

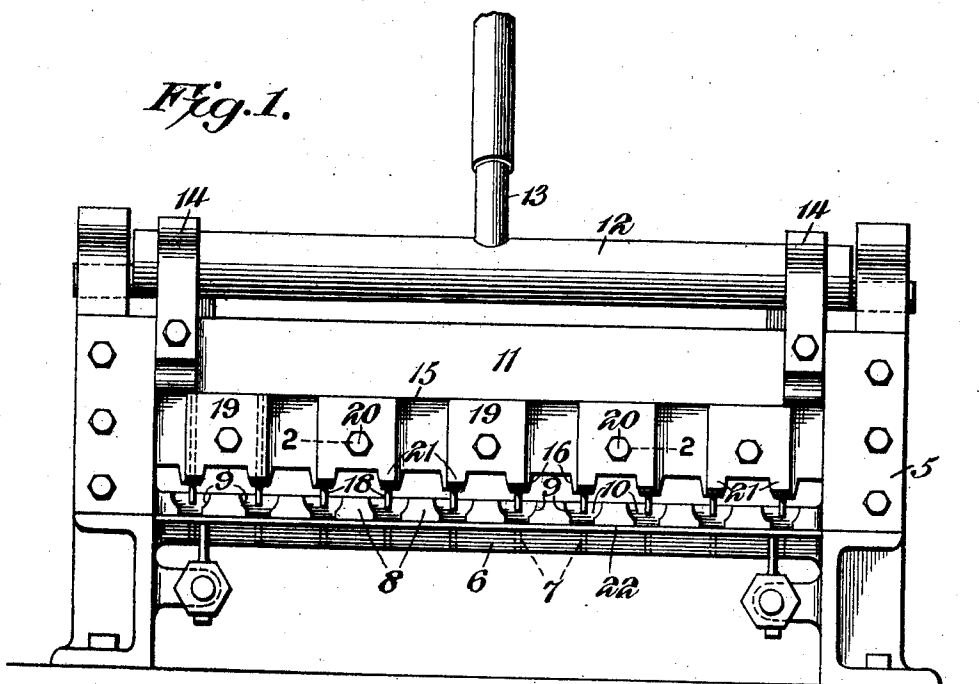
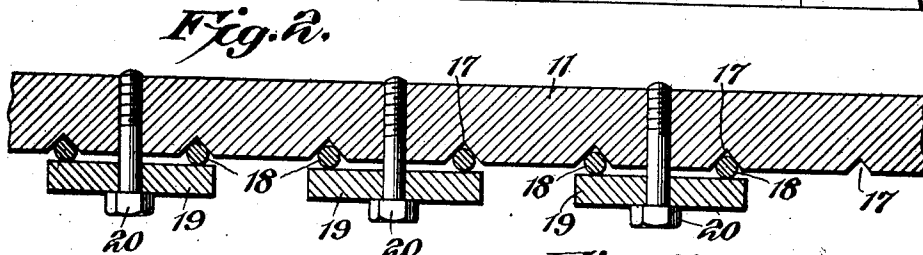
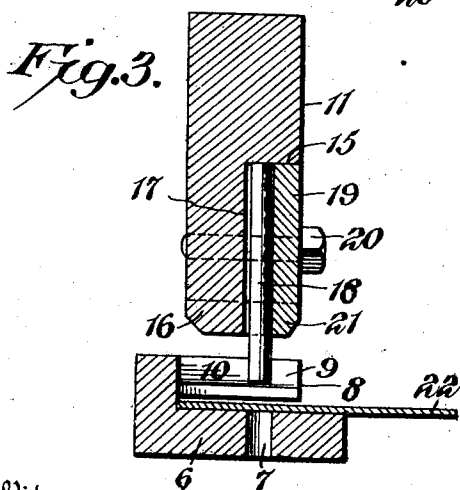
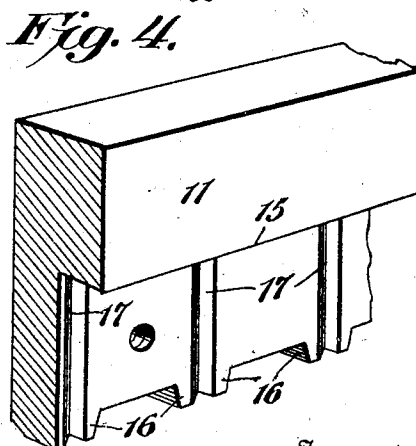
No. 833,265.

PATENTED OCT. 16, 1906.

W. S. VAN EMON.

PUNCH.

APPLICATION FILED APR. 25, 1906.



Witnesses
Howard D. Ott.
Ch. Intu.

Inventor,
W. S. Van Emon,
By *E. J. Siggers*
Attorney

UNITED STATES PATENT OFFICE.

WALTER S. VAN EMON, OF SELMA, CALIFORNIA.

PUNCH.

No. 833,265.

Specification of Letters Patent.

Patented Oct. 16, 1906.

Application filed April 25, 1906. Serial No. 313,621.

To all whom it may concern.

Be it known that I, WALTER S. VAN EMON, a citizen of the United States, residing at Selma, in the county of Fresno and State of California, have invented a new and useful Punch, of which the following is a specification.

This invention relates more particularly to means for punching sheet metal, but is clearly applicable to other analogous uses.

The principal object is to provide a novel, cheap, and convenient machine wherein removable punches of an exceedingly-simple nature may be employed, said punches being securely braced and held while in place, but being readily removable and replaceable.

Another object is to provide, in connection with the above, stripping means that coacts with said punches and serves to disengage therefrom the material punched.

