

PATENT SPECIFICATION



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542,965

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PROVISIONAL SPECIFICATION

Improvements in and relating to Screw-cutting Dies

We, STANLEY EDWARD OPPERMAN, a British subject, of Greenhill, Ganwick Corner, near Barnet, Hertfordshire, and JUNEERO LIMITED, a British Company, of 5 25, White Street, Moorfields, E.C.2, do hereby declare the nature of this invention to be as follows:—

This invention for improvements in screw-cutting dies relates more particularly to dies for screw threading rods of small diameter or wire and has for its object to provide in a die of simple construction means for ensuring accuracy in the formation of the threads on work 10 which, as indicated, may be of comparatively small dimensions.

With known one piece dies it is usually comparatively difficult to ensure that a screw thread is cut symmetrically on a 20 rod for instance, that is to say with the axes of the thread convolutions and of the rod accurately coincident. Moreover, the thread can easily be inaccurately formed with a varying pitch when using one piece 25 dies of known construction without guiding means.

These difficulties are overcome by the invention according to which a screw-cutting die is provided with means for 30 guiding the said die as it traverses the member to be threaded so that the

resultant thread is even and symmetrical.

In one simple form of the invention the die proper consists of a short bar of metal provided with two opposite sets of the 35 usual thread-cutting teeth separated by throats or clearance spaces for receiving the cuttings, and another similar bar is secured, for instance by stamping, riveting or welding on one face of the first- 40 mentioned bar. This second bar constitutes a guide for the die, and has a hole exactly opposite and coaxial with the die aperture, this hole being of such size that it just fits easily round the rod on which 45 a screw thread is to be cut.

In use the rod to be threaded is securely clamped and the end to be threaded is inserted into the hole in the guide bar. Then the threading operation 50 is carried out in the usual way, the guide bar ensuring that the resultant thread shall be cut correctly on the rod.

The invention is of particular application where the dies are intended for use 55 by amateurs and young workers of little practical skill, in the construction of models for example.

Dated this 1st day of July, 1940.

WHEATLEY & MACKENZIE,
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COMPLETE SPECIFICATION

Improvements in and relating to Screw-cutting Dies

We, STANLEY EDWARD OPPERMAN, a 60 British subject, of Greenhill, Ganwick Corner, near Barnet, Hertfordshire, and JUNEERO LIMITED, a British Company, of Stirling Corner, Barnet-by-Pass, Boreham Wood, Hertfordshire, formerly of 25, 65 White Street, Moorfields, London, E.C.2, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following 70 statement:—

This invention for improvements in screw-cutting dies relates more particularly to dies or tools for screw threading rods of small diameter or wire and has for 75 its object to provide in a die or screw

threading tool of simple construction means for ensuring accuracy in the formation of the threads on work which, as indicated, may be of comparatively small diameter. 80

In cutting screw threads by means of stocks and dies various devices have been proposed for guiding the dies. The guides and the dies have been mounted detachably on the stocks, or the die is 85 adjustable on and detachable from a stock formed with a series of guide apertures.

According to this invention the screw-cutting die or tool consists of a small bar, integral with which is a screw threading 90 die, and which has attached thereto a means which traverses the member to be

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threaded, preceding the die and guiding it so as to produce a perfect thread.

In one simple form of the invention the die proper is formed in a short bar of metal provided with two opposite sets of the usual thread-cutting die teeth separated by throats or clearance spaces for receiving the cuttings, and another similar bar is secured, for instance by stamping, riveting or welding on one face of the first-mentioned bar. This second bar constitutes a guide for the die, and has a hole exactly opposite and coaxial with the die aperture, this hole being of such size that it just fits easily round the rod on which a screw thread is to be cut.

In the accompanying sheet of illustrative drawings

Fig. 1 is a longitudinal vertical section of a screw cutting tool constructed according to this invention.

Fig. 2 is a plan of the same, and

Fig. 3 is a transverse section taken through the centre of the die at 3—3 Fig. 2.

Referring to the drawings a steel bar *a* is formed at or about the middle of its length with a slotted aperture *b*, the middle portion of which is of interrupted circular shape comprising two opposite segmental side portions having hardened screw cutting die teeth *c*. At its ends the slotted aperture *b* is enlarged as shown in Fig. 2 at the throats or clearance spaces of the die to receive the cuttings removed from the work by the die teeth.

A second metal bar *d* secured as shown by rivets *e* to the bar *a* which is superposed thereover, has a guide aperture *f* for the rod or wire to be screw-threaded and is co-axial with the die aperture proper as aforesaid.

The two bars *a* *d*, instead of being riveted together as shown may be welded together or otherwise secured, and the outer ends form the handles of the die as will be understood.

In use the rod to be threaded is securely

clamped and the end to be threaded is inserted into the hole *f* in the guide bar. Then the threading operation is carried out in the usual way, the guide bar ensuring that the resultant thread shall be cut correctly on the rod.

The invention is of particular application where the dies are intended for use by amateurs and young workers of little practical skill, in the construction of models for example.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

1. A screw threading die or tool comprising a bar, a screw threading die integral therewith, and means for guiding the die as it traverses the member to be threaded.

2. A screw threading die or tool consisting of a metal bar having a slotted aperture, screw cutting die teeth on opposite sides of the aperture, clearance throats separating the opposite die teeth for receiving cuttings and means for guiding the die as it traverses the member to be threaded.

3. A screw threading die or tool consisting of a metal bar having a slotted aperture, screw cutting die teeth on opposite sides of the aperture, clearance throats separating the opposite die teeth for receiving cuttings and a second metal bar secured to the first mentioned bar and formed with a guide aperture for the work.

4. A screw threading die or tool consisting of two bars secured together face to face, screw threading means incorporated in one bar and die guiding means in the other bar.

Dated this 1st day of July, 1941.

WHEATLEY & MACKENZIE,

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FIG. 1.

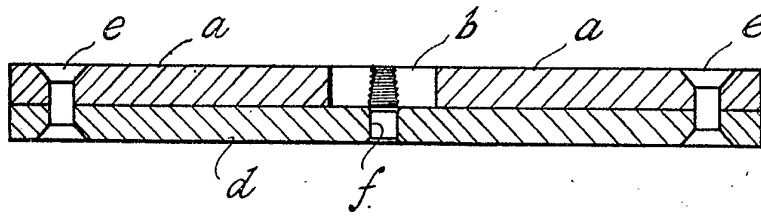


FIG. 2.

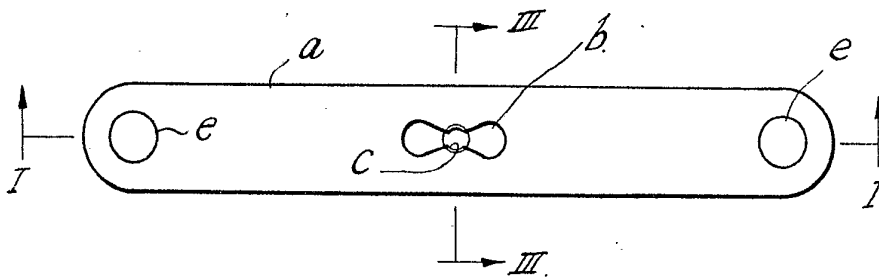
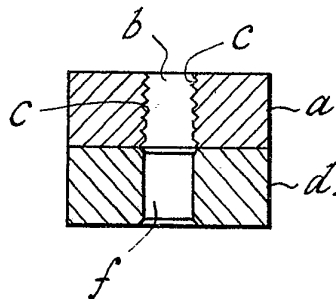


FIG. 3.



[This Drawing is a reproduction of the Original on a reduced scale.]