

No. 630,323.

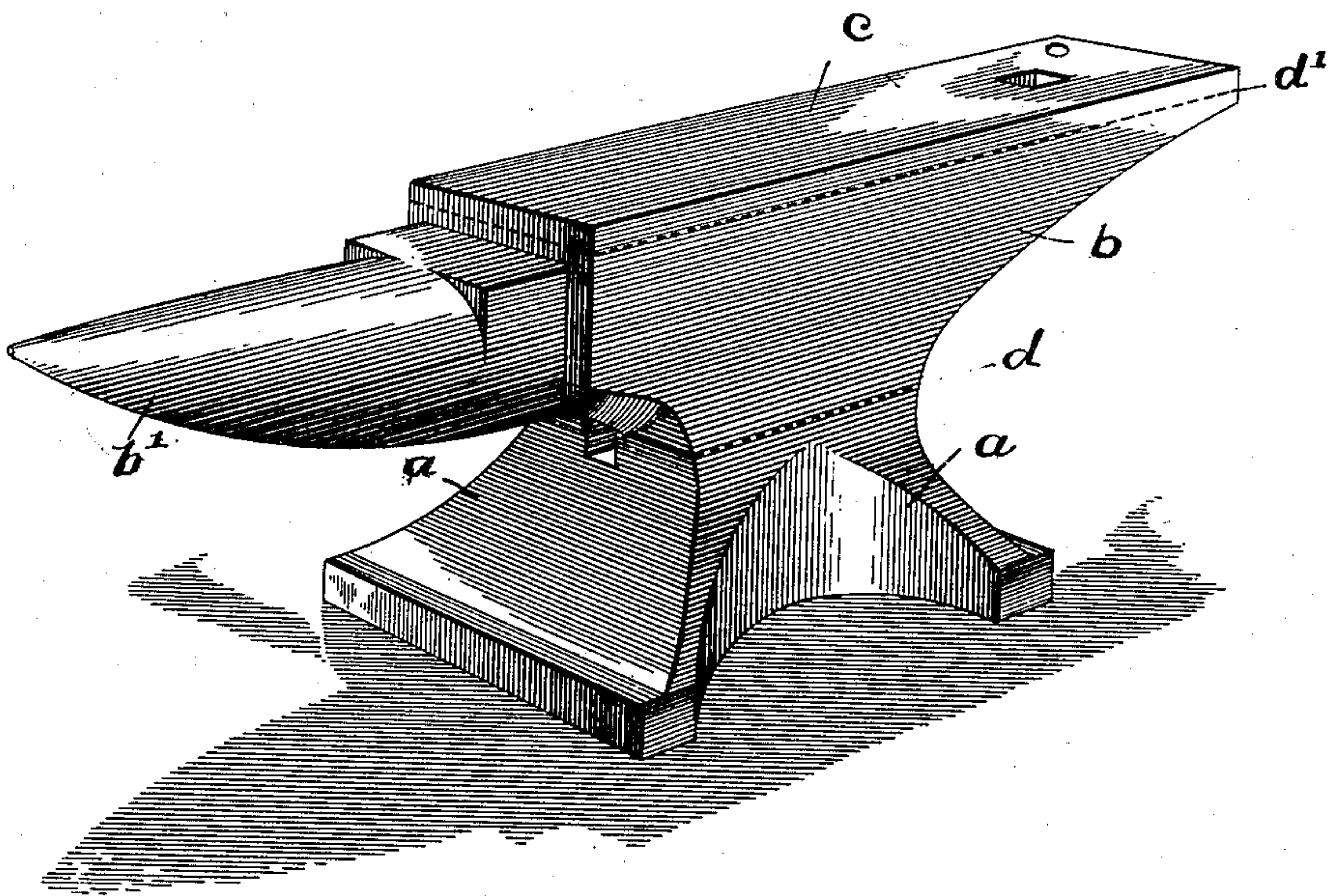
Patented Aug. 8, 1899.

D. BUEL.

ANVIL.

(Application filed Dec. 17, 1898.)

