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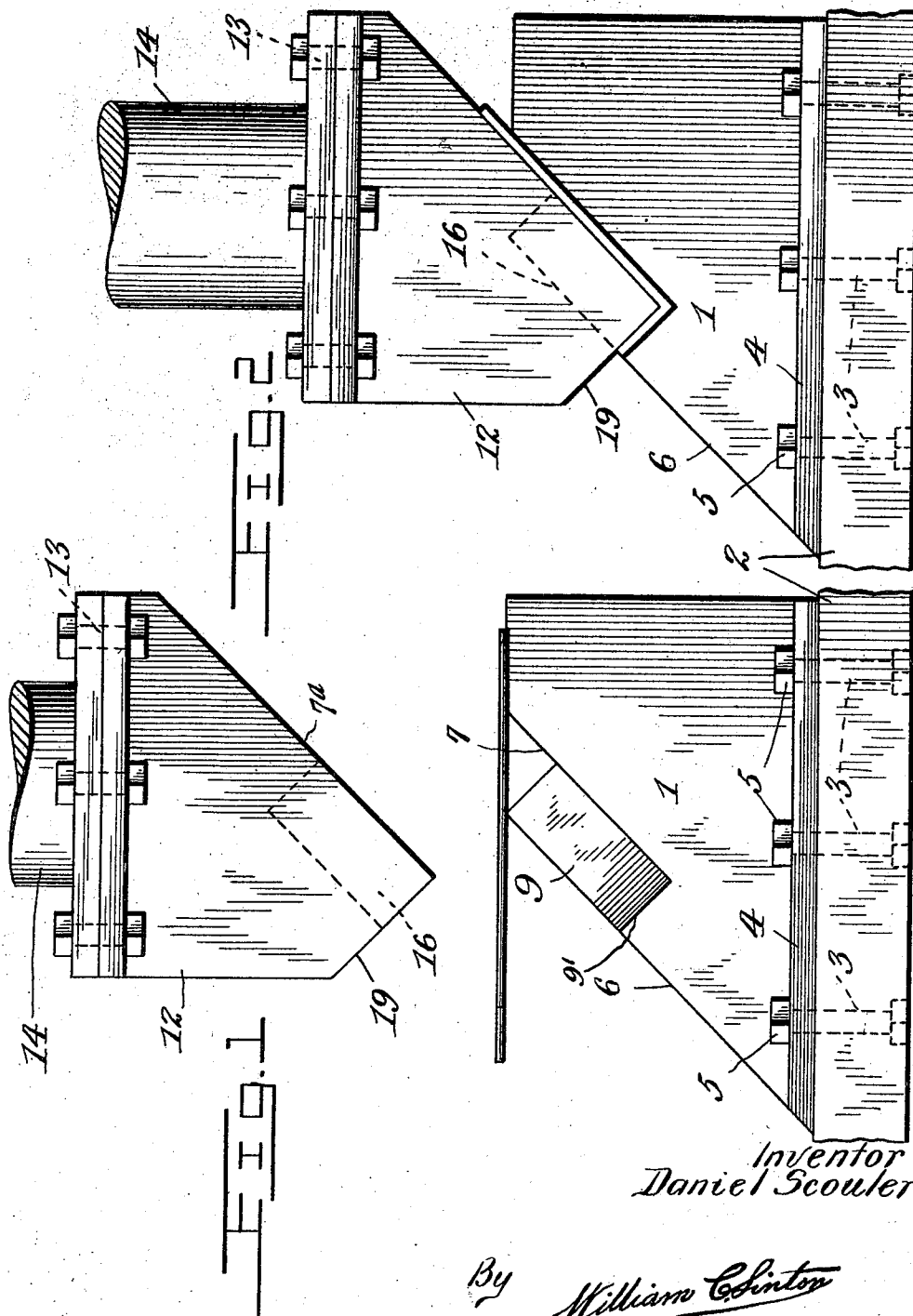
D. SCOULER.

PUNCH AND DIE FOR ANGLE SMITH WORK

APPLICATION FILED FEB. 27, 1920.

Patented Sept. 5, 1922.

