

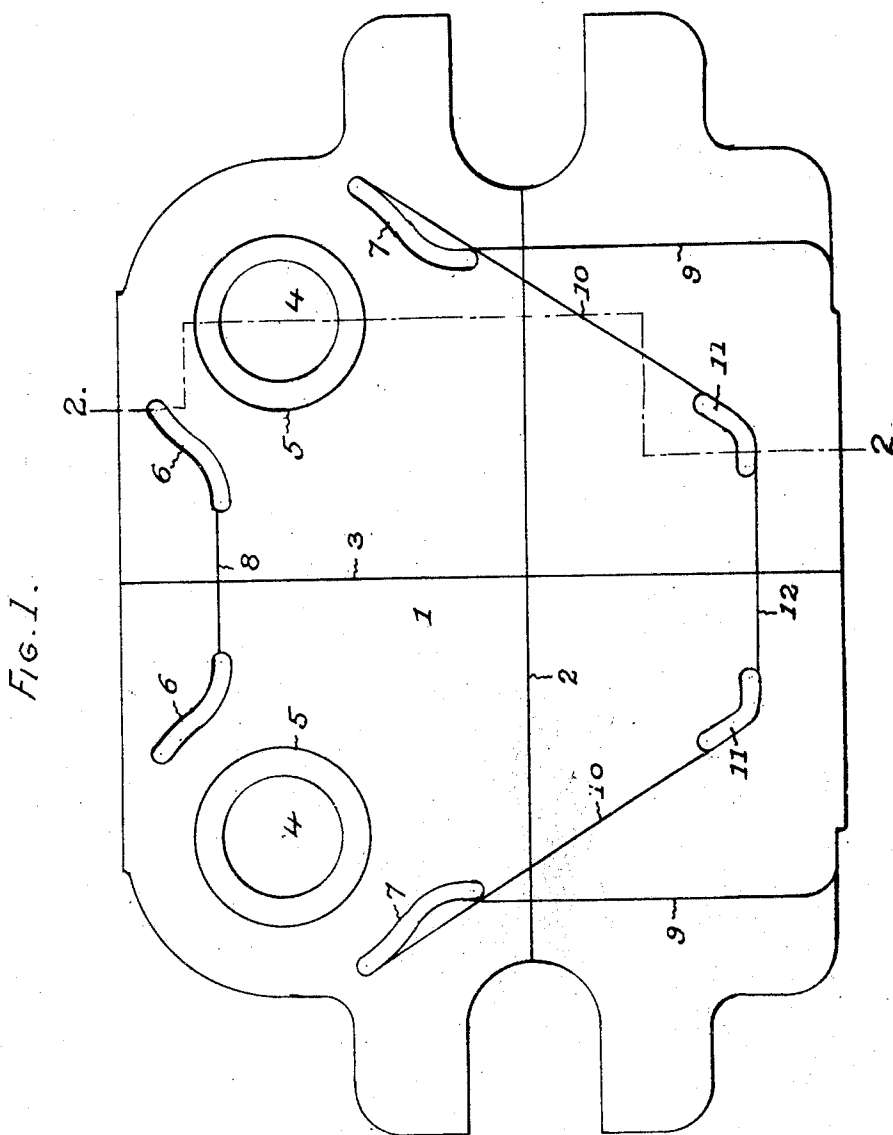
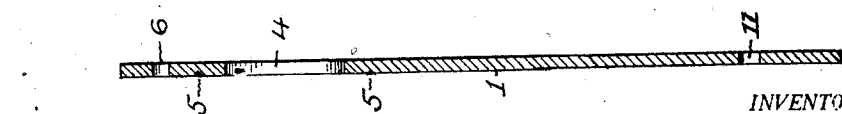
Dec. 18, 1928.

1,696,149

P. H. DANLY

DRAWING TEMPLATE FOR DIE SETS

Filed Feb. 14, 1927



INVENTOR:
PHILO H. DANLY,
BY *Robert H. Burns*
ATTORNEY.

UNITED STATES PATENT OFFICE.

PHILO H. DANLY, OF CHICAGO, ILLINOIS, ASSIGNOR TO DANLY MACHINE SPECIALTIES, INC., OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

DRAWING TEMPLATE FOR DIE SETS.

Application filed February 14, 1927. Serial No. 168,054.