(No Model.)



WITNESSES:

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DAVID BUEL, OF COLUMBUS, OHIO.

ANVIL.

SPECIFICATION forming part of Letters Patent No. 630,323, dated August 8, 1899.

Application filed December 17, 1898. Serial No. 699,544. (No model.)

To all whom it may concern:

Be it known that I, DAVID BUEL, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented a certain new and useful Improvement in Anvils, of which the following is a specification.

My invention relates to improvements in anvils of the class having the trade designation of "solid wrought" or "solid welded." Anvils of this class are known as "high-grade" anvils, and are so designated because of their solidity, clear ring, resulting from the wrought-metal backing and a hard-steel face, the desirable long slender horn and heel made possible by the elasticity and strength of the wrought metal, and the strong rebound of the hammer, which is desirable and which is made possible by the employment in the anvil construction of "live" metal as distinguished from "dead" metal, the latter term being ordinarily applied to cast metal, the physical qualities of which prevent such elasticity and rebound.

Low-grade anvils have heretofore been constructed of cast metal capped by a hard-steel face; but such anvils lack the desirable qualities of the high-grade article because the horn and heel in order to stand any amount of wear must be made short and thick and the anvil is without ring or life.

The production of high-grade anvils is attended by considerable expense, and the form and dimensions of the wrought-metal bases have been limited by the requirement for the employment of expensive machinery and the necessity for disproportionate labor in their production. In order, therefore, to produce a high-grade anvil at a greatly-reduced cost and embodying certain features of utility not found in any other high or low grade anvils at present known to the art, I have welded into a single structure a wrought-metal anvil-body capped by a crucible-steel or other comparatively hard-metal face and having a broad heavy cast base. By this combination of metals I am enabled to produce the desirable slender horn and heel, because the body from which they spring is wrought metal, and at the same time the expense attached to the formation of the base is greatly reduced and

limitations of form and dimension of said base are removed. I therefore produce an anvil having all of the various desirable attributes of a high-grade anvil at a cost little exceeding that of the production of a low-grade anvil and having a broad heavy base of dead metal, which will be seated more firmly because of the lack of vibration under the blow of the hammer. These objects I accomplish in the manner illustrated in the accompanying drawing, in which the figure is a perspective view of my improved anvil.

Similar letters refer to similar parts.

a represents the base or bottom portion of an anvil, *b* the upper or body portion, and *c* the top face or working surface of said body, the separating-lines of these several portions of the anvil being indicated in the drawing by the dotted lines *d* and *d'*.

The base or bottom portion *a*, which may be of the form indicated in the drawing or of any other suitable form or size, I produce of cast-steel—that is, of steel cast in a mold—or other metal capable of being welded.

The upper or body portion *b*, together with its extended horn *b'*, I produce of wrought metal, either iron or steel—that is, of metal worked either by rolling, hammering, or pressing into the desired contour or outline. The upper working face *c*, which in the drawing I have shown separated from the body by the dotted line *d'*, I produce of crucible-steel or steel that can be hardened. These three parts or portions of the anvil are united by welding one to the other, the welding-points being indicated or approximately indicated by said dotted lines *d* *d'*. Although I have specified the production of the base by casting the same in a mold, it is obvious that said base might be cast in the approximate form desired and afterward worked into a somewhat-modified shape or form without departing from the spirit of my invention.

From the construction described it will readily be seen that the production of an anvil with a cast-steel base admits of said base portion being produced in shapes and sizes which would be impracticable of production by forging, as in wrought-steel. It will also be seen that the molded or cast construction of the base admits of the production of a sub-

stantial and high-grade anvil at a much-reduced expense over that incurred in producing the same of wrought or worked metal.

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

As a new article of manufacture, a solid wrought anvil comprising a wrought-metal body portion having a slender horn and heel,

a comparatively hard-metal face, and a broad, 10
cast-metal base, the whole being welded to form a solid structure, substantially as specified.

DAVID BUEL.

In presence of—

C. C. SHEPHERD,
P. S. KARSBUER.