(No Model.) 2 Sheets—Sheet 1.

T. BEECHER.

CARRIAGE STEP.

No. 538,316. Patented Apr. 30, 1895.

Fig. 1.

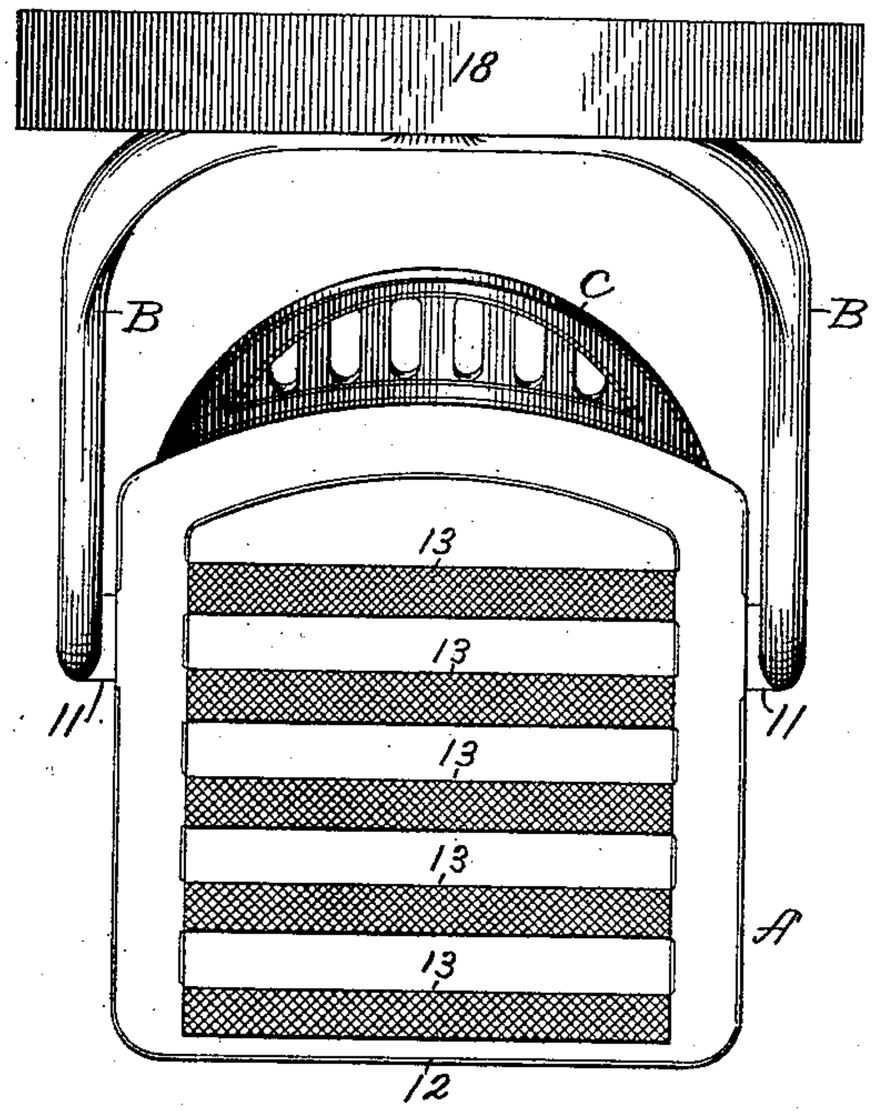


Fig. 2.

