

L. F. KOEHLER.
DENTIST'S ANVIL.
APPLICATION FILED OCT. 19, 1911.

1,018,713.

Patented Feb. 27, 1912.

2 SHEETS—SHEET 1.

Fig. 1.

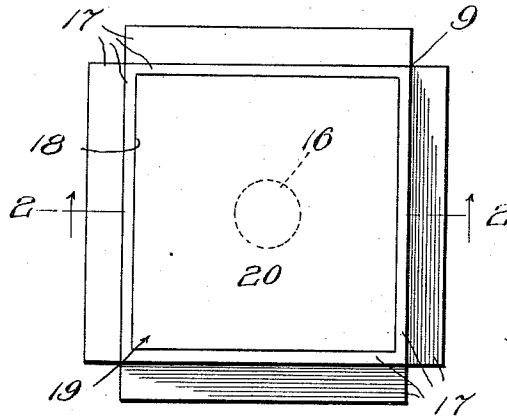


Fig. 2.

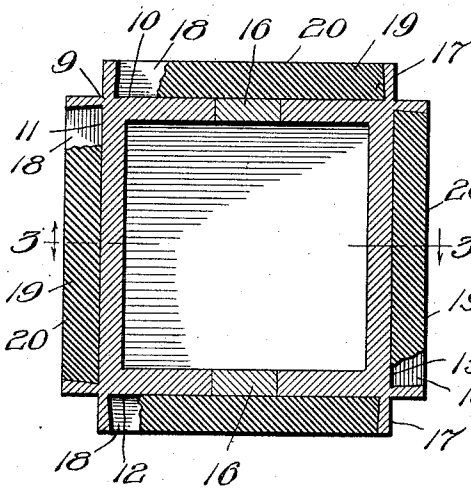
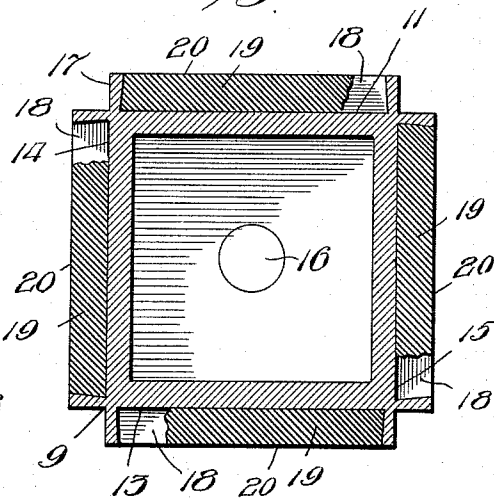


Fig. 3.



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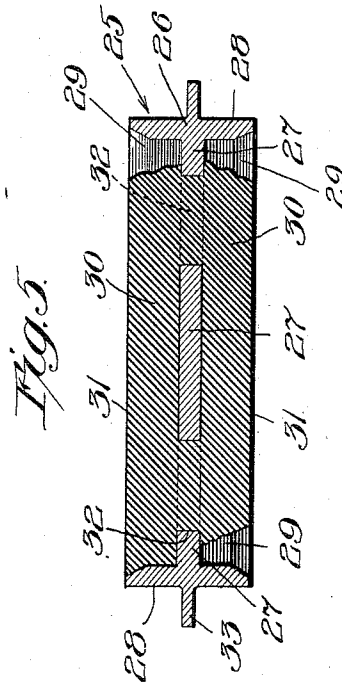
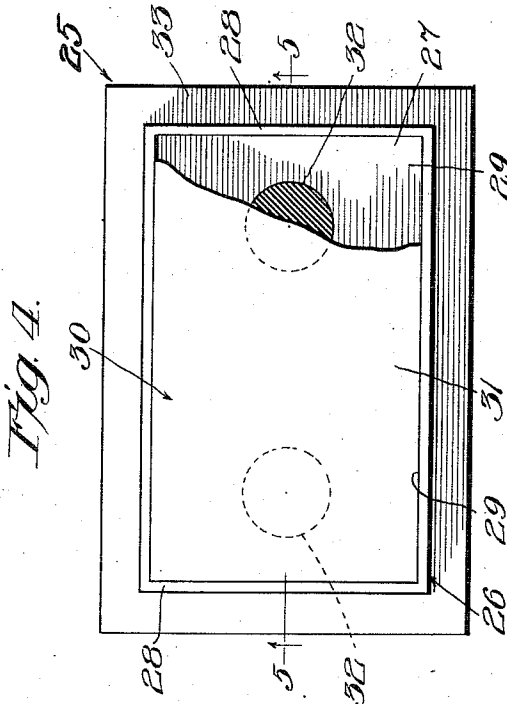
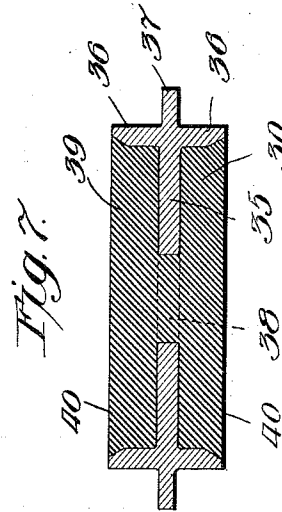
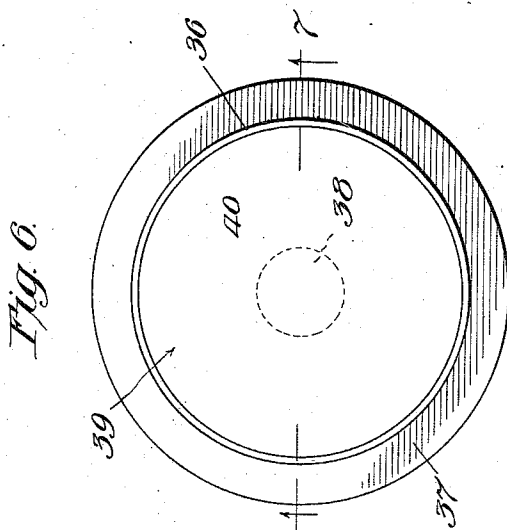
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

