A. H. INGLIS.

PUNCH.

APPLICATION FILED DEC. 30, 1920.

1,413,277. Patented Apr. 18, 1922.

Fig. 1.

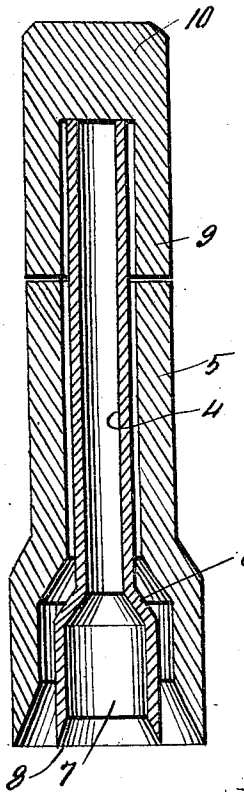


Fig. 3.

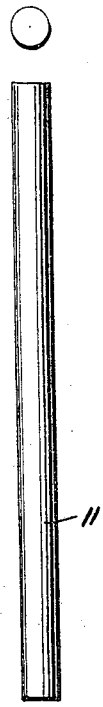


Fig. 4.

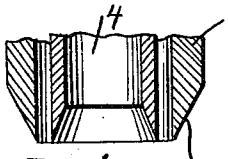
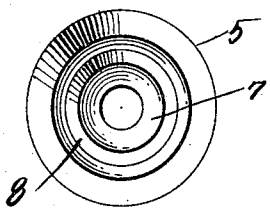


Fig. 2.



WITNESSES

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PUNCH.

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To all whom it may concern:

Be it known that I, ALBERT H. INGLIS, a citizen of the United States, residing at Salt Lake City, in the county of Salt Lake and State of Utah, have invented certain new and useful Improvements in Punches, of which the following is a specification.

The present invention consists of a punch which is especially adapted for use in punching out washers, gaskets, etc.

An object of the invention is to provide a hand operated device of this character which may be conveniently manipulated to accurately cut washers or gaskets from a blank and to expeditiously remove the core after the washer or gasket has been punched.

A further object of the invention is to provide a simple device of this character which will be rigid in construction and composed of but few parts so as to withstand the strain which will necessarily be imposed thereon even during normal operation of the device.

The above and other objects of this invention will be in part described and in part understood from the following description of the present preferred embodiment of the invention taken in connection with the accompanying drawings, wherein:

Fig. 1, is a vertical sectional view of a device constructed in accordance with this invention.

Fig. 2, is a plan view thereof.

Fig. 3, is a plan and elevational view of the core remover for the punch, and

Fig. 4, is a fragmentary sectional view of a slightly modified form of the invention.

In the drawings, it will be apparent upon reference to Fig. 1, that the punch consists especially of an inner punch or body 4, and an outer punch or body 5. These members are telescopically arranged, and are both preferably made of tool hardened steel, although any other desired material may be used.

The inner punch 4 consists especially of a cylindrical body, the lower end of which flares outwardly as indicated at 6, and then issues into a relatively large cylindrical working head 7, the free terminal of which is beveled to provide a working knife edge 8. The outer punch is identical in configuration except that it is relatively larger so as to be spaced from all parts of the outer periphery of the inner punch 4. Moreover the upper end of said inner punch extends appreciably beyond the upper end of the outer punch 5, and is equipped with an impact cap 9. It will be noted that the top of this cap 10 is relatively thick so as to withstand the force of an implement which will be brought into contact therewith in order to urge the punches 4 and 5 into the material from which the washers or gaskets are being punched. It will be noted that the lower terminal of the cap 9 is normally spaced from the upper terminal of the outer punch 5 so that impact of an implement on the top 10 of said cap will impart movement initially to the inner punch 4. Continued exertion of pressure upon said cap 9 will bring the latter into contact with the upper end of the outer punch 5, thereby likewise urging the latter into the work in an obvious manner.

In order to remove the core from the inner punch 4, after each operation of the latter, a cylindrical extractor 11 is provided which is operable by first removing the cap 9 and then inserting the extractor through the bore of the inner punch. Of course, any other desired type of extracting means may be used.

Changes may be made in this device, especially in the proportion and arrangement of parts without departing from the spirit of the invention as covered in the appended claims. For instance, if desired, the head of the outer punch may be beveled from its outer periphery inwardly to provide an edge 12 as shown in Figure 4. In this way certain classes of work may be better handled in a manner well known in the art.

What is claimed is:

1. A punch for washers and gaskets including telescopically arranged inner and outer punch members, one of which is relatively longer than the other, a cap mounted on the longer of said members and serving as an impact head, the inner end of said cap falling short of the outer end of the shorter member whereby initial movement is imparted to one of said members in advance of the other.

2. A punch for washers, gaskets, and the like, including inner and outer punch members, the inner of which is relatively smaller than the outer member and extends appreciably above the latter, an impact head mounted upon said inner member and de-

pending thereabout, the inner terminal of said cap being spaced from the upper terminal of the outer punch member whereby impact on said cap will initially urge the inner member into the work, continued impact on said cap causing said outer member to be urged into the work.

In testimony whereof I affix my signature in presence of two witnesses.

ALBERT H. INGLIS.

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