(No Model.)

H. B. CRANDALL.

CARRIAGE SEAT IRON.

No. 347,775. Patented Aug. 24, 1886.

Fig. 1.

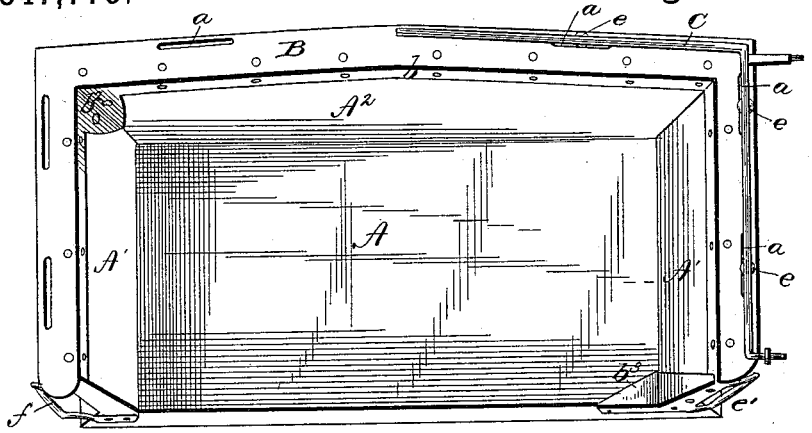


Fig. 2.

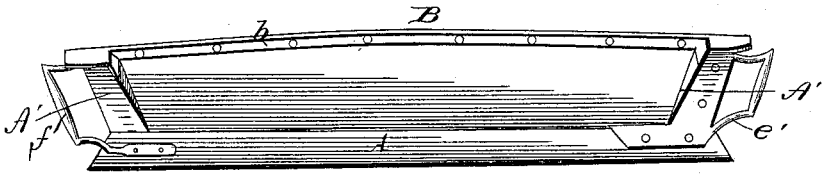


Fig. 3.

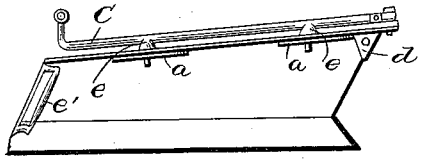


Fig. 4.

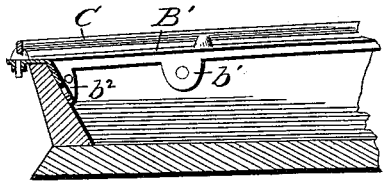
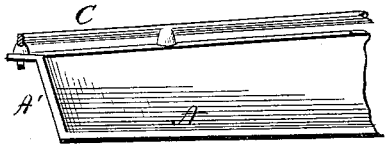


Fig. 5.



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UNITED STATES PATENT OFFICE.

HENRY B. CRANDALL, OF CORTLAND, NEW YORK, ASSIGNOR OF TWO-THIRDS TO WM. F. HEAD AND W. H. WOOLLAND, BOTH OF SAME PLACE.

CARRIAGE-SEAT IRON.

SPECIFICATION forming part of Letters Patent No. 347,775, dated August 24, 1886.

Application filed June 24, 1886. Serial No. 206,135. (No model.)

To all whom it may concern:

Be it known that I, HENRY B. CRANDALL, a citizen of the United States, residing at Cortland, in the county of Cortland and State of New York, have invented certain new and useful Improvements in Carriage-Seats; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention is an improvement in carriage-seats and irons for the same adapted to receive such shifting-rails as are usually kept by merchants or manufacturers in stock.

In the arrangement of my seat it is my purpose to so construct the same in its back and sides that it will be strong and durable and capable of receiving with a good fit the shifting-rails of any marketable pattern. It is also my purpose to provide a plate as an attachment to the seat of common manufacture, whether said seat be made of wood or iron, so that the ordinary shifting bar or rail may be readily placed without any, or at least very slight, alteration.

