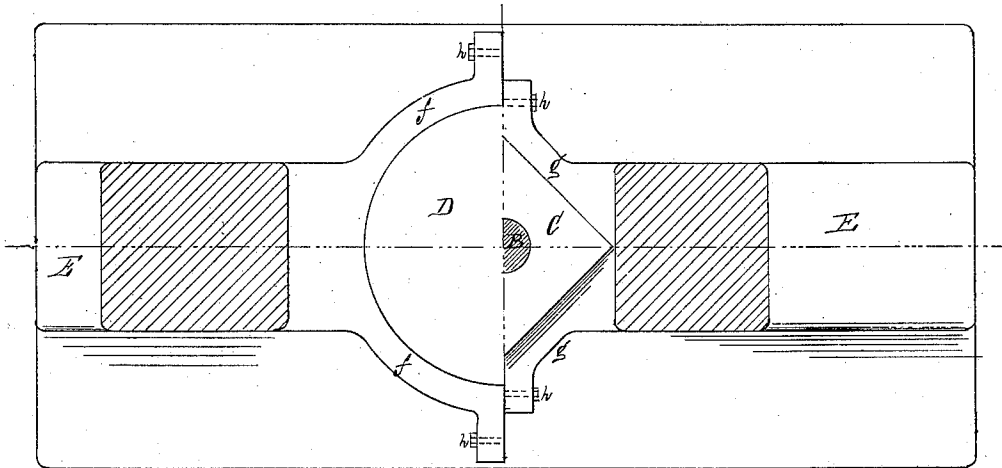


Ferris & Miles,

Steam Hammer.

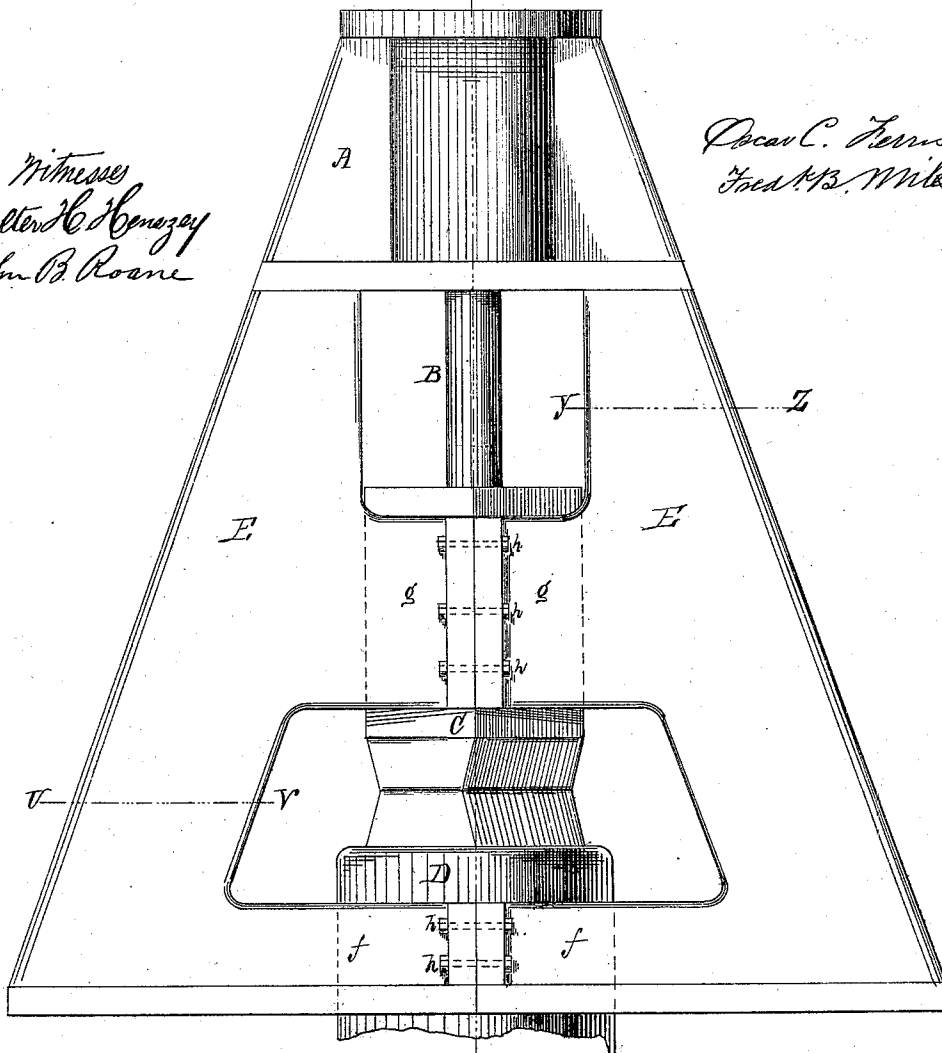
No. 113,508,

Patented Apr. 11. 1871.



Witnesses
Walter H. Henney
John B. Roane

Declar C. Ferris.
Frederic Miles



UNITED STATES PATENT OFFICE.

OSCAR C. FERRIS AND FREDERICK B. MILES, OF PHILADELPHIA, PA.

IMPROVEMENT IN THE CONSTRUCTION OF STEAM-HAMMER STANDARDS.

Specification forming part of Letters Patent No. **113,508**, dated April 11, 1871.

We, OSCAR C. FERRIS and FREDERICK B. MILES, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain Improvements in Double Frame Steam-Hammers, of which the following is a specification:

Our invention relates to the construction of the standards of a double-frame steam-hammer in such a manner that they are united with each other and with the cylinder in one rigid and substantial structure; the object being to increase thereby the efficient action of the machine, and to cheapen the manufacture by economizing material, and by facilitating the operations of the workshop.

Figure 1 is a front elevation of a machine embodying our invention. Fig. 2 is a plan of the same, showing a half-section on U V and a half-section on Y Z.

General Description.

A is the cylinder; B, the piston-rod; C, the ram; D, the anvil; E E, the standards, which are shaped in such a manner that one-half of the guide *g g* and one-half of the base *f f* are formed upon each standard and united in one solid casting with it, as shown in the annexed drawing.

The base *f* of each standard is brought half-way round the anvil, and likewise the guide *g* on each standard is brought half-way round the ram, so that when two of these standards are placed together their bases and guides can be securely bolted together by the bolts *h h h h*, with or without the interposition of any liners or loose pieces. It is evident that the

touching surfaces of the guides and bases can be planed truly in line and parallel, and that when bolted together they must remain so unalterably.

The bases are raised above the bottom flange, as shown in Fig. 1, in order to impart all the stiffness of a corrugated form to the framing, which is further augmented by casting the standards E E, as well as the bases *f f*, hollow, or, as the technical term is, "cored out." If, however, it should be more convenient, the same effect may be secured by casting the frames in the form of plate-and-rib work, with heavy ribs below the bottom flange, carried round the anvil in the same manner as described when above the bottom flange.

By this means the ram and the anvil are each surrounded with a strong corrugated wall of metal, thereby forming a good and sufficient guide for each, and effectually preventing their getting out of line with each other or with the cylinder; and, furthermore, serving, when bolted together, as shown in Figs. 1 and 2 and as described, to unite the two standards in one rigid and unyielding structure, thoroughly braced in every part.

We claim as our invention—

The standards E E, cast separately, with guides *g g* and bases *f f*, cast half upon each, said separate parts being bolted together, substantially as and for the purposes set forth.

OSCAR C. FERRIS.

FREDERICK B. MILES.

Witnesses:

WALTER H. HENSZEY,

JOHN B. ROANE.