F. A. SAWYER, 2d.

CARRIAGE STEP AND SHANK.

No. 182,963. Patented Oct. 3, 1876.

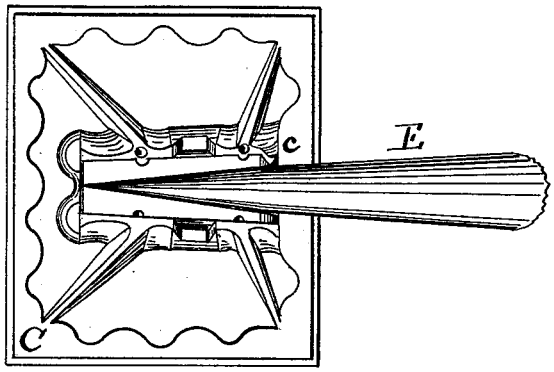

Fig. 1.

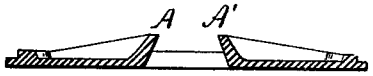

Fig. 4.

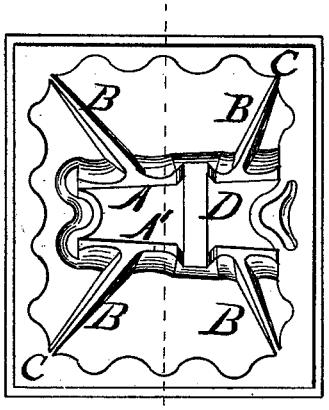

Fig. 2.

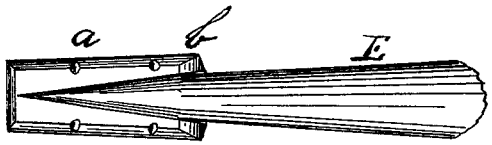

Fig. 3.

WITNESSES

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FRANCIS A. SAWYER, 2D, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN CARRIAGE STEP AND SHANK.

Specification forming part of Letters Patent No. **182,963**, dated October 3, 1876; application filed August 5, 1876.

To all whom it may concern:

Be it known that I, FRANCIS ASBURY SAWYER, 2d, of Boston, in the county of Suffolk and State of Massachusetts, have invented an Improvement in Carriage-Steps, of which the following is a specification:

This invention relates to carriage-steps and step-shanks, and the method employed in fastening a step to a shank.

Reference is made to the accompanying drawing, forming a part of this specification, in explaining the same, in which Figure 1 is a plan of the step and shank united when reversed; Figs. 2 and 3 are separate plans of the step and shank, respectively; and Fig. 4 is a cross-section of the step.

The under surface of the step, as shown in Figs. 1 and 2, is provided with the projecting ribs A A′, whose relation to each other in plan, as shown in Fig. 2, and in cross-section, as shown in Fig. 4, are as the sides of a frustum of a wedge, the bases being the solid portion of the step center and the side next the shank, respectively. These ribs may be strengthened by the diverging stays B, which also, with the projection C around the border of the step and bar D across its center, serve to re-enforce the same. The step thus formed is made in one casting, preferably of malleable iron. The shank E is shaped upon its head, as shown in Fig. 3, to conform to the recess between the ribs A A′. It is provided with the indentations *a*, and is cut away as represented in Fig. 3 at *b*. To fasten the step and shank together the shank-head is driven between the ribs until its end is flush with the ends of the ribs. This leaves the opposite ends of the ribs projecting sufficiently beyond the shank head to be turned in upon its beveled end, fastening the step securely to the same. In Fig. 1 the rib is represented as bent in upon the head at *c*. To further assist in fastening, the ribs may be lapped over into the indentations by prick punching. The ribs may be made somewhat thinner diagonally across the locking ends, to facilitate the bending on the head.

The advantages of the invention consist in the cheapness of construction, and the ease and facility with which a step may be fastened to a shank.

Having thus fully described my invention, I claim and desire to secure by Letters Patent—

1. The carriage-step described, consisting of a metal plate formed upon its under surface with the wedging ribs A A′, substantially as and for the purpose set forth.

2. In a carriage-step, the ribs A A′, stays B, and bar D, substantially as shown and described.

3. The combination of a shank provided with a wedge-shaped head, substantially as shown, with a step provided with wedging ribs designed to lap upon the head, as shown, and to project sufficiently beyond the head to lock the step to the shank, substantially as shown and described.

4. The step-shank described, when provided with a head wedge-shaped in cross-section and plan, substantially as and for the purpose described.

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