In manufacturing my seats—say of wood—I form the same with bottom and sides of the usual shape and secure them together as usual. I then form an edge or iron plate to fit over the upper edge of the sides and back in two parts, divided in the middle of the seat-back. This edge-plate I preferably form with a flange on the inner side, which I fit snugly against the inner surface of the back and sides, all around where said plate is secured, as well as on the edge of the parts, in the usual manner. As a substitute for this construction, however, I also cut out this flange portion, so that the bearings upon the inner faces of the sides and back will not be continuous. At the corners or exterior angles of the said plate I form hoods, which fit snugly to the outer surfaces of the back and sides to give strength and security to the seat. As an alternative construction to this latter feature, I purpose to drop down from the top portion of the rim-plate small angle-pieces to fit snugly in the two interior angles formed by the back and sides, and thus strengthen the seat-back. The edge or rim plate, when in place, projects over the sides and back of the seat, and near the outer edge of this plate I form long slots, which pass vertically entirely through the same, and as I make this plate preferably of thin material I re-enforce it on the under side about these slots with bosses. In manufacturing these plates I form them in two parts, and to the back and flank of each part I give an excessive length, so that before they are applied to a seat already made they may be cut off and fitted exactly to the said seat with a perfect joint in the center of the back and a good finish to the ends of the flank portions.

The handles of the seat I form in two ways. In one I weld the handle to the outer end of the flank-plate at the top and rivet or screw it to the wooden portion at the bottom. In the other case I form an independent angle-plate which fits snugly to the side piece and seat proper inside and in front, and to this angle-plate I form, as a part of it, the handle.

The shifting-bars kept in stock by manufacturers and dealers are usually made in two pieces, with the back portions of a length equal to the maximum requirement, and the flanking portions of a given length. The bolts on the under sides of said irons do not always occupy the same place with reference to the angle, but vary more or less in this respect. Consequently it is found difficult, with seats in common use, to apply these bars, as it is too frequently necessary to drill openings for the bolts. The plates which form an important feature of my invention are intended to obviate this difficulty. The slots in these plates, or which may be formed in seats which are made entirely of sheet-iron, are always parallel to the outer edge of the back and flanks, and of a length fully sufficient to receive the bolts of the shifting-bars, inclusive of any variation found to exist in ordinary stock goods; hence a seat formed entirely of iron and provided with a flange-back pierced with long slots, as shown in my plate, will receive the shifting-bars from any factory. Then, again, any plate manufactured in the manner described will be readily applicable to any manufactured seat, so that with the application of

the long slots to the ordinary seat, whether of iron or wood with plates of metal, the ordinary shifting-rails may be readily applied.

In my drawings, Figure 1 is a top view of the seat. Fig. 2 is a front elevation of the same. Fig. 3 is a side elevation showing the exterior corner-irons. Fig. 4 is a sectional view showing the seat-plate with the upper portion provided with small flanges dropping down at intervals against the inner portion of the seat. Fig. 5 is a section showing part of an iron seat with the shifting-rail applied.

Similar reference letters of the drawings indicate like parts in all of the figures.

Referring to the drawings, A A′ A^2 represent the bottom, sides, and back of an ordinary carriage-seat.

B is a metal plate provided with a flange, *b*, formed to fit snugly against the inner face of the back A^2 and sides A′ A′, and projecting by its horizontal portion over the outer surface of said back and sides. Long slots *a a a a* are cut or formed through the plate B, and around said slots, on the underside, are formed bosses which serve to re-enforce and strengthen said plate, precluding the necessity of making it of thick material.

C represents the shifting-bar, formed in the ordinary manner, and in this instance it is provided with bolts fixed permanently to the said iron, with shoulders which, when the said iron is in position, bear upon the upper surface of said plate B. The bolts *e* pass entirely through the slots of the plate B, and the said rail is secured to the plate B by suitable nuts run upon the threads of the said bolts, which are brought to bear against the bosses surrounding the slots.