3 SHEETS—SHEET 1.



Inventor
Daniel Scouler

By

William Clinton

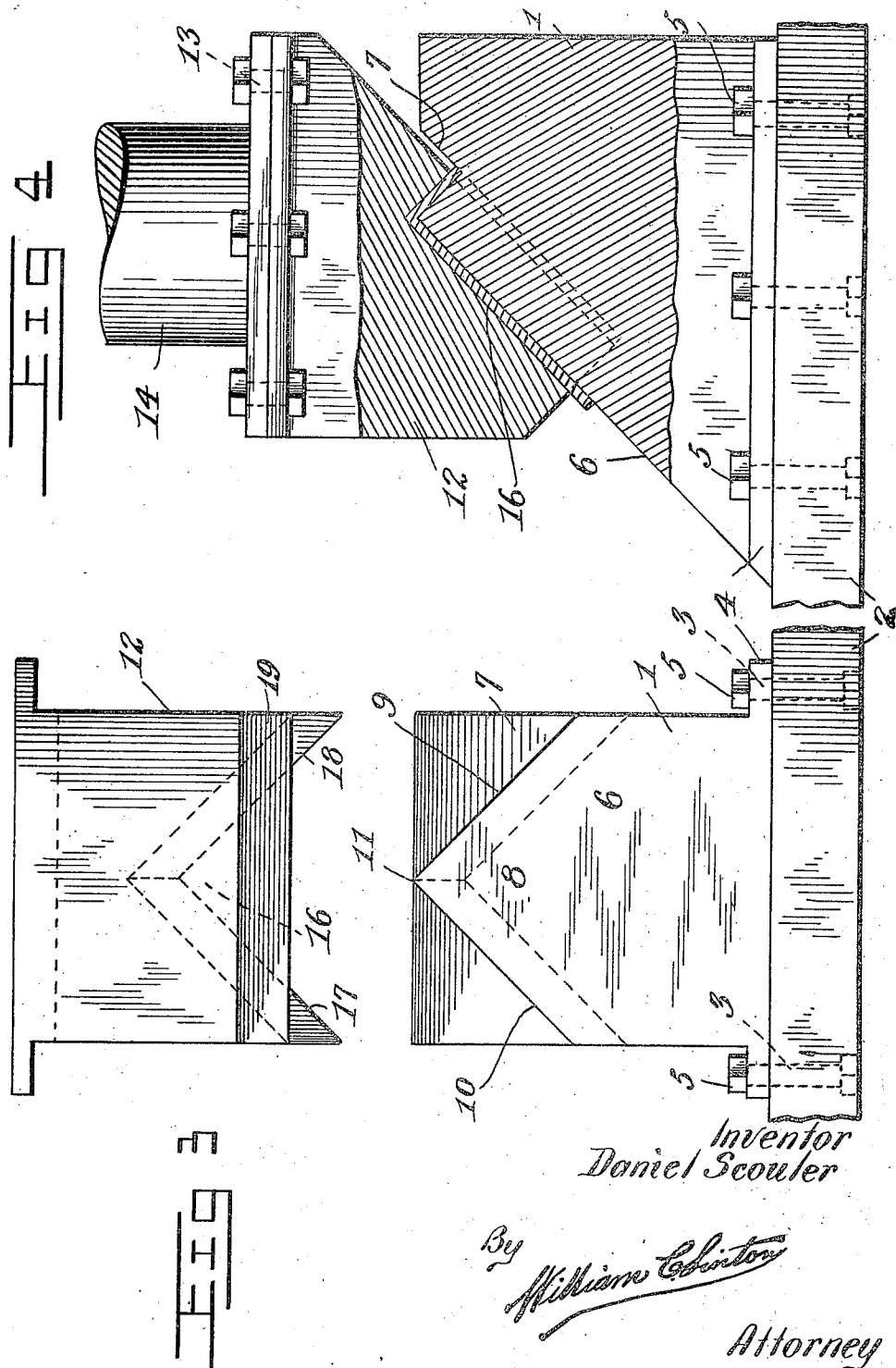
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FIG 5

