June 14, 1927. 1,632,305

J. McGREVY

PROCESS FOR THE PRODUCTION OF STAMPED FIGURES

Filed June 24, 1925

Fig. 1.

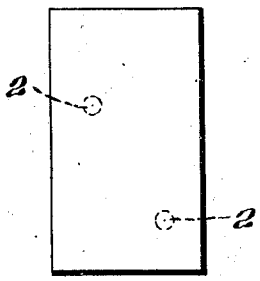


Fig. 2.

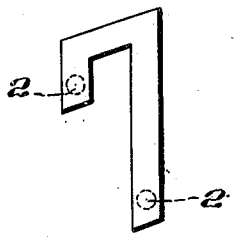


Fig. 3.

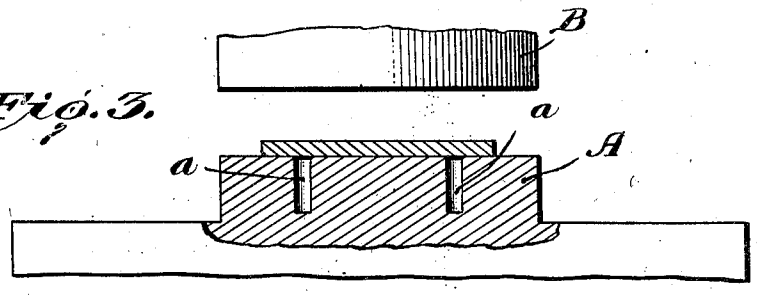
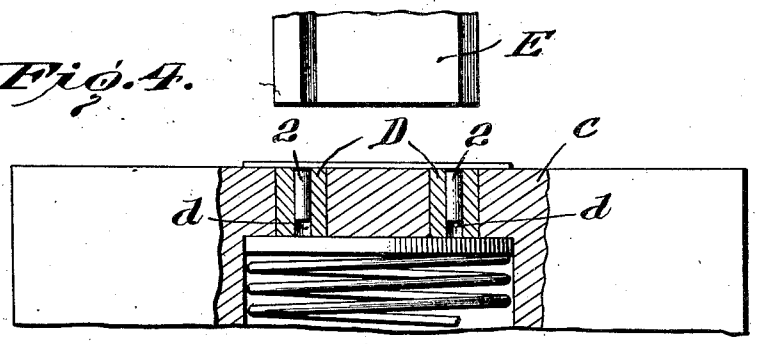


Fig. 4.



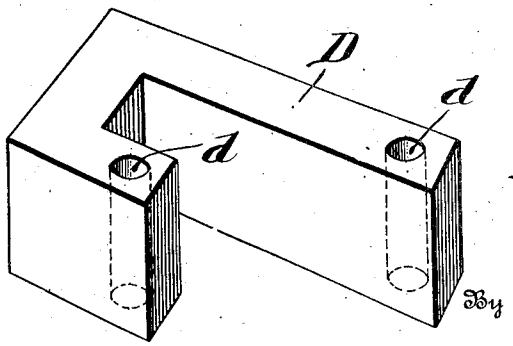


Fig. 5.

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UNITED STATES PATENT OFFICE.

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PROCESS FOR THE PRODUCTION OF STAMPED FIGURES.

Application filed June 24, 1925. Serial No. 39,301.

While this invention has for its specific object a process for the convenient and economical production of raised figures numerals to be applied to watch dials, it is not restricted to the production of these articles alone, but may be used for the production of similar ones. However, in the following specification the description will be that of the production of a numeral to be applied to a watch dial.

Modern practice demands that these figures be provided with lugs projecting from the rear surface thereof to be received in holes accurately punched in the watch dial for the purpose of securing the figure in place and to locate it on the dial. The accuracy demanded on the production of these figures is very great as the dial is conspicuous and demands high finish. This requires that the lugs be accurately located at desired points on the figure. It has been proposed to secure this accuracy by forcing up the lugs from a sheet of metal and at the same operation by which the lugs are formed to punch guide holes in the sheet, by which the part of the sheet carrying the guide holes and the lugs may be properly located on a blanking die provided with dowel pins adapted to take the hole and thereby locate the blank. This however demands the use of an unnecessarily large blank from which the figure is to be formed and is objectionable in that the distortion of the blank may have destroyed the proper location of the pins and holes. I propose to overcome the defects noted and to obtain advantageous results by stamping lugs up on a blank of no greater size than is necessary for the formation of the desired figure, and to then transfer such blank to a blanking die, the pad of which is provided with holes adapted to receive the lugs on the blank to thereby properly locate the blank. This being done the punch may be depressed, thereby cutting out the figure with the lugs thereon, the lugs themselves having located the material from which the figure is cut.

Referring to the accompanying drawings in which corresponding parts are designated by similar marks of reference;

Fig. 1 is a blank having feet formed thereon suitable for the formation of a figure such as described.

Fig. 2 is the figure as cut out.

Fig. 3 is a sectional view of a swaging die suitable for the manufacture of the blank shown in Fig. 1, a blank being shown in this figure as well as the plunger of the press.

Fig. 4 is a similar view of a blanking die.

Fig. 5 is an enlarged perspective view of the pad shown in Fig. 4.

In carrying out my invention I cut a suitable blank of thin ductile metal of a size approximating that of the finished article shown in Fig. 2. This blank is fed to a swaging press, shown in Fig. 3. The die A of this press has in its face several depressions *a* and upon the descent of the plunger B the blank is reduced in thickness and metal of it is forced into such holes forming lugs 2, as is shown on the blank of Fig. 1. The blank is now removed from the swaging press and transferred to a blanking press. The die C of this latter press has a spring supported pad D working in an accurately shaped recess in the die as is well known. In addition to the usual practice, however, I provide in the upper face of the pad, holes *d* corresponding in their spacing with the holes *a* of the swaging die for the same figure. In putting the blank into the blanking die the lugs on the blank are placed in these holes in the pad of the latter, and then the plunger E is depressed forcing a part of the metal of the blank downwardly into such recess and severing it from the balance of the blank. Upon the plunger rising the pad ejects this punched out figure having on its rear the lugs.

It will be understood that for each figure there will be at least one blanking die and probably also a swaging die, although it is possible to use the same swaging die for several different figures. The subject-matter of the blanking press is claimed in my copending application Sr. No. 149,757, filed November 20th, 1926.

Having described my invention what I claim is:

1. The process of forming figures to be applied to surfaces, which consists in swaging a metal blank of approximate size for the desired figure with properly located lugs on one surface thereof and then locating such blank in a blanking press by such lugs and punching out the figure with the lugs thereon.

2. The process of forming figures to be applied to surfaces, comprising swaging an

individual blank to form lugs on one side thereof, locating said swaged blank on the pad of a blanking press having a configuration of the finished figure, and punching out the figure with the lugs thereon to the configuration of the pad.

3. The process of forming figures to be applied to surfaces, comprising swaging an individual blank to form lugs on one side thereof, locating said swaged blank on the pad of a blanking press, having a configuration of the finished figure, by the engagement of such lugs in recesses in such pad, and punching out the figure with the lugs thereon to the configuration of the pad.

JEREMIAH McGREVY.