The style of rail illustrated in my drawings is the kind most common in use, and varies as made by different manufacturers chiefly in the location of the bolts with reference to the angles of the rail near the prop. It will readily be seen that with the plate B, provided with the long slots, the variation of the bolts with reference to these angles will be immaterial to the ready fitting of the shifting-rails to the seats, as ready adjustment will be found in the said slots between their extremities.

Some irons, instead of having bolts formed as part of them, are provided with eyes to receive the bolts, and it is obvious that this class of shifting-rails may be adapted for use with my improvement as well as any others that do not materially differ from the two kinds mentioned.

On one side of the seat I secure the handle *f* to the end of the plate B. The other end of said handle I rivet to the front edge of the part A of the seat. Opposite to this handle I show in Figs. 1 and 2 of the drawings a handle, *e′*, and this I form as a part of a bracing-plate, b^3, which fits snugly and is secured within the inner surfaces of the side and bottom of the seat, and is turned down and secured also to the front edge of the said bottom with rivets in the usual manner.

The slotted plate B, I preferably form with the flange *b*, which fits, when continuous, within the upper portion of the back and sides or flanks of the seat; but I do not wish to be confined to this precise construction, as in some cases short flanges, like those of $b′ b^2$, may be employed economically and advantageously. The flanges b^2 serve not only in securing the plate B to the seat, but answer the purpose of a brace for the interior angles of the upper portion of the said seat.

As an auxiliary security for the exterior angles of the sides and back of the seat proper, I provide, as a part of the plate B, angle-plates *d*, which may be used with or without the interior angle-flanges b^2, just mentioned. The corner bracing-plates b^2 or *d* may be cast with the plate B, and will not interfere with the ready adaptation of the latter to the ordinary wooden seat usually kept in stock by manufacturers.

It is my intention to adapt the long slots which I use with my plate B to a seat formed exclusively of metal, and in doing so I simply form the said slots in the flange of such seats, as shown in Fig. 5 of the drawings. Any shifting-bars in ordinary use may then be readily used with the all-metal-stock seats, as well as with the common wooden seats provided with the slotted plate.

I am aware of the patent of Rice, No. 128,171, which shows a plate capping the back and sides of a carriage-seat, provided with slots which pass entirely through said plate and the material which forms the said back and sides. These slots are intended to receive the long limbs of a back-support, and have no connection with the shifting-rail. I make no claim to such.

I am also aware of the patent of Ball, No. 295,143, which shows a handle soldered or otherwise secured to a metal plate secured to the side of a carriage-seat. The handle and plate do not appear to be formed of a single piece, and the said plate does not strengthen the angle formed by the sides and bottom of the said seat to the degree that mine does. To such I make no claim.

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

1. The combination, with a carriage-seat, of a seat-iron or capping-plate having an upper flat surface, perforated vertically with long narrow longitudinal through-slots in back and flank portions, and a flange or flanges adapted in form to fit against the inner or outer faces of the upright portions of said seat, as and for the purpose set forth.

2. A carriage-seat having from its sides and back an outwardly-projecting flange provided with long narrow longitudinal through-slots, said flange-slots being provided to receive the back and side bolts of a shifting-rail, substantially as set forth.

3. The combination, with a carriage-seat having on its sides and back an outwardly-

projecting plate pierced with long narrow longitudinal slots, of the shifting rail or bar provided with bolts on its back and side portions, adapted to fit within said slots, and suitable nuts to clamp said rail to said plate, as specified.

4. The edging-plate for the seat, substantially as described, provided with bosses on the under side of the outwardly-projecting flange, as a strengthening feature to the metal surrounding the slots of said plate, when the same is formed of thin material.

5. The combination, with a carriage-seat, of the angle-plate and handle stamped or cut from a single piece of sheet metal, said angle-plate being bent to conform to the inner surfaces and front edges of the bottom and sides of said seat, substantially as and for the purpose set forth.

In testimony whereof I affix my signature in of presence two witnesses.

HENRY B. CRANDALL.

Witnesses:
O. M. BALL,
JAS. H. ANDREWS.