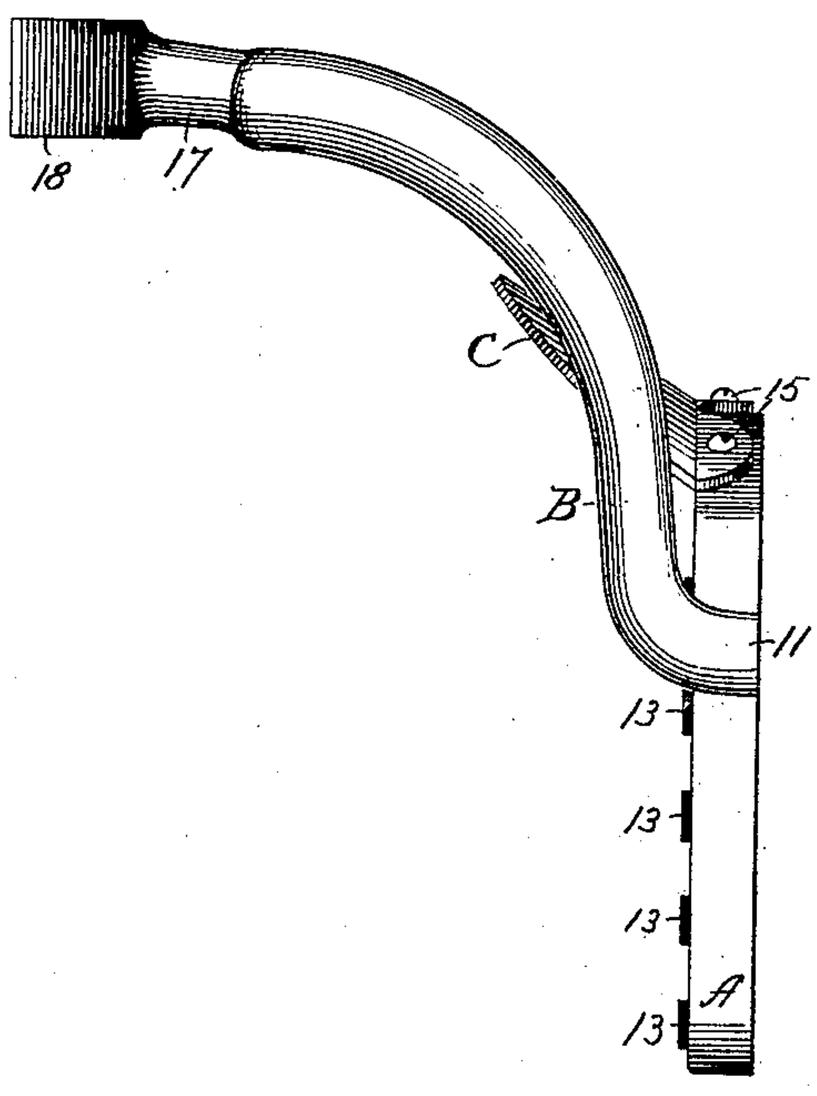


Fig. 3.

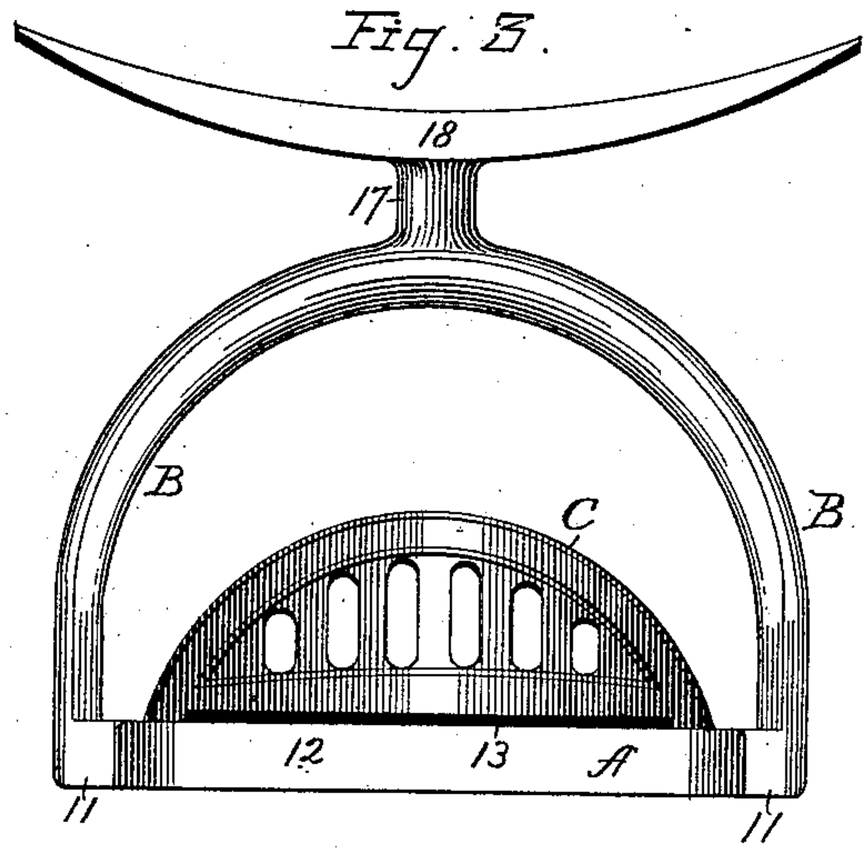


Fig. 4.

