

C. STEWART.

Mallets for Driving Tubes, &c.

No. 145,537.

Patented Dec. 16, 1873.

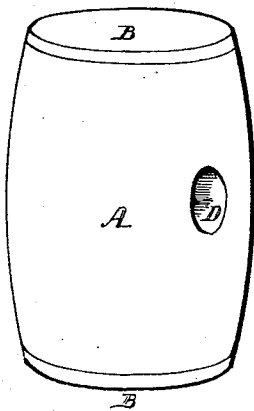


Fig. 1

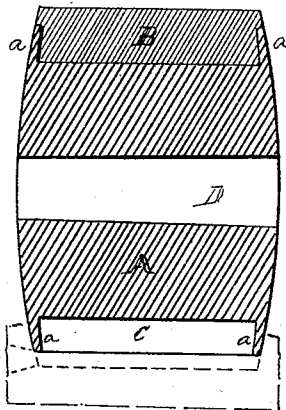


Fig. 2

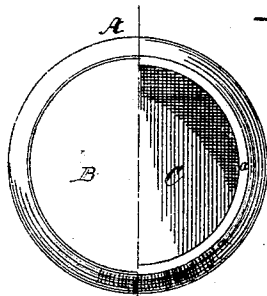


Fig. 3

Witnesses

Charles D. Sullivan
J. J. Conway

Inventor

Charles Stewart

UNITED STATES PATENT OFFICE.

CHARLES STEWART, OF WORCESTER, MASSACHUSETTS, ASSIGNOR OF
ONE-HALF HIS RIGHT TO WILLIAM ALLEN, OF SAME PLACE.

IMPROVEMENT IN MALLETS FOR DRIVING TUBES, &c.

Specification forming part of Letters Patent No. **145,537**, dated December 16, 1873; application filed
October 1, 1873.

To all whom it may concern:

Be it known that I, CHARLES STEWART, of the city and county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Mallets; and I do hereby declare that the following is full, clear, and exact description of the same, reference being had to the accompanying drawings which form a part of this specification, and in which—

Figure 1 represents a perspective view of my improved mallet. Fig. 2 represents a central section of the same with one of the heads removed; and Fig. 3 represents an end view, one-half being shown with the head in and the other half shown with the head removed.

In the drawings, A indicates the body of the mallet, which I make of iron, with an under-cut or dovetailed recess, C, in each of its ends, said recesses being formed by the inwardly-inclined flanges *a a*, as shown. B B indicate the heads or working faces which are supported within the recesses C C and project outward at their sides sufficiently far to cover the edges of the flanges *a*. These heads B I make of babbitt-metal, and they are fixed in the recesses by being cast therein, a suitable die or mold being placed over the end of the body A, as indicated by dotted lines, Fig. 2, to retain the babbitt-metal, which is melted and poured into the recess through an opening formed in the side of the mold. The under-cut or dovetail of the recess holds the head B securely in position when the metal becomes cold and the die is removed. The action upon the heads, when the mallets are used, tends to compress the babbitt-metal more firmly into the recesses, while the flanges *a* support the heads

from expanding, and prevent the babbitt-metal from breaking in pieces, thus rendering the mallets durable and capable of severe use.

When the heads B become worn down by long usage they can readily be melted out and new heads cast in their places, the metal of the old heads being used in the formation of the new ones.

D indicates the hole in which the handle is to be inserted, said handle being formed of wood or other material in the ordinary manner.

This improved mallet is especially adapted to driving boiler-tubes in the manufacture of tubular steam-boilers, as it is essential that the ends of the tubes should be preserved in good condition, and the operation of driving is often quite severe. With iron mallets the ends of the tubes are liable to be injured, and wood mallets are quickly cut up and destroyed by the thin edges of the tubes, while with my improved mallets the operation can be successfully and rapidly performed, as the babbitt-metal prevents injury to the tubes, while the iron body gives strength and momentum to the blow, and the flanges *a* support the babbitt heads, and prevent them from being battered down or breaking apart, as would be the case with mallets wholly of such metal.

Having described my invention, what I claim, and desire to secure by Letters Patent as an improved article of manufacture, is—

A mallet, constructed as herein shown and described.

CHARLES STEWART.

Witnesses:

CHAS. H. BURLEIGH,
GEO. J. W. CONY,