This invention relates to templates or guides for use by machine draftsmen in expediting their work in making working drawings of complementary die and punch parts used in plate metal manufactures, and the present improvement has for its object:

To provide a structural formation of a transparent guide or template, by means of which, and after the completion of the plan views of complementary die and punch members used in the formation of plate metal articles, the proper size of a standard die set or holder for such die and punch members can be readily ascertained and in like manner graphically and accurately delineated on the aforesaid plan views in a rapid manner, all as will hereinafter more fully appear.

In the accompanying drawing:—

Fig. 1, is a face elevation of a drawing template embodying the invention.

Fig. 2, is a section of the same on line 2—2 Fig. 1.

Like reference numerals indicate like parts in both views.

The general practice heretofore followed in the preparation of assembled plan views of the complementary and coacting parts of die and punch mechanisms has been: with the completion of the plan views of the die and of the punch, to draw, on such views plan views of the respective and proper die shoe and punch holder thereof for the subsequent use and guidance of a mechanic in the making of a completed tool or appliance. As distinguished from such mode of procedure, the present improvement involves, first, the use of a series of templates or guides of progressively increasing sizes, and corresponding with the like sizes of standard die sets now on the market as a commercial article, second, selection by trial and error of the selected and proper sized template for laying out on the aforesaid plan views of the die and punch members, like plan views of the die shoe and punch holder of a standard die set, for subsequent use and guidance in the production of a complete tool or appliance. The series of templates are preferably marked with a catalogue number of the standard die sets with which they are intended to correspond, and so that the draftsman can transfer such numerical or like legend to the views he is making.

In the preferred form of the drawing

template or guide shown in the drawing, the same will comprise a flat plate or sheet 1 of celluloid or like transparent material, with the border portion of the template of a counterpart outline to that of a die shoe of a standard die set, with the purpose in view of a rapid delineation of the outline of said shoe upon a completed plan view of a die member. In that the greater number of the die shoes of standard die sets are of an approximately rectangular shape, such form is employed in the accompanying drawing to illustrate the invention. The inner portion of the template 1 is in the present improvement formed with a series of orifices, apertures and markings, as follows:—

At its midlength and midwidth the template 1 is formed with lines or markings 2 and 3, intended to correspond and to register with the center lines of the drawing of a die member and of a punch member, and in addition indicate at the intersection of said lines 2, 3, the center on which to draw a circle representing the attaching shank of the punch holder of a standard die set.

Adjacent to the two rearward corners of the template 1 are formed circular orifices 4, corresponding with the leader pins of the die holding shoe of a standard die set, both as to diameter and position of the parts. And surrounding the orifices 4, are circular markings 5 indicative of the size and location of the guide bushings of the punch holder of a standard die set. Said bushings having guiding engagement with the leader pins above referred to.

In spaced and partly concentric relation to the orifices 4, the template 1 is formed with a rearward pair of apertures 6 of a cyma or reversed curve shape, and adjacent to its side borders the template 1 is formed with a like pair of apertures 7, of a cyma or reversed curve shape, partly in concentric relation to the aforesaid orifices 4. The pair of apertures 6 are adapted for connection by a line or marking 8, indicative of the amount of material or stock of the die shoe to be left for strength and stability and in addition to indicate and aid in the delineation of a line corresponding with the rearward edge of the punch holder of a standard die set upon the plan view of the drawing of the punch member. In like manner the pair of apertures 7 are adapted for connection with and the formation of a pair of parallel lines

or markings 9 indicative of the side lines of a rectangular shaped body portion of the punch holder of a standard die set. And in addition said pair of apertures are adapted
 5 for connection by lines or markings 10 with the pair of apertures 11, hereinafter described, to indicate as well as aid in the formation of a pair of lines or markings corresponding to the side lines of the V shaped
 10 body portion of the punch holder of a standard die set upon a plan view of a punch member.

The pair of apertures 11 above referred to, are of an obtuse angle shape and are
 15 formed in spaced relation and equidistant from the transverse center line 3 of the template and near the forward edge thereof. Said apertures are adapted for connection by
 20 a line or marking 12, to indicate the amount of material or stock of the forward portion of a die shoe to be left for strength and stability, and in addition to indicate and aid in the formation of a line corresponding
 25 with the forward edge of the punch holder of a standard die set upon the plan view of the punch member.