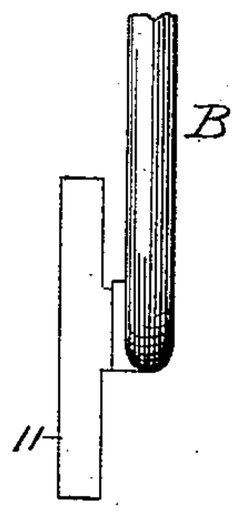
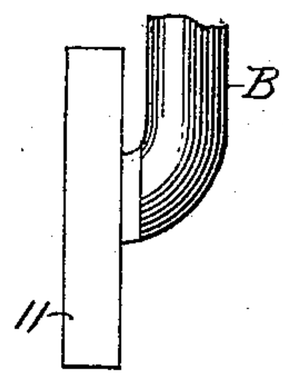


Fig. 5.



Witnesses
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M. C. Brown

Inventor
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By James Shepard.
Atty.

(No Model.)

2 Sheets—Sheet 2.

T. BEECHER.

CARRIAGE STEP.

No. 538,316. Patented Apr. 30, 1895.

Fig. 6.

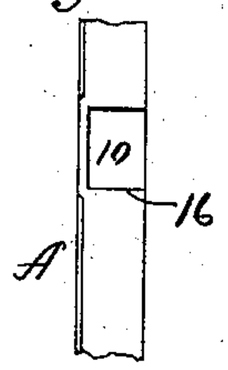


Fig. 7.

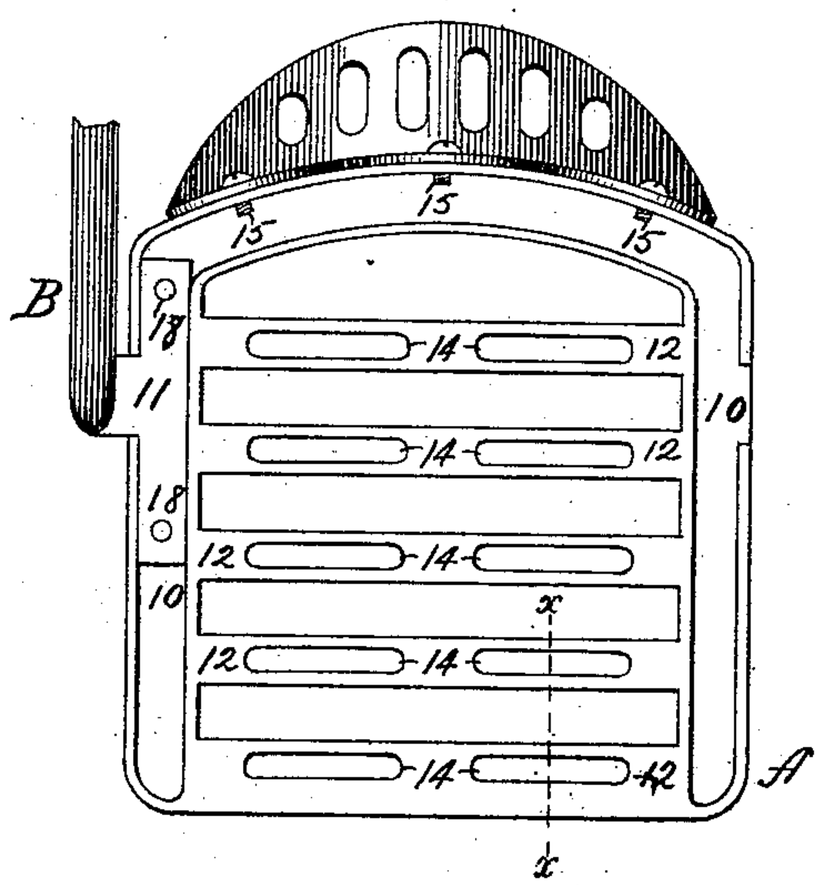


Fig. 8.

