Oct. 17, 1950 C. R. ZICKLER ET AL 2,526,528

MAGNETIC LAYOUT PUNCH

Filed Dec. 31, 1948

Fig. 1

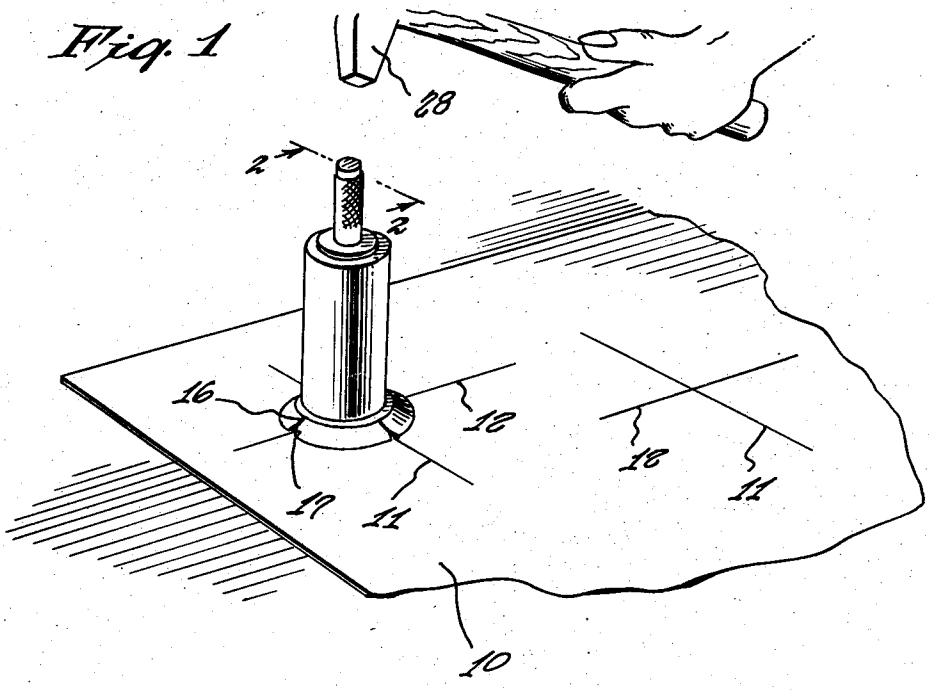



Fig. 2

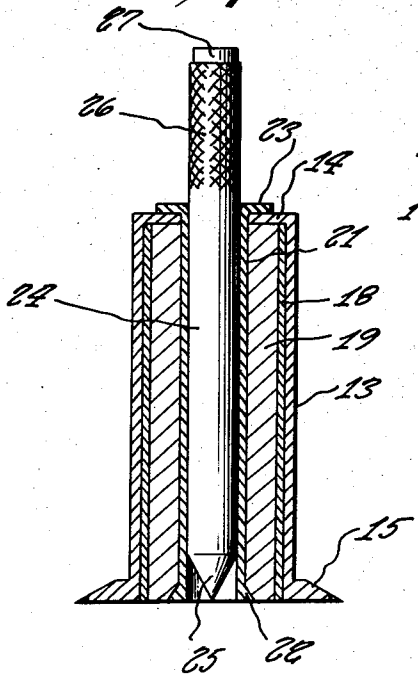
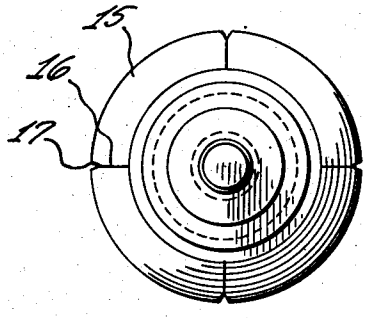



Fig. 3

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Patented Oct. 17, 1950 2,526,528

# UNITED STATES PATENT OFFICE

2,526,528

## MAGNETIC LAYOUT PUNCH

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Application December 31, 1948, Serial No. 68,636

2 Claims. (Cl. 33—189)

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This invention relates to a magnetic layout punch.

It is an object of the present invention to provide a magnetic layout punch adapted to be placed on a flat surface having crossed lines for the purpose of retaining a punch over the exact intersection of the lines and to retain the punch in such a manner that it is not easily movable when the hammering action is effected upon the same, and wherein the need for setting up work on a jig, to provide the desired accuracy in the locating of punch holes, is avoided.

