(No Model.)

J. PENDERGAST.

CARRIAGE STEP.

No. 304,555. Patented Sept. 2, 1884.

Fig. 1

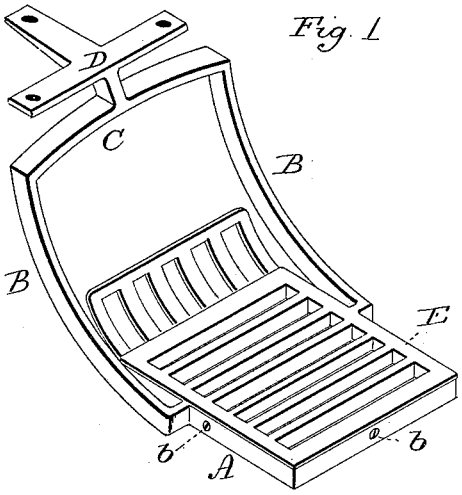


Fig. 5

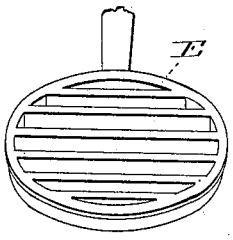


Fig. 4

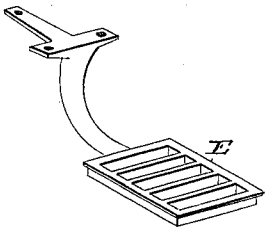


Fig. 2

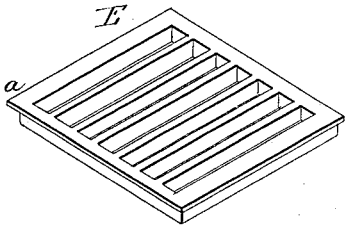
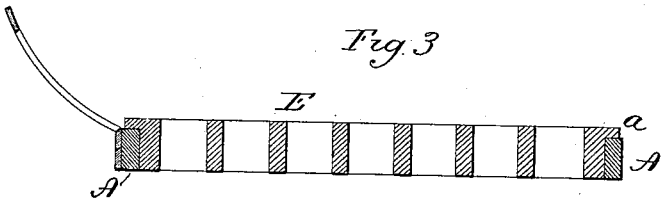


Fig. 3



Witnesses.
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UNITED STATES PATENT OFFICE.

JAMES PENDERGAST, OF NEW HAVEN, CONNECTICUT.

CARRIAGE-STEP.

SPECIFICATION forming part of Letters Patent No. 304,555, dated September 2, 1884.

Application filed May 5, 1884. (No model.)

To all whom it may concern:

Be it known that I, JAMES PENDERGAST, of New Haven, in the county of New Haven and State of Connecticut, have invented a new Improvement in Carriage-Steps; and I do hereby declare the following, when taken in connection with accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a perspective view of a coach-step; Fig. 2, a perspective view of the tread removed; Fig. 3, a vertical section through the frame and tread enlarged; Figs. 4 and 5, perspective views of other classes of steps embodying the same invention.

This invention relates to an improvement in the construction of carriage-steps, with special reference to that class of steps commonly called "gridiron-steps"—that is, steps in which the tread consists of bars and open spaces, but applicable to other classes of steps. This class of steps is very expensive, owing to the difficulty in forging the tread of the step, as each bar must be forged separately and welded to the surrounding frame. Again, in the manufacture of steps, which is in itself a special branch of manufacture, they can only be made to order, as different manufacturers require different treads. In some cases simply parallel bars running transversely of the step would be required, in others like bars running longitudinally, or others may require bars of curved or irregular shape, or some special ornamentation—as monograms—to be applied. The steps are forged with means for attachment.

The object of my invention is to construct the step so that the tread may be detached therefrom and others substituted for it, whereby the frame and support for the steps may be kept in stock as well as a variety of treads; or special treads may be made for existing frames—that is, so that the treads may be interchangeable without disturbing the shank or support of the step; and the invention consists in constructing the step in the form of a frame, and from which the attaching device extends with a tread portion removable therefrom, and as more fully hereinafter described.

In illustrating the invention I show it as applied to a square step, and such as commonly called "coach-steps"—that is, a step to be applied to the body of the carriage below the door.

A represents the step-frame, which in extent and shape corresponds to the general outline desired for the step. From this frame the attaching device extends. In Fig. 1 this is represented as an arm, B, running upward from each side, as by a cross-piece, C, to a clip, D, by which it is secured to the body. This frame is forged in the usual manner of making such forgings. The tread E is constructed of a shape corresponding to the interior of the frame A, and with a flange or ledge, *a*, projecting outward around its upper side, and so that the tread may be introduced into the frame, as seen in Fig. 3, and rest upon the frame, so as to be supported thereby, and it may be secured by a screw, as at *b*, through the frame into the tread or otherwise. The tread is forged or made of any desired pattern, in Figs. 1, 2, and 3, represented as parallel bars or of the gridiron pattern. Thus constructed, the tread may be cast from malleable iron, inasmuch as there is no connection of the supporting devices with that tread, or it made be forged in the usual manner for forging this class of treads.

By making the tread portion detachable and supported on the surrounding frame, as described, I am enabled to construct the frames and the attaching devices without regard to the particular pattern of the tread, and then supply treads for such frames, as may be desired. Intricate patterns may be produced in malleable iron or other suitable metal very much cheaper than can be produced by forging, and thus highly ornamental steps may be produced at a small cost. The treads being detachable, treads upon a carriage already made may be changed to suit the taste or requirements of purchasers. The frames being made to a standard size and treads accordingly, the dealer can substitute one tread for another as his customer may desire.

Instead of making the tread open or of the gridiron-pattern, any of the known or desirable patterns may be employed.

In Figs. 4 and 5 I show perspective views of other classes of steps with the same frame A, and the removable or interchangeable tread E.

While I prefer to construct the tread with the overlapping flange *a*, this may be omitted and the tread depend upon the screws *b*, or other attaching devices to support it in the frame.

I am aware that shanks for carriage-steps have been constructed with the step removable therefrom; but I am not aware that a carriage-step frame has been formed upon the shank constructed to inclose or embrace the step set therein.

I claim—

1. The herein-described carriage-step, consisting of the frame A, constructed to surround the tread, and with a shank for connecting the frame with the carriage, combined with the removable tread E, constructed to set into and be inclosed by said frame, substantially as described.

2. A carriage-step consisting of the frame A, constructed to surround the tread, and with a shank for attachment to the carriage, combined with a removable tread, E, constructed with the outward-projecting flange *a* to rest upon the top of the frame, substantially as described.

JAMES PENDERGAST.

Witnesses:
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