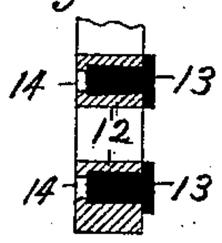
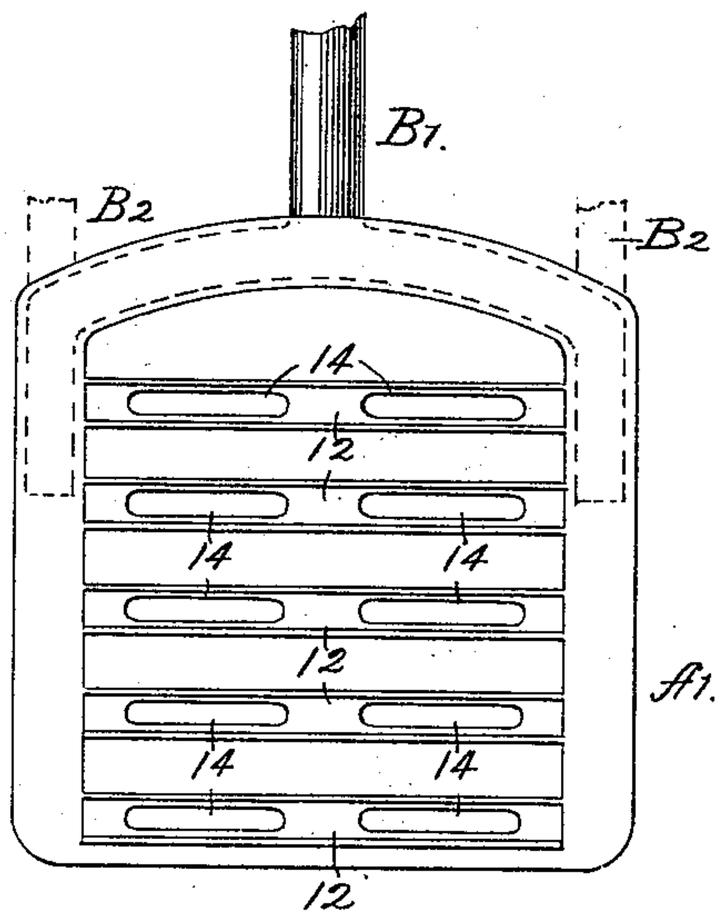


Fig. 9.



Witnesses
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UNITED STATES PATENT OFFICE.

THOMAS BEECHER, OF NEW HAVEN, CONNECTICUT, ASSIGNOR OF ONE-HALF TO PATRICK O'CONNOR, OF SAME PLACE.

CARRIAGE-STEP.

SPECIFICATION forming part of Letters Patent No. 538,316, dated April 30, 1895.

Application filed November 5, 1894. Serial No. 527,851. (No model.)

To all whom it may concern:

Be it known that I, THOMAS BEECHER, a citizen of the United States, residing at New Haven, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Carriage-Steps, of which the following is a specification.

My invention relates to improvements in carriage steps, and the main objects of my improvement are to provide simple and efficient means for connecting the bracket or shank with the step proper and for attaching the holding pads.

In the accompanying drawings, Figure 1 is a plan view of my step. Fig. 2 is a side elevation of the same. Fig. 3 is a front elevation. Fig. 4 is a detached plan view of the lower end of one of the bracket arms. Fig. 5 is a detached side elevation of the same. Fig. 6 is a side elevation of a portion of the tread or step proper, showing the recess that receives the lower end of said bracket arms. Fig. 7 is a reverse plan view of the step tread together with the lower end of one of the bracket arms properly seated therein. Fig. 8 is a transverse section on the line *x x* of Fig. 7, of two of the tread bars together with their holding pads; and Fig. 9 is a plan view of the tread in a modified form as adapted to be supported by a single bracket arm, the holding pads in this view being removed from the tread bars in order to show the sockets that receive said pads.

