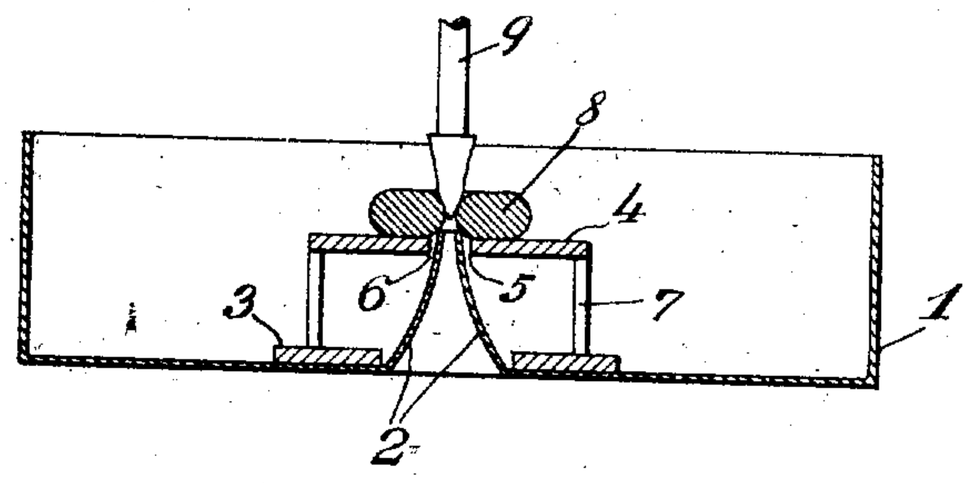
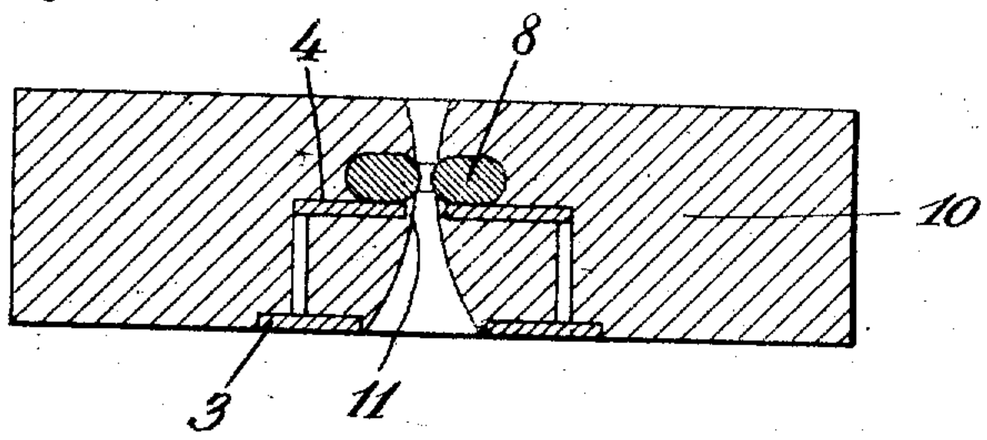


Fig. 2



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GEORGE ALBERT JOYCE, OF LONDON, ENGLAND.

WIRE-DRAWING DIE.

978,301. Specification of Letters Patent. Patented Dec. 13, 1910.

Application filed June 25, 1910. Serial No. 568,768.

To all whom it may concern:

Be it known that I, GEORGE ALBERT JOYCE, a subject of the King of Great Britain and Ireland, and a resident of London, county of Middlesex, England, (temporarily residing in the borough of Brooklyn, New York city, in the county of Kings and State of New York,) have invented certain new and useful Improvements in Wire-Drawing Dies, of which the following is a specification.

The present invention relates to wire drawing dies and has more particularly reference to that class of wire drawing dies in which a stone or diamond is used as the drawing member.

When mounting diamonds by casting molten steel around the diamond and facing the casting with an alloy to avoid corrosion of the steel, the excessive heat of the molten steel is apt to have a deleterious effect on the diamond.

