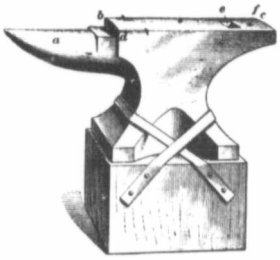
The Art of Blacksmithing
As applied to the trade

ARTICLE No. 5
ANVIL AND TOOLS

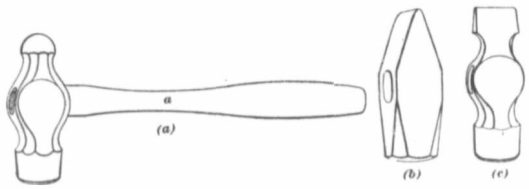
The Anvil

Construction of the anvil, the ordinary blacksmith's anvil, as shown in cut.



It has a horn (a) on one end, around which bending is done. The body of the anvil may be made either of wrought iron or of a special quality of cast iron, or it may be a steel casting. The top is faced with steel which is sometimes planed true and then hardened and finished by grinding. Anvils having cast iron bodies usually have unhardened steel horns, which are tough and not easily broken. Anvils having wrought iron bodies usually have horns of the same material. It is claimed that the cast iron bodies give a firmer backing for the steel face of the anvil than does wrought iron. The face of steel is usually hardened under a flow of water. If too soft, it will nick, and if too hard, it is liable to chip at the corners and edges. Anvils made of the usual qualities of cast iron are brittle. A cast iron anvil with a horn of the same material cannot be used for heavy work because the horn is liable to be broken off, which is not the case with the wrought iron anvil. For light work, however, the cast iron anvil will give good service. Square-faced anvils without horns are frequently made of cast iron, but the edges chip off easily.

The face of the anvil is straight lengthwise, as shown from b to c, but it is slightly crowned crosswise from b to d, as shown somewhat exaggerated. If the face of the anvil were perfectly flat, a straight piece of iron would show a tendency to curl upwards while being hammered when held crosswise of the anvil, and unless it were held perfectly flat on the anvil it would sting the hand, besides, there would be danger of nicking the iron where it rests on the corner of the anvil. When hammering a piece of iron on the crowned face of an anvil, the effect of the blow is more nearly confined to that part of the face where the hammer strikes; thus the crowned face acts to some extent like a bottom fuller, which is described later. A portion of the edge of the face is sometimes rounded as shown at d. At the right hand end of the anvil there is a square hole (e) called the hardie hole, in which cutting and forming tools are held. The small round hole (f) near it is called the pritchel hole, the core of small holes is punched out through it.



Setting an Anvil

The anvil should be placed on a solid block of wood, preferably a butt end of oak, and should be fastened to it with iron straps, as shown in cut, or with staples. Anvils on which soft metals are to be worked often have a layer of leather, felt or cloth beneath them. The height of an anvil should be such that when the workman stands beside it his knuckles will just reach its face.

The Weight of Anvils

The weight of anvils vary greatly; small ones are used for light work and large ones for heavy work. An average anvil will weigh from 150 to 200 pounds. Formerly, most of the anvils used in the United States were imported from England. These generally have the weight stamped on the side, and on many anvils it is given in hundredweights of 112 pounds each. If a person stands facing the anvil, with the horn to the right, the weight is generally found stamped on the near side, the figures towards the left designate the number of hundredweights of 112 pounds, the figures in the center denote the quarters of a hundredweight, and the figures at the right side show the number of extra pounds. Thus, if an anvil is stamped 2-2-17, it means 2 hundredweight of 112 pounds each, which is 224 pounds, and 2 quarters of a hundredweight, which is 56 pounds and 17 pounds, making the total weight of anvils 224 + 56 + 17 = 297 pounds. However, the present practice among American makers is to stamp their anvils with the direct weight in pounds.

HAND TOOLS

Hammers and Sledges

Classification — hammers are classified, according to weight, as hand hammers, hand sledges and swing sledges; according to the peen, into ball-peen, shown in cut (a), cross-peen, shown in cut (b) and long peen or straight-peen, shown in cut (c).

Hand Hammers

The hand hammer is made to use with one hand and is handled by the smith himself. It should not weigh more than 2½ pounds, a 1 pound hammer being a very convenient size for small work. The handle should be well formed, elliptical or oval in section and a little thinner towards the head, as shown at a cut (a), this is done to give it a spring, in order to avoid stinging the hand. It is from 14 to 16 inches long, and is made of a size that will fit the hand comfortably. A handle of improper shape is apt to tire or cramp the hand. It should be durable, not a makeshift, for the smith soon becomes accustomed to a hammer and knows what effect a blow will have. It is dangerous to use a hammer with a loose head.