Other objects of the present invention are to provide a magnetic layout punch which is of simple construction, inexpensive to manufacture, easy to operate, of compact and sturdy construction and efficient in operation.

For other objects and for a better undestanding of the invention, reference may be had to the following detailed description taken in connection with the accompanying drawing, in which

Fig. 1 is a perspective view of a magnetic layout punch set up on a piece of sheet material and with illustration made to a hammer which is used for striking the punch.

Fig. 2 is a vertical sectional view of the magnetic layout punch as viewed on line 2—2 of Fig. 1.

Fig. 3 is a top plan view of the punch.

Referring now to the figures, 10 represents a flat sheet of material on which has been disposed, at different locations, crossed lines 11 and 12 at the intersection of the same there is to be punched an opening or center mark for the insertion of a drill point.

My layout punch device comprises an external shell 13 having a top inwardly extending flange 14 and a bottom outwardly extending flange 15 serving as a foot portion. On this foot portion are markings 16 and aligned notches 17. These markings and notches are disposed ninety degrees apart and are adapted to be aligned with the respective crossed lines 11 and 12. Fitted within the external sleeve 13 is a bushing 18 of non-magnetic material containing a hollow permanent magnet 19. Within the magnet is an internal bushing 21 having an outwardly extending foot portion 22 engaging with the bottom of the magnet and an outwardly bent top flange 23 resting on the flange 14 of the outer sleeve 13 whereby to positively support the magnet within the outer sleeve 13. The internal bushing 21 is of non-magnetic material and receives a metal punch 24 having a pointed operating end 25 and a top knurled handle portion 26 and a striking

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projection 27 with which hammer 28 engages to locate a hole in the sheet material 10. As the punch is struck and with the magnetic layout device properly located on the crossed lines 11 and 12, a center punch mark exactly at the crossing of the two lines is effected after which a center drill can be used to drill through the sheet material. The bottom ends of the bushings, magnet and outer casing are exactly flush with one another and smooth so that good engagement is made with the flat sheet material. The magnet will also hold the punch in place within the inner bushing 21 so that it is unnecessary to hold the punch element 24 when striking the same, providing the sheet material is magnetic. If work is being performed on non-magnetic material, the device will be held in place by hand while striking the punch element.

All parts of the punch are held together with a press fit. The inner bushing 21 can be omitted if desired, whereby to provide a less expensive construction. The punch 24 would, accordingly, ride directly through the permanent magnet 19 which may have a smaller internal diameter than that shown.

It will be further understood that our invention is not limited to the embodiment shown and described in our application, and that the principle of using a base of any shape, together with proper layout aligning lines, points or incisions, to suit the particular kind of layout that one may prefer, may also be embodied in our invention.

While various changes may be made in the detail construction, it shall be understood that such changes shall be within the spirit and scope of the present invention as defined by the appended claims.

Having thus set forth and disclosed the nature of our invention, what is claimed is:

1. A magnetic layout punch having an outer magnetic casing with a bottom foot portion thereon, a permanent inner magnet of hollow cylindrical shape tightly fitted within a non-magnetic bushing and the outer casing, an inner bushing having a radially extended bottom flange engaging with the bottom end of the inner magnet, said outer casing having a radially inwardly extending flange on its upper end to provide a top face, said inner bushing having a radially outwardly extending flange on its upper end extending outwardly over the top face of the radially inwardly extending flange of the outer casing whereby to retain the inner magnet against outward and downward displacement

from the outer casing, and a punch element adjustable through the inner bushing and extendable through the lower end of the bushing.

2. A magnetic layout punch having an outer magnetic casing with a bottom foot portion thereon, a permanent inner magnet of hollow cylindrical shape tightly fitted within a nonmagnetic bushing and the outer casing, an inner bushing having a radially extended bottom flange engaging with the bottom end of the inner magnet, said outer casing having a radially inwardly extending flange on its upper end to provide a top face, said inner bushing having a radially outwardly extending flange on its upper end extending outwardly over the top face of the radially inwardly extending flange of the outer casing whereby to retain the inner magnet against outward and downward displacement from the outer casing, and a punch element adjustable through the inner bushing and extendable through the lower end of the bushing, and



guide marks ninety degrees apart on the upper surface of said bottom foot portion on the outer casing, adapted to be aligned with crossed lines on a work piece.

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