The object of this invention is to properly mount the diamond without the necessity of subjecting it to excessive heat. To this end the invention embraces a wire drawing die composed of a drilled diamond or stone supported by a perforated back plate of a material having high tensile strength and a relatively high melting point on one side of the stone and reinforcing the latter in the direction of the pull exerted on the wire to be drawn. Said back plate and diamond being surrounded by a casting of a material having a relatively low melting point. As the back plate is generally made of steel which is corrosive, the casting surrounding the same should be of a non-corrosive material such as an alloy like bronze. In this manner sufficient support is given to the diamond without subjecting it to excessive heat and corrosion of the steel is avoided.

Other features will appear as the specification proceeds.

The invention is disclosed in the accompanying drawings in a concrete and preferred form, but changes may of course be made without departing from the intended and legitimate scope of the invention, as expressed in the claims hereof.

In the said drawings: Figure 1 is a vertical sectional view of a mold, showing the stone and backing plate in position, ready for pouring. Fig. 2 is a vertical sectional view of the die in its finished form.

Similar characters of reference indicate corresponding parts in the different views.

1 indicates a mold having a tapered core 2. In this mold, around the core 2, is placed a bronze ring 3, which supports a backing or reinforcing plate 4 having the aperture 5. This aperture is of such a size that a space 6 is left between the wall of the aperture and the core 2. The backing plate is provided with the spacing legs 7. The drilled diamond or stone 8 is then placed on the backing plate 4 and properly centered by means of the core 2 and holding pin 9. Bronze is now poured into the mold entirely surrounding the stone and backing plate and flowing in between the core 2 and the wall of the aperture 5.

The finished product is shown in Fig. 2 in which 10 indicates the casting which surrounds the stone 8 and backing plate 4. 11 is that part of the casting which covers the wall of the aperture 5. The spacing legs 7 and the bronze ring 3, as shown, remain and become part of the finished product. The reinforcing or backing plate 4 reinforces the diamond in the direction of the pull exerted on the wire to be drawn.

What is claimed is:

1. As a new article of manufacture, a wire drawing die comprising: a drilled stone, a casting of a material having a relatively low melting point surrounding said stone, and a perforated reinforcing plate supporting said stone of a material having a relatively high melting point, embedded in said casting on one side of the stone and reinforcing the latter in the direction of the pull exerted on the wire to be drawn.

2. As a new article of manufacture, a wire drawing die comprising: a drilled stone, a casting of a material having a relatively low melting point surrounding said stone, and a perforated reinforcing plate supporting said stone of a material having a high tensile strength embedded in said casting on one side of the stone and reinforcing the latter in the direction of the pull exerted on the wire to be drawn.

3. As a new article of manufacture, a wire drawing die comprising: a drilled stone, a casting of a material having a relatively low melting point surrounding said stone, and a perforated reinforcing plate supporting said stone, of a material having a high tensile strength and a relatively high melting point.

embedded in said casting on one side of the stone and reinforcing the latter in the direction of the pull exerted on the wire to be drawn.

4. As a new article of manufacture, a wire drawing die comprising: a drilled stone, a casting of non-corrosive material having a relatively low melting point surrounding said stone, and a perforated reinforcing plate, supporting said stone, of a corrosive material having a relatively high melting point, embedded in said casting on one side of the stone and reinforcing the latter in the direction of the pull exerted on the wire to be drawn.

5. As a new article of manufacture, a wire drawing die comprising: a drilled stone, a casting of non-corrosive material having a relatively low melting point surrounding said stone, and a perforated reinforcing plate of high tensile strength, and supporting said stone, of a corrosive material having a relatively high melting point, embedded in said casting on one side of the stone and reinforcing the latter in the direction of the pull exerted on the wire to be drawn.

6. As a new article of manufacture, a wire drawing die comprising: a drilled stone, an alloy casting surounding said stone, and a perforated steel back plate embedded in the casting on one side of the stone and reinforcing the latter in the direction of the pull exerted on the wire to be drawn.

Signed at New York city in the county of New York and State of New York this 24th day of June A. D. 1910.

GEORGE ALBERT JOYCE.

Witnesses:

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