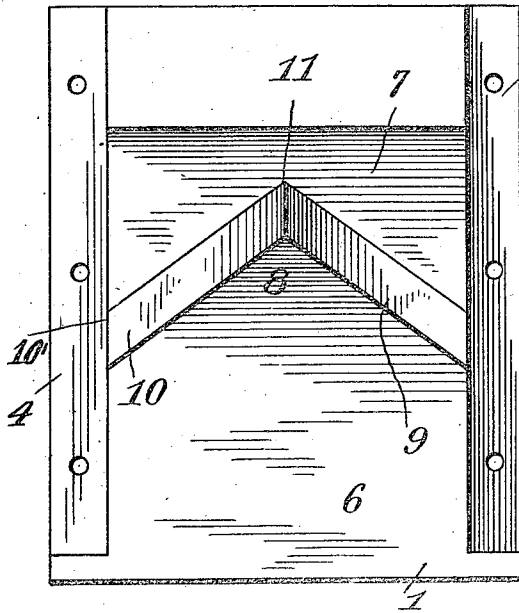


FIG 6

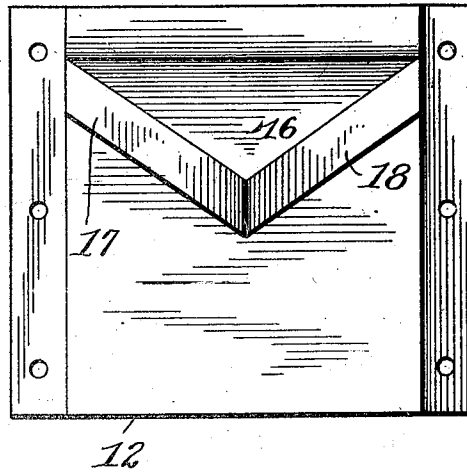


FIG 8

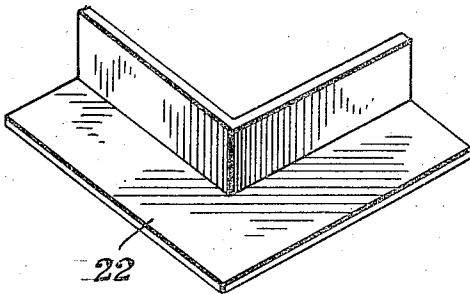


FIG 9

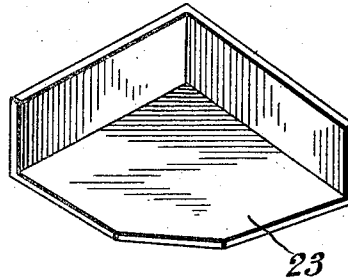
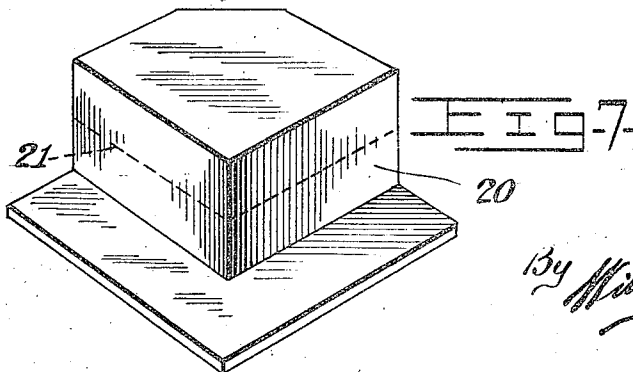


FIG 7

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UNITED STATES PATENT OFFICE.

DANIEL SCOULER, OF MAISONNEUVE, QUEBEC, CANADA.

PUNCH AND DIE FOR ANGLE SMITH WORK.

Application filed February 27, 1920. Serial No. 361,710.

To all whom it may concern:

Be it known that I, DANIEL SCOULER, a subject of the King of Great Britain, residing at Maisonneuve, in the Province of Quebec, Canada, have invented certain new and useful Improvements in Punches and Dies for Angle Smith Work; and I do hereby declare that the following is a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention has relation to improvements in punch and dies for angle smith work in connection with stamping machines.

The principal object of the invention is to provide for the formation of various angle shapes for ship building and the like and having means for forming the same at one stroke of the plunger carrying the stamp member.

With the above and other objects in view which will hereinafter appear as the description continues, the invention consists of the novel features of construction, combination and formation of parts as will be hereinafter more fully described and particularly pointed out in the appended claims.

In the accompanying drawings has been shown a simple and preferred form of the invention, it being, however, understood that no limitation is necessarily made to the precise structural details herein exhibited, but the right is hereby reserved to any changes, alterations or modifications to which recourse may be had that come within the scope of the claims without departing from the spirit of the invention or sacrificing the efficiency of the same.

Figure 1 is a side elevational view of the attachment with the stamp element elevated prior to the stamping operation upon a plate;

Figure 2 is an elevational view of the stamp and die elements after a plate has been stamped;

Figure 3 is a frontal elevation of Figure 1;

Figure 4 is a sectional elevation of Figure 2 with portions in elevation;

Figure 5 is a top plan view of the male element;

Figure 6 is a bottom plan view of the female or stamping element;

Figure 7 is a perspective view of one of the finished angle bars or shapes; and,

Figures 8 and 9 are perspective views of angle irons formed by trimming and cutting the shape in Figure 7 on the dotted lines.

Referring to the figures by numerals of 60 reference, 1 indicates the male member which is secured to the bed 2 of the stamping machine or press, by the bolts 3 which pass through the flanges 4 of the said die member and nuts 5.

