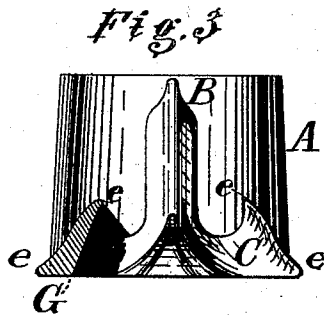
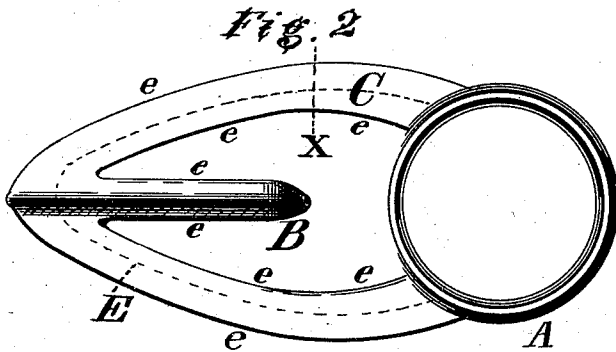
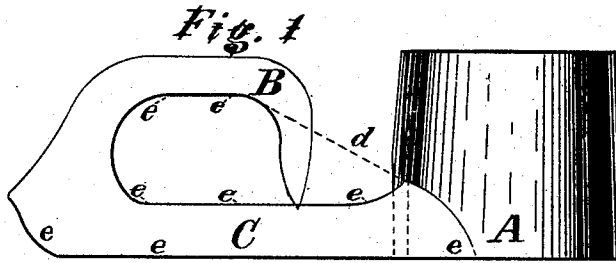


E. ELY.
WHIFFLETREES.

No. 172,006.

Patented Jan. 11, 1876.



Witnesses.

A. N. Samuels.

Pro. A. H. Campbell

Inventor.

Ellsworth Ely
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UNITED STATES PATENT OFFICE.

ELLSWORTH ELY, OF BUFFALO, NEW YORK.

IMPROVEMENT IN WHIFFLETREES.

Specification forming part of Letters Patent No. **172,006**, dated January 11, 1876; application filed April 28, 1875.

To all whom it may concern:

Be it known that I, ELLSWORTH ELY, of the city of Buffalo, in the county of Erie and State of New York, have invented a new and Improved Whiffletree-Hook, of which the following is a specification:

My invention consists in the combination of a whiffletree-hook, ferrule, and ring, when so constructed and formed that it may be molded in an ordinary two-part flask, as an ordinary casting, without the necessity of using a pattern composed of more than one piece, and without a core or print, and so as to more effectually prevent the unhooking of the trace or other connection, and to insure the necessary strength and lightness, as will be more clearly hereinafter shown.

In the accompanying drawings, Figure 1 is a side elevation of my invention; Fig. 2, a plan or top view; and Fig. 3, a front view, having a portion broken off so as to show a section through line X, Fig. 1.

A is the ferrule; B, the hook; C, the ring. The hook B is formed so as to project downward in nearly a vertical line, as shown in Fig. 1, for the purpose of preventing the accidental unhooking of the trace-link, ring, or other connection. The upper outer surface of

the ring, hook, and ferrule is formed so as to slope or incline inward toward the center, and the inside of the ferrule is also tapering, being made smaller at the bottom than at the top. This allows the upper part or half of the mold, when molding them, to draw off freely, parting from the lower part of the mold at the dotted line *d*, and at the lines indicated by the letters *e*; at the same time it draws the sand from the inside of the ferrule. The lower part of the ring is made tapering on the inside, as shown by the dotted lines *E* in Fig. 2, and at the section G in Fig. 3. The hook B, below the dotted lines *d*, is also made tapering, as shown in Fig. 1, so as to afford the means for an easy separation of the other half of the mold.

I claim as my invention—

As an article of manufacture, a whiffletree-hook, B, ring C, and ferrule A, when combined in one piece, the hook extending down into the ring, and formed substantially as and for the purposes described.

ELLSWORTH ELY.

Witnesses:

JAMES SANGSTER,
A. N. SAMUELS.