The tread A I prefer to make in the form of a gridiron frame having a border rim and transverse tread bars with downwardly opening sockets 10 in the under side of its rim to receive the lower ends 11 of the bracket arms B while the upper side of the tread bars 12 are provided with side walls forming upwardly opening sockets for the reception of the holding pads 13 of rubber or equivalent material for such purpose. These sockets preferably extend substantially the length of the tread bars, but their length or shape in plan view is not material. Each socket has a bottom wall which I perforate at one or more points as at 14, Figs. 7, 8, and 9, while the side walls of said sockets are preferably overhanging so that their narrowest dimension is at the top of each socket. The holding pads have their bodies of a corresponding shape and size while their holding surface may be widened out to the full width of the tread bars. The holding pads may be removed when desired by inserting a punch or other slender tool in the perforations of the bottom wall of the socket and driving them up out of the socket. At the back of the tread I secure the foot or toe guard C in any proper manner as for example by means of rivets or screws 15.

The bracket sockets 10 extend along the length of the tread rim on its two sides and may open into the back rim as one continuous socket. At points where the lower ends of the bracket arms are to be received the outer wall of the socket is notched as at 16 Fig. 6. The bodies of the bracket arms B may be joined in a common shank 17 having any desired form of plate 18 for securing to any desired part of the carriage, the shape of the arms, bodies and portions to connect the same with a carriage not being essential to my improvement and may be varied from time to time according to the style of carriage to which they may be attached. I form each arm with an offset lower end of a T shaped form which enters the sockets 10 from the under side and fills the socket for a sufficient length to give it its proper strength and then it is secured by suitable screws or rivets as shown at 18, Fig. 7.

If desired the tread may be notched at the middle of its rear rim and be supported by a single bracket arm B′ Fig. 9, whose lower end may extend along the socket in the under side of the tread A′ in the form indicated by the broken lines under the tread rim in said Fig. 9, or it might be made shorter if desired. In like manner two bracket arms might enter the bottom sockets at each corner, instead of at each side, and have their lower ends within the socket substantially of the form indicated by said broken lines in connection with the arm B′, said arms at the corners of the tread being indicated by the broken lines at B^2 in said Fig. 9.

I design to make the tread of cast metal, as for example cast steel while the bracket arm or arms will be forged.

While I prefer to make the tread bars with upwardly opening sockets to receive holding pads it is evident that this feature might be omitted without changing the character of the downwardly opening sockets and the ends of the bracket arms which are fitted thereto.

I am aware that prior patents show step pads having upwardly opening sockets with overhanging side walls and projecting holding pads of rubber or equivalent material secured within said sockets and the same is hereby disclaimed.

I claim as my improvement—

1. A carriage step consisting of a tread having a rim adjacent to its outer edge and a downwardly opening socket in its rim and the bracket arm having its lower end fitted to said socket, substantially as described and for the purpose specified.

2. A carriage step consisting of a tread having a rim with a downwardly opening socket in the under side of said rim, the outer side wall of said socket being notched as at 16 while the sockets extend along said rim in opposite directions from said notch, and the bracket arms having a T shaped lower end fitted to said under socket, with the middle portion of the T in said notch of said outer wall while the cross arms on each side of said middle portion fill the socket on both sides of said notch, substantially as described and for the purpose specified.

3. A carriage step tread, in which the bars are provided with overhanging side walls and bottom wall, forming holding sockets, and having perforations through the bottom wall of said sockets in such bar, and are provided also with the holding pads secured within said sockets and engaging the side walls thereof at points above said bottom wall, whereby the parts are held in place independently of the side walls of said perforations, substantially as described.

4. A carriage step consisting of the tread bars and rim and having in its upper side holding pad sockets, and in the under side of its rim bracket sockets, the bracket arms having T shaped lower ends fitted to said under sockets and the upwardly projecting holding pads having their bodies secured within the sockets in the upper side of said tread, substantially as described and for the purpose specified.

THOS. BEECHER.

Witnesses:
MATTHEW A. REYNOLDS,
WILLIAM S. PARDEE.