The male member 1 is preferably a solid piece of metal, as the same is subject to extraordinary stress due to the pressure exerted upon it during the bending operation. This member 1 is formed with upper 70 parallel inclined surfaces 6 and 7, the latter surface which is the face, being uniplanar and surmounted by an integral shaping projection 8. The upper surface of the projection is flush with the surface 6, and its 75 sides 9, 10 extend from an apex 11 towards the sides of the member 1. The projection 8 extends upwardly the greater part of the length of the lower surface 7 and its apex is in the plane of the top of the die. 80

The stamping or female element 12 which is associated with the die member 1 is connected by bolts 13 to the plunger 14 and in this connection it may be stated that the said plunger may be actuated in conjunc- 85 tion with the piston of a steam, air or hydraulic press.

This stamping element is formed with a lower angular surface 7^a to coincide with the surface 7. A recess 16 is formed in the 90 surface 7^a for receiving the projection 8. The surface 19 is parallel with a plane passed through the limits 9', 10' of the sides 9, 10 of the projection 8.

When a relatively wide sheet of metal is 95 placed upon the male die 1, as illustrated in Figure 1, due to the configuration of the projection 8 with respect to the recess 16 of the plunger element, and pressure is applied, the metal is reduced to the form of 100 an angle plate 20, as shown in Figure 7.

If the plate 20 is trimmed and cut along the dotted lines 21, an angle iron 22 and a corner piece 23 are formed, both of which 105 have distinct and specific uses in various arts. Either of these pieces may be formed independently by using a blank of proper length and applying it to one or another part of the die, according to the nature of the product desired. It will thus be seen 110 that this single die has the property of making at least three different shapes.

Having thus fully described the invention, what I claim as new and desire to protect by Letters Patent is:—

1. A pair of dies comprising a male and
5 a female die member, the face of one of said
members being uniplanar and inclined and
having a projection thereon, the face of the
other die being inclined to coact with the
first named face and having a recess form-
10 ed therein for receiving the projection.
2. A pair of dies comprising a male and
a female die member, the face of one of said
members being uniplanar and inclined
and having a projection thereon, the face
15 of the other die being inclined to coact with
the first named face and having a recess
formed therein congruent with the projec-
tion and adapted to receive the same.
3. A pair of dies comprising a male and a
20 female die member, the face of one of said
members being inclined and having a pro-
jection thereon, the whole face of the pro-
jection being parallel to the face of the die,
and the face of the other die member being
25 inclined to coact with the first named face
and having a recess formed therein congru-
ent with the projection and adapted to re-
ceive the same.
4. A pair of dies comprising a male and a
30 female die member, the face of one of said
members being inclined and having a pro-
jection thereon, the whole face of the pro-
jection being parallel to the face of the die
and its sides being angular to said face, the
35 face of the other die member being inclined
to coact with the first named face and having
a recess formed therein congruent with the
projection and adapted to receive the same.
5. A pair of dies comprising a male and a
40 female die member, the face of one of said
members being formed with a projection
thereon, the sides of which projection diverge
towards the sides of the die member and
converge to a straight line, the face of the
45 other member being adapted to coact with
the first named face and having a recess
formed therein congruent with the projec-
tion and adapted to receive the same.
6. A pair of dies comprising a male and a
50 female die member, the face of one of said
members being formed with a projection
thereon, the sides of which projection extend

towards the sides of the die member and
converge to a straight line, perpendicular to
said face, the face of the other member being 55
adapted to coact with the first named face
and having a recess formed therein congru-
ent with the projection and adapted to re-
ceive the same.

7. A pair of dies comprising a male and a 60
female die member, the face of one of said
members being uniplanar and inclined and
formed with a projection, the sides of which
projection are angular to said face and con-
vergent towards each other, the face of the 65
other member being inclined to coact with
the first named face and having a recess
formed therein for receiving the projection.

8. A pair of dies comprising a male and a
female die member, the face of one of said 70
members being uniplanar and inclined and
formed with a projection, the sides of which
projection are angular to said face and con-
vergent towards each other, and the face of
which is parallel to said die face, the face of 75
the other member being inclined to coact
with the first named face and having a recess
formed therein for receiving the projection.

9. A pair of dies comprising a male and a
female die member, the face of one of said 80
members being uniplanar and inclined and
formed with a projection having an apex, the
sides of which projection are angular to said
face and convergent toward each other, the
apex of the projection being spaced from the 85
edges of said inclined face, the face of the
other member being inclined to coact with
the first named face and having a recess
formed therein for receiving the projection.

10. A pair of dies comprising a male and a 90
female die member, the face of one of said
members being uniplanar and inclined and
formed with a projection having an apex,
the sides of which projection are angular to
said face and convergent toward each other, 95
and the face of which is parallel to said die
face, the apex of the projection being spaced
from the edges of said inclined face, the face
of the other member being inclined to coact
with the first named face and having a recess 100
formed therein for receiving the projection.

In witness whereof I have hereunto set my
hand.

DANIEL SCOULER,