F. E. WELLS.

DIE BLANK.

APPLICATION FILED FEB. 19, 1912.

1,048,921. Patented Dec. 31, 1912.

Fig. 1.

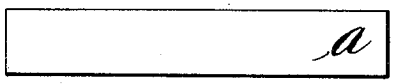


Fig. 2.

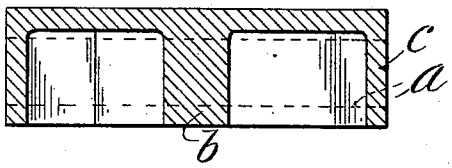


Fig. 3.

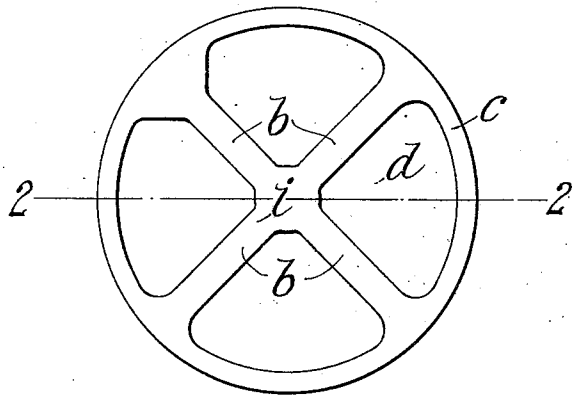
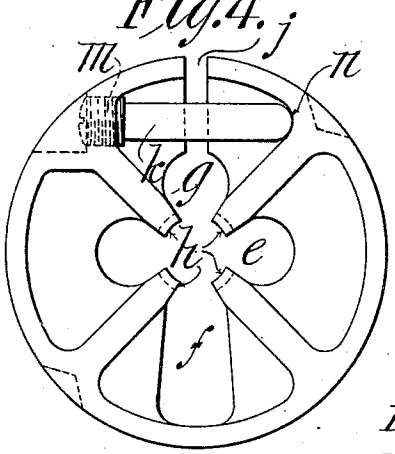


Fig. 4.



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DIE-BLANK.

1,048,921. Specification of Letters Patent. Patented Dec. 31, 1912.

Application filed February 19, 1912. Serial No. 678,616.

To all whom it may concern:

Be it known that I, FREDERIC E. WELLS, a citizen of the United States of America, residing at Greenfield, in the county of Franklin and State of Massachusetts, have invented new and useful Improvements in Die-Blanks, of which the following is a specification.

This invention relates to improvements in thread-cutting dies, and more particularly to the method of forming the finished blank prior to the formation of the threads of the die.

The invention, in its completed form, comprises a ribbed blank member and a thin, or somewhat reduced rim portion with a slit in the edge thereof to permit the rim to yield or spring, if desired, for cutting threads of different diameters.

Blanks from which dies are made are usually composed of a solid piece of steel requiring the removal of the surplus material by drilling or boring, which operation is an expensive process consuming not only a great deal of time, besides the waste of expensive material. Applicant's blank is formed from a solid piece of steel which is subjected to the drop forging process leaving the finished blank in shape for finishing the die; that is to say, for forming the cutting teeth, and the other operations or processes for completing the die.

In the drawings forming part of this application,—Figure 1 is an edge view of the stock from which the finished block is to be forged. Fig. 2 shows a transverse sectional view on the line 2—2 of Fig. 3. Fig. 3 is a plan view of Fig. 2 showing the diametrically arranged ribs joined at the center, and rim portion of the blank. Fig. 4 is a plan view of the finished die showing the slit in the rim portion, the adjusting screw, and the cutting teeth.

Referring to the drawings in detail, *a* designates a block of the stock from which the die is to be formed by the drop forging process. Figs. 2 and 3 show the blank after it has been subjected to this process in which the ribs *b* are struck up, being formed integral with each other at the center of the blank and the rim *c* at their outer ends. The webs *d* between the ribs are also integral with the ribs and rim, and in planes at substantially right angles to each other. The webs also serve to completely close one side of the finished blank and the rim, webs and ribs form separate pocket spaces. The metal of the original stock-piece *a*, as shown in Fig. 1, has therefore been forged into the blank shown in Figs. 2 and 3. The next step in the process of making the finished die is to punch out the portions of metal from the webs *d* of the blank, shown in Fig. 3, and as indicated in Fig. 4 by the openings *e*, *f*, and *g*, thus forming the four inwardly projecting ends *h* on which the cutting teeth are formed; or, the center portion *i* may be first removed by drilling, and the openings *e*, *f*, and *g* then formed. A slit *j* is cut in the rim *c* so as to permit the adjusting screw *k* to vary the size of the thread to be cut. This screw is placed in a threaded opening *m* and extends across the slit *j* and engages the curved cornered portion *r* of the ribbed blank.

This particular invention relates to the formation of the cupped-shaped blank construction shown in Fig. 3, in contradistinction to the solid metal blank heretofore in use.

While the drawings and description show and describe a circular shaped adjustable die, the invention is also applicable to dies of any desired shape.

What I claim, is:—

1. A die-blank of general cup-shaped construction, ribs extending transversely of the blank, and integral webs between the ribs and the outer portions of the blank and in a plane at right angles to the ribs.

2. A die blank formed from a solid disk or blank and comprising a rim portion, the diameter of which is equal to the diameter of the solid disk, a web-portion integral with the rim portion and at right angles thereto, rib-members connected together at the center portion of the blank and equal to the thickness of the finished rim portion, the

web-portion completely closing one side of the finished die-blank, as described.

3. In a ribbed die-blank, a rim formed integral with the ribbed portion and webs integral with the rim and ribs, said ribs being integral with each other at their center portions, the space between the rim, ribs, and web portions forming independent pocket spaces.

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Witnesses:
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