In practice, a template 1 of the proper size, is first selected by trial from a plurality of different sizes of templates, after which the
 30 selected template is accurately applied in succession to the respective plan views of the die and punch, and the required markings made through the series of orifices and apertures above described, after which and
 35 with the removal of the template, the plan views aforesaid can be completed with ease, rapidity and certainty.

It is intended that suitable legendary matter may be impressed upon the template, as
 40 suggestive in aiding the draftsman in the use of the present appliance.

Having thus fully described my invention, what I claim and desire to secure by Letters Patent, is:—

45 1. A template for use in making drawings of punch and die mountings, the same comprising a plate of transparent material having a border outline corresponding with the border outline of a standard die shoe,
 50 the plate being formed with orifices indicative of the position of the leader pins of said shoe, with a transverse guide line midway between said orifices, and with a longitudinal guide line in spaced relation to said
 55 orifices, said lines affording means for positioning the template on a drawing of a punch and die previous to the production on said drawing of the outlines of a suitable size of a die set and its orifices indicating
 60 the leader pins of said die set.

2. A template for use in making drawings of punch and die mountings, the same comprising a plate of transparent material
 65 having a border outline corresponding with the border outlines of a standard die shoe,

the plate being formed with orifices indicative of the position of the leader pins of said shoe, with a pair of apertures of a reversed curve shape near the rear border
 70 of the plate in partly concentric relation to the aforesaid orifices, with a connecting marking between said apertures indicative of the rearward edge of the punch holder of a die set, with a second pair of apertures
 75 of a reverse curve shape near the side portions of the plate in partly concentric relation to the aforesaid orifices in the same, with a pair of parallel markings extending from said secondary apertures indicative of
 80 the side outlines of the punch holder of a die set, and with transverse and longitudinal center lines.

3. A template for use in making drawings of punch and die mountings the same comprising a plate of transparent material having
 85 a border outline corresponding with the border outline of a standard die shoe, the plate being formed with orifices indicative of the position of the leader pin of said shoe, with transverse and longitudinal
 90 center lines, with a pair of apertures of a reverse curve shape near the rear border of the plate and in partly concentric relation to the aforesaid orifices, with connecting
 95 markings between said apertures, with a second pair of apertures of a reversed curve shape near the side portions of the plate in partly concentric relation with the orifices aforesaid, with a pair of obtuse angle
 100 shape apertures near its forward edge, with pair of markings connecting the secondary and obtuse angle apertures, indicative of the angular side faces of the punch holder of die set.

4. A template for use in making drawings
 105 of punch and die mountings, the same comprising a plate of transparent material having a border outline corresponding with the border outline of a standard die shoe, the plate being formed with orifices indicative
 110 of the position of the leader pin of said shoe, with transverse and longitudinal center lines, with a pair of apertures of a reverse curve shape near the rear border of the plate and in partly concentric relation
 115 to the aforesaid orifices, with connecting markings between said apertures, with a second pair of apertures of a reversed curve shape near the side portions of the plate in partly concentric relation with the orifices
 120 aforesaid, with a pair of parallel markings extending from said secondary apertures to the forward edge of the plate, with a pair of obtuse angle apertures near its forward edge, and with pairs of markings connecting
 125 said secondary and obtuse angle apertures indicative of the angular side faces of the punch holder of a die set.

5. A template for use in making drawings
 130 of punch and die mountings, the same

comprising a plate of transparent material having a border outline corresponding with the border outline of a standard die shoe, the plate being formed with orifices indicative of the position of the leader pin of said shoe, with transverse and longitudinal center lines, with a pair of apertures of a reverse curve shape near the rear border of the plate and in partly concentric relation to the aforesaid orifices, with connecting markings between said apertures, with a second pair of apertures of a reversed curve shape near the side portions of the plate in partly

concentric relation with the orifices aforesaid, with a pair of parallel markings extending from said secondary apertures to the forward edge of the plate, with a pair of obtuse angle apertures near its forward edge, with pairs of markings connecting said secondary and obtuse angle apertures, and with a marking connecting said obtuse angle apertures indicative of the forward end of the punch holder of a die set.

Signed at Chicago, Illinois, this 31st day of January, 1927.

PHILO H. DANLY.