(No Model.)

C. E. BERGER.

COACH STEP.

No. 558,763. Patented Apr. 21, 1896.

Fig. 1.

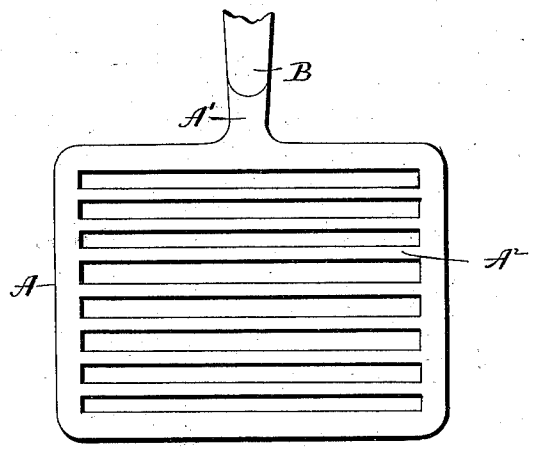
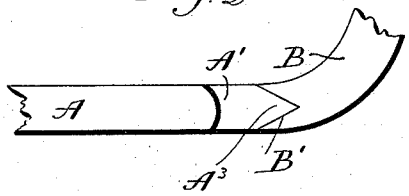


Fig. 2.



Witnesses.
J. H. Shumway
Jessie S. Allen.

Charles E. Berger.
Inventor.
By atty
Earle Seymour

UNITED STATES PATENT OFFICE.

CHARLES E. BERGER, OF NEW HAVEN, CONNECTICUT, ASSIGNOR OF ONE-HALF TO FREDERICK C. BERGER, OF SAME PLACE.

COACH-STEP.

SPECIFICATION forming part of Letters Patent No. 558,763, dated April 21, 1896.

Application filed February 17, 1896. Serial No. 579,596. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. BERGER, of New Haven, in the county of New Haven and State of Connecticut, have invented a new Improvement in Coach-Steps; and I do hereby declare the following, when taken in connection with the 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 plan view of one form which a coach-step grate constructed in accordance with my invention may assume; Fig. 2, a broken side view showing the stump of the rim and the connecting-piece.

Heretofore coach-step grates have generally been made with wrought-iron rims, provided with integral wrought-iron stumps, adapting them to be welded to the step-reaches of carriages. Such coach-steps are, however, very expensive. To produce a cheaper article it has been proposed to make the coach-step rim of cast-iron and rivet the same directly to a step-reach adapted to be carried down under the rim. That construction, however, is objectionable, because it has been found impossible to secure the required strength and rigidity by the use of rivets, which, under the severe strains imposed upon the step, allow the grate to work loose.

The object of my invention is to avail myself of the reduced cost at which cast-metal rims may be produced, but at the same time avoid the objection of riveting the rim to the reach.

With these ends in view my invention resides in a new article of manufacture, consisting of a coach-step grate having a malleable-iron rim and an integral malleable-iron stump and a wrought-iron connecting-piece, one end of which is welded to the malleable stump of the grate and the other end of which is adapted to be welded by the consumer to the wrought-iron reach of a carriage.

In carrying out my invention, as herein shown, the rim A of the coach-step grate is made of malleable iron and provided with an integral malleable stump A′. The grate-bars A^2 may be formed integral with the rim, or they may be made independently thereof, and either of wrought or cast metal, and set thereinto. To adapt such a grate to be applied by the consumer to a coach-step reach without resorting to riveting, I use a wrought-metal connecting-piece B, one end of which I weld to the malleable cast-metal stump A′. The welding of malleable cast metal and wrought metal requires particular appliances and the exercise of skill; but it can be done, as is well known, by a manufacturer who commands the skill and appliances, although it is an operation beyond the reach of a blacksmith or the ordinary consumer of coach-steps. As herein shown, the stump A′ is drawn to a point A^3 and the connecting-piece constructed with a deep notch B′ to receive the point and form the joint. After the connecting-piece B has been welded to the stump A′ of the frame of the coach-step grate the article is ready to be placed in the hands of the consumer, who then has no difficulty in welding the end of the wrought-metal connecting-piece to a wrought-metal step-reach, such as carriages are invariably provided with.

It will thus be seen that by means of my invention I avail myself of the economy of the employment of cast metal and at the same time avoid resorting to riveting, whereby I secure an article which is not only cheap and strong, but as easily applied as any coach-step grate having a wrought-metal rim and stump.

It is apparent that in carrying out my invention some changes in the form herein shown and described may be made without departing from it.

In the foregoing description I have spoken of the use of cast-iron; but I would have it understood that it is within the purview of my invention to use malleable cast-steel or any other cast metal that may be annealed and thereby made malleable.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

As a new article of manufacture, a coach-step grate having a malleable cast-metal rim,

and an integral malleable cast-metal stump, and a wrought-metal connecting-piece having one end welded to the said malleable cast-metal stump of the rim, and the other end adapted to be welded by the consumer to a wrought-metal coach-step reach, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

CHARLES E. BERGER.

Witnesses:
FRED. C. EARLE,
J. H. SHUMWAY.