LOUIS F. KOEHLER, OF CHICAGO, ILLINOIS.

DENTIST'S ANVIL.

1,018,713.

Specification of Letters Patent.

Patented Feb. 27, 1912.

Application filed October 19, 1911. Serial No. 655,631.

To all whom it may concern:

Be it known that I, LOUIS F. KOEHLER, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Dentists' Anvils; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the characters of reference marked thereon, which form a part of this specification.

This invention relates to an improved dentist's anvil, and the invention consists in the combination and arrangement of the parts hereinafter set forth and more particularly pointed out in the appended claims.

Among the objects of the invention is to provide an exceedingly simple anvil having one or more soft metal, renewable anvil faces, the body of which anvil is provided with a recess or recesses in which is molded the material on which the anvil face or faces are formed, the sides or walls of said recess or recesses constituting lateral supports for the material of the anvil faces to prevent displacement thereof in the use of the anvil.

Other objects of the invention are to provide improvements in the anvil to cheapen the cost of the same and to facilitate the renewability of the parts on which the anvil faces are formed.

As shown in the drawings; Figure 1 is a plan view of a dentist's anvil embodying my improvements. Fig. 2 is a cross section on the line 2—2 of Fig. 1. Fig. 3 is a cross section on the line 3—3 of Fig. 2. Fig. 4 is a plan view of a modified form of anvil. Fig. 5 is a section on the line 5—5 of Fig. 4. Fig. 6 is a plan view of a further modification of the anvil. Fig. 7 is a section on the line 7—7 of Fig. 6.

The embodiment of my invention shown in Figs. 1, 2 and 3 comprises a single integral, hollow casting 9 constituting a six sided figure, having the six faces 10, 11, 12, 13, 14 and 15. Said body or frame is cast hollow, with core openings in two opposite sides thereof which are filled by the plugs 16, 16. On each face of the body there is formed a closed flange 17, rectangular in form as herein shown, to inclose recesses 18, 18 at the sides of the body or frame. Said recesses are filled with bodies 19, 19 of relatively soft, renewable material, such as Babbitt, lead or the like and on which are

formed the anvil faces 20, 20, such anvil faces being flush with the margins of the flanges 17. In the manufacture of the anvil the hollow casting is first made, and after the core sand has been removed the core holes are filled by the plugs 16. Thereafter the metal on which the anvil faces are formed is poured, in a molten state, into the recesses 18, 18 and finally the exposed surfaces of the casting and the anvil faces are finished. The said flanges 17 may be formed with inclined or undercut inner sides, as shown in Fig. 3, so as to afford means to prevent the bodies 19, 19 from becoming detached from the anvil body. The integral hollow cast body 9 constitutes an exceedingly rigid support for the anvil faces to resist the pounding strains which may be imposed thereon in the use of the anvil, and constitutes a body which may be very economically made. The flanges 17, 17 constitute lateral supports for the bodies of material on which the anvil faces are formed, and serve to prevent lateral shifting or spreading of said material in the use of the anvil. The material of which the said anvil faces are formed may be readily renewed when worn, the renewal being effected by subjecting the anvil to such a degree of heat as to melt the bodies 19, 19, and thereafter again filling the recesses with the anvil face forming material, and finishing the faces of the same. The degree of heat required to melt the bodies 19, 19 will not be sufficient to affect the frame of the anvil, which frame will usually be made of cast iron.

