

Dec. 19, 1944.

C. LA V. FAIRBANKS

2,365,461

PUNCH PRESS SET

Filed Sept. 27, 1944

Fig. 1.

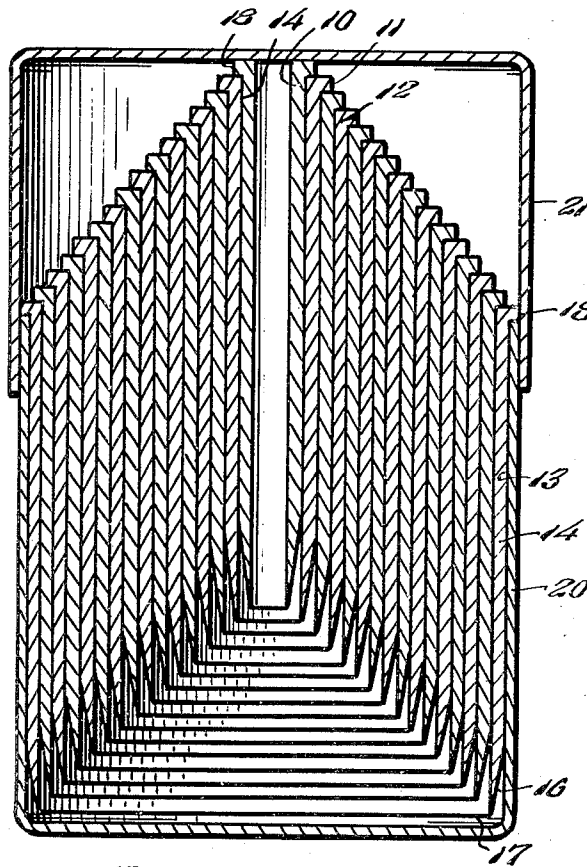
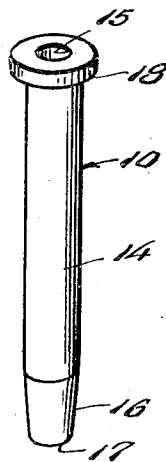


Fig. 2.



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UNITED STATES PATENT OFFICE

2,365,461

PUNCH PRESS SET.

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Application September 27, 1944, Serial No. 556,047

1 Claim. (Cl. 164—32)

This invention relates to a punch press set.

The primary object of this invention is the provision of an improved punch press set, characterized by a variety of sizes of punches, adapted for hand use, and so dimensioned that they will form a complete compact, nested unit when not in use.

An additional object of this invention is the provision of such a punch set wherein each individual punch is provided with a flange, about an extremity thereof, to permit ready withdrawal of successive sizes of punch from the nest.

Still another object is the provision of such a device provided with a case, the largest punch of the set being so dimensioned as to fit snugly within a portion of the case and the flange being of a size to seat upon the rim of said case.

Still another object is the provision of a punch press set which will be relatively simple and inexpensive to manufacture, easy to use, and which may be contained in a relatively small compact case for carrying, or the like.

Other objects will in part be obvious, and in part be pointed out hereinafter, and in part be shown in the accompanying drawing, wherein there is disclosed a preferred embodiment of this inventive concept.

In the drawing:

Figure 1 is a sectional view of the punch set, in nested position, as contained within the casing therefor, and

Figure 2 is a perspective view of one of the punches comprising an element of the set.

Like reference numerals refer to like parts throughout the views of the drawing.

In the drawing there is shown a plurality of punches, 10, 11, 12 and 13, certain of the punches being identical in all respects to those designated by the reference characters 10 to 13, inclusive, with the exception of the size thereof, bearing no designating numeral. Each of the punches is comprised, as best shown in Figure 2, of a cylindrical sleeve 14 provided with a centrally disposed bore 15, the lower portion of which is tapered, as at 16, to form a circular cutting edge 17. Each punch is correspondingly provided about its upper extremity with a peripheral flange 18. The punches comprising the set are so dimensioned that the exterior diameter of the smallest punch 10 is slightly less than the diameter of the bore within the next larger size punch 11, and correspondingly the exterior of punch 11 is slightly less than the diameter of the bore within the sleeve comprising punch 12. Thus, it will be seen that the complete set of punches may be nested, as indicated in Figure 1. The flange 18, however, of punch 10 is of greater diameter than the interior diameter of the bore

of punch 11, and accordingly is adapted to rest upon the top of the punch 11. Correspondingly, the flange of the punch 11 is of greater diameter than the interior bore of punch 12, and so forth. Thus, it will be seen that when the punches are nested, as shown in Figure 1, each flange will rest upon the rim of its adjacent successively larger punch.

A casing comprised of a cylindrical sleeve 20 and a cover member 21 is provided for the punch set. The interior diameter of sleeve 20 is slightly greater than the exterior diameter of the largest of the punches, 13, but less than the diameter of the sleeve 18 of punch 13. Thus, when the punches are nested, the flange 18 of the largest punch 13 is adapted to rest upon the rim of casing 20. The cover member 21 is of an interior diameter slightly in excess of the exterior diameter of sleeve 20 and the flange 18 of punch 13, in such manner that it may be readily slipped thereover to completely encase the punch set.

The punches may be made of any suitable material, such as steel or the like, and are particularly adapted for the cutting out of circular apertures in material, such as gaskets or the like.

In the event that they are utilized in the cutting of relatively stiff material, the flanges 18 form an enlarged head, to provide a surface for the application of a hammer or the like.

From the foregoing it will be seen that there is herein provided a device accomplishing all the objects of this invention and others, including many advantages of great practical utility and commercial importance.

As many embodiments may be made of this inventive concept, and as many modifications may be made in the embodiment hereinbefore shown and described, it is to be understood that all matter herein is to be interpreted merely as illustrative and not in a limiting sense.

I claim:

In a punch set, the combination of a plurality of hollow cylindrical punches, each having a cutting blade at an extremity thereof and a flange peripherally positioned about the other extremity thereof, said punches being so dimensioned that the exterior diameter of each is less than the interior diameter of the next larger size, whereby they may be nested together, said flanges being of greater diameter than the interior diameter of the next larger size, whereby successive punches may be readily withdrawn from the nested set, and a two-part case for said punches, the flange of the largest of said punches being so dimensioned as to rest on the rim of one of said parts of said case.

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