An embodiment of the invention that is at present considered the preferable one is illustrated in the accompanying drawings, wherein—

Figure 1 is a front elevation of the machine. Fig. 2 is a detail sectional view on an enlarged scale and on the line 2 2 of Fig. 1. Fig. 3 is a vertical sectional view. Fig. 4 is a detail perspective view of a portion of the supporting-plate with the associated parts removed.

Similar reference-numerals designate corresponding parts in all the figures of the drawings.

In the embodiment illustrated a frame 5 is employed having a base 6, which is provided with dies 7. Over this base and in spaced relation thereto is located a stripper, which includes a series of forwardly-projecting fingers 8, spaced apart and arranged between the planes of the dies 7. The upper portions of these fingers are preferably tapered, as shown at 9, and thus sockets 10 are produced between the fingers and over the dies 7.

A vertically-reciprocatory support in the form of a plate 11 is slidably mounted in the frame and is raised and lowered by any means—as, for instance, an eccentrically-mounted rock-shaft 12, having a handle 13, which shaft has bearings 14 connected to the ends of the plate. The plate 11 is provided with a longitudinally-disposed shoulder 15 on one side, and its lower edge has depending lugs 16. Recessed seats in the form of triangular grooves 17 extend from the shoulder 15 downwardly through the lugs. A plurality

of punches, preferably in the form of short steel sections of wire or rods, (designated 18,) are fitted in the seats 17, their upper ends being abutted against the shoulder 15, their lower ends projecting beyond the lower ends of the lugs 16. A clamping-plate 19 is employed for securing each pair of punches to the supporting-plate 11, said clamping-plates being disposed over the punches with their upper edges abutted against the shoulder 15 and being held in place by bolts 20, passed through the plates 11 and 19 and between the punches secured thereby. The clamping-plates 19 have depending lugs 21, corresponding to the lugs 16 of the supporting-plate.

In using the device a sheet of material, as 22, to be punched is introduced between the base 6 and the stripper-fingers 8, as shown in Fig. 3, after which the handle 13 is turned to cause the depression of the supporting-plate. The downward movement of said plate carries the lugs 16 and 21 between the fingers 8, and the lower projecting ends of the punches pass through the sheet 22 and into the dies. When the supporting-plate 11 is again elevated, the sheet, being held against upward movement therewith by the fingers 8, will be stripped from the punches. It will be observed that in this structure punches of an exceedingly simple and cheap character can be employed, which when worn may be reversed or thrown away. Moreover, these punches, while rigidly held and braced by the clamping-plates and the shoulder 15, can be easily removed by removing the clamping-plates 19 holding them.

From the foregoing it is thought that the construction, operation, and many advantages of the herein-described invention will be apparent to those skilled in the art without further description, and it will be understood that various changes in the size, shape, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

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

1. In a punch, the combination with relatively movable support and die members, said support member having an abutment-shoulder, of a punch located on the support member, one end of the punch coacting with the die member, the other end being abutted

against the shoulder, and means for securing the punch to the support member, said means being disposed beneath and abutted against one end of the shoulder.

5 2. In a punch, the combination with a base having dies, of a reciprocatory supporting-plate movable toward and from the base, said plate having a longitudinally-disposed shoulder on one side, a plurality of punches
10 arranged against the side of the supporting-plate having the shoulder and abutted against said shoulder, said punches projecting beyond the supporting-plate and coacting with the dies, a plurality of clamping-plates
15 located over the punches and having their upper edges abutted against said shoulder of the supporting-plate, and fasteners securing the clamping-plates to the supporting-plate.

3. In a punch, the combination with a supporting-plate having a plurality of depending lugs and recessed seats extending
20 downwardly in the lugs, of punches located against the plate and lugs and in the seats, said punches projecting beyond the lugs, and
25 clamping means for the punches secured to the plate and having depending lugs corresponding to those of the plate.

4. In a punch, the combination with a supporting-plate having a plurality of recessed seats extending transversely thereof,
30 of punches located in the seats and against the plate, said punches projecting beyond the plate, a clamping-plate for each pair of punches, and a bolt passing through each
35 clamping-plate and the supporting-plate and located between the punches secured thereby.

5. In a punch, the combination with a support having a shoulder, and a plurality of seats extending to the shoulder, of a plurality
40 of punches located in the seats and abutting against the shoulder, and means extending over the punches for securing the same in place.

6. In a punch, the combination with a
45 support having a shoulder, a plurality of lugs, and a plurality of seats extending across the

lugs and terminating at the shoulder, of a plurality of punches located in the seats and abutting against the shoulder, said punches extending beyond the lugs, and means ex- 50
tending over the punches and secured to the support for fastening said punches in place.

7. In a punch, the combination with a base having a plurality of dies, of a stripper located over the base in spaced relation 55
thereto and having fingers disposed in planes between the dies, a support arranged over the stripper and movable toward and from the base, said support having lugs that move between the fingers, and punches carried by 60
the support and projecting beyond the lugs, said punches moving between the fingers and into and out of coaction with the dies.

8. In a punch, the combination with a frame having a base, said base being pro- 65
vided with a plurality of dies, of a reciprocatory supporting-plate movable in the frame toward and from the base, means for reciprocating the supporting-plate, said plate being provided with a longitudinally-disposed 70
shoulder on one side, and a plurality of lugs projecting from one edge, said plate and lugs being furthermore provided with channels extending from the shoulder, a plurality of punches located in the seats and abutted at 75
their rear ends against the shoulder, clamping devices securing the punches in the seats and against the shoulder, said devices being carried by the supporting-plate and having lugs corresponding to the lugs of the plate, 80
and a stripper comprising spaced fingers arranged in planes between the punches and dies and being spaced from the base, said lugs and punches operating between the fingers. 85

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

WALTER S. VAN EMON.

Witnesses:

V. REED,

J. H. BAXTER.