The anvil 25, shown in Figs. 4 and 5, is of oblong rectangular shape, the body 26 thereof being cast as a single, integral casting. Said body or frame comprises an intermediate web 27 and oppositely disposed, inclosing flanges 28, 28, to form on the opposite sides of the web oppositely opening recesses 29, 29 which are adapted to be filled with the bodies 30, 30 of soft, renewable material on which the anvil faces 31, 31 are formed. Said faces are flush with the outer margins of the flanges 28, 28. In this construction the web 27 is formed with one or more openings 32 through which the material 30, on which the anvil faces are formed, extends to constitute connecting portions between the sides of the bodies 30, 30. The provision of said openings 32, through which the metal on which the anvil

faces are formed extends, constitute means for connecting the bodies of material 30, 30 on the two sides of the anvil, so as to thereby hold the anvil face forming material fixedly in place in the frame or body 26. The said body is provided intermediate its sides with the exterior flange 33 which constitutes means by which the anvil may be conveniently handled. The flanges 28 may be, and preferably are obliquely cut away at their outer margins so as to thereby increase the areas of the anvil faces, without correspondingly enlarging the dimensions of the anvil body.

The construction shown in Figs. 6 and 7 is generally like that shown in Figs. 4 and 5, with the exception that the web 35 of the anvil body or frame, and the flanges 36, 36 thereof, as well as the flange 37 are of circular form. The web in the latter construction is formed with a single central opening 38 through which the metal of the bodies 39, 39, on which are formed the anvil faces 40, 40, extends to connect the two parts of the anvil material forming faces.

In the manufacture of the anvils shown in Figs. 4 and 7, both inclusive, the soft metal on which are formed the anvil faces may be formed in a molten state into the recesses of both sides of the body or frame at the same time. This is made possible by the provision of the openings in the webs thereof, and is accomplished by placing the cast body upon a flat support, with one of the recesses facing downwardly and the other facing upwardly, and forming the molten metal into the upper recess. The metal will flow through the opening or openings of the web to first fill the lower recess, after which pouring is continued until the upper recess is filled. The frame may be held firmly down on the flat support during the forming operation to prevent the molten metal escaping beneath the lower flange. Thus the manufacture of the device is facilitated.

I claim as my invention:—

1. An anvil for the purpose set forth, comprising a one piece cast metal body formed with a recess, with a flange which surrounds the same and a body of relatively soft material in said recess with its sides laterally supported by said flange, and with its face finished flush with the margins of the flange to constitute the anvil face.

2. An anvil for the purpose set forth, comprising a single piece cast metal body provided with a plurality of recessed sides, each side being formed with a flange which surrounds the recess thereof to constitute lateral supports for a body contained in the recess, and bodies of relatively soft material filling said recesses and finished at their outer faces flush with the margins of said flanges to constitute a plurality of anvil faces.

3. An anvil for the purpose set forth, comprising a single piece cast metal body provided with a plurality of recessed sides, each side being formed with a flange which surrounds the recess thereof to constitute lateral supports for a body contained in the recess, bodies of relatively soft material filling said recesses and finished at their outer faces flush with the margins of said flanges to constitute a plurality of anvil faces, and means for holding said bodies of material in said recesses.

4. An anvil for the purpose set forth, comprising a cast metal body having a central web and provided on opposite sides with flanges which surround and constitute the walls of recesses on the opposite sides of said body said web being provided with an opening, extending from one recess to the other and bodies of relatively soft material in said recesses and finished to constitute anvil faces, and connected by a portion integral with said bodies which extends through said opening.

5. An anvil for the purpose set forth comprising a cast metal body formed on its opposite sides to provide recesses, with flanges surrounding said recesses to constitute lateral supports for bodies in the recesses of relatively soft material formed in and filling said recesses and finished at their outer sides to constitute anvil faces, and an exterior flange extending laterally from the body intermediate the anvil faces.

In testimony, that I claim the foregoing as my invention I affix my signature in the presence of two witnesses, this 14th day of October A. D. 1911.

LOUIS F. KOEHLER.

Witnesses:

WILLIAM L. HALL,
G. E. DOWLE.