

(No Model.)

W. F. FLEHARTY.  
CARRIAGE BOW.

No. 266,280.

Patented Oct. 24, 1882.

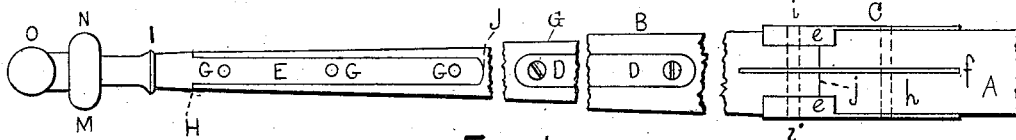


FIG. 1.

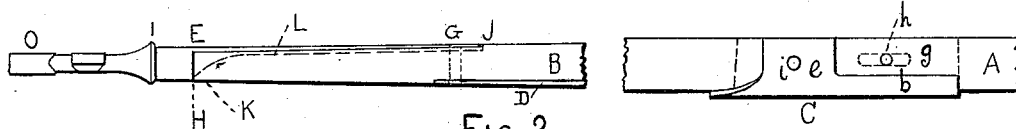


FIG. 2.

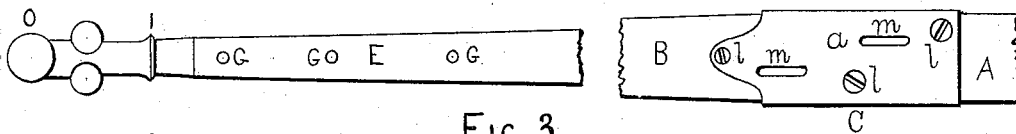


FIG. 3.

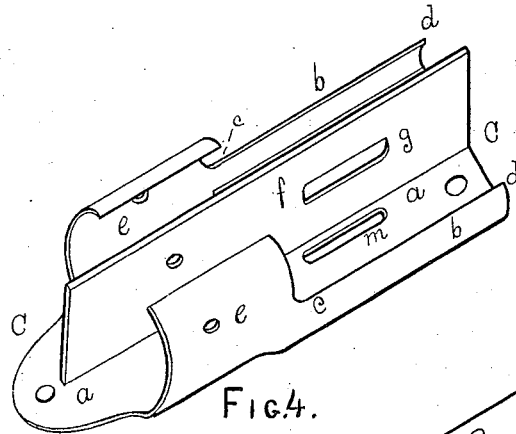


FIG. 4.

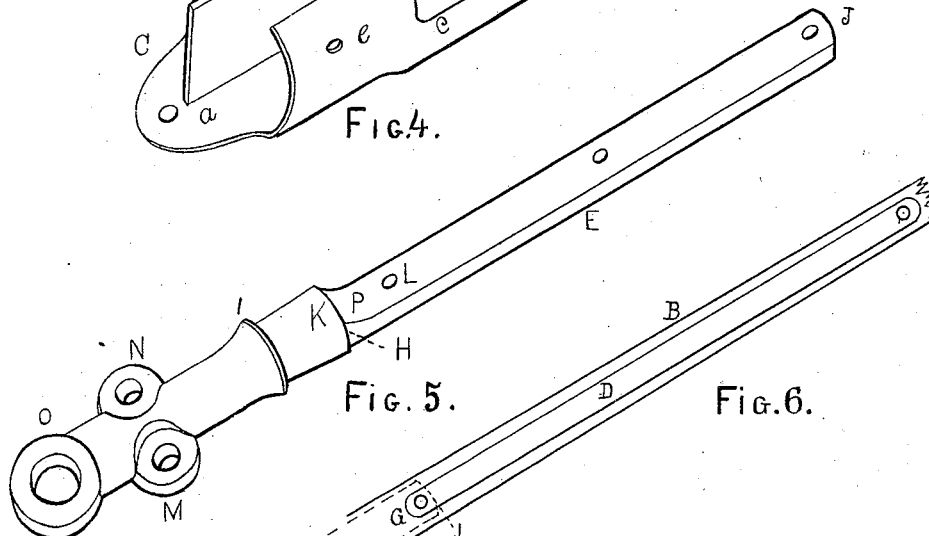


FIG. 5.

FIG. 6.

WITNESSES.

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# UNITED STATES PATENT OFFICE.

WILLIAM F. FLEHARTY, OF ELYRIA, OHIO.

## CARRIAGE-BOW.

SPECIFICATION forming part of Letters Patent No. 266,280, dated October 24, 1882.

Application filed June 8, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM F. FLEHARTY, of Elyria, in the county of Lorain and State of Ohio, have invented a certain new and Improved Carriage-Bow; and I do hereby declare that the following is a full, clear, and complete description thereof.

My improvement in carriage-bows relates to a splice-coupling for securely connecting the curved portion of the bow with the arm or lower section thereof.

It also relates to a slat-iron and a re-enforcing plate connected to the arm for strengthening and supporting the bow.

For a more full and complete description reference will be had to the following specification, and to the annexed drawings, making part of the same, in which—

Figure 1 is a view of the bow with the improvement. Fig. 2 is an edge view of Fig. 1. Fig. 3 is a view of the opposite side of Fig. 1. Fig. 4 is a perspective view of the splice-coupling, and Fig. 5 a perspective view of the slat-iron. Fig. 6 is a view of the strengthening-plate.

Like letters of reference refer to like parts in the several views.

The carriage-bow consists of two arms or side supports connected with the curved top. This invention in part relates to the means employed for connecting and securing the curved and side sections of the bow together, (which will be first set forth,) and having the same means employed for both side sections. For brevity the description of one will be sufficient.

In the drawings, A, Figs. 1, 2, and 3, represents the connecting end of the curved or top part of the bow, and B the side or arm section. The splice-coupling C, Fig. 4, by which the sections of the bow are secured together, consists of a plate, *a*, with a flange, *b b*, on each side, from *e* to *d*, which are connected with laps *e e*, extending from the plate *a*. Along the central line of the splice is a web or rib, *f*, secured to or forming an integral part of the said splice. In the rib *f* is a slot, *g*, for the screw or rivet *h*, for securing the section A of the bow in the splice-coupling, as indicated at *h* in Figs. 1 and 2. An elongated hole or slot

is preferred to a simple round hole, as it allows of the screw or rivet passing through the web *f* without the danger of contact with the metal, which is liable to be the case with a simple hole for this purpose, without much care and measurement.

In connecting the sections A and B a slit is cut in their ends to receive the web *f*. The section A is then forced into the splice between the flanges *b b* and the web received in the slit. The section B is also forced or fitted into the splice between the laps *e e*, the slits being filled up by the web. The two sections abut together between the laps, as seen in Fig. 1, with web *f* extending from one section to the other. A rivet or screw is then passed through from one lap to the other, as seen at *i*, Figs. 1 and 2, by which and the fastening at *h* the sections A and B are firmly secured together by the splice-plate.

It will be noted that the abutting ends at *j* are additionally strengthened by the laps *e* extending over each side of the joint at *j*, and to insure strength and security to the connection of the section splice plate screws or rivets *l*, Fig. 3, are passed through the plate *a* into the wood sections.

The slots *m* are for the convenience of trimming the carriage-top, that the tacks may be readily fastened into the wood of the bow without drilling through the metal. The said flanges *b e* may lap more or less over or around the bow-sections.

In some cases the splice coupling may be sufficiently strong for the bow without the use of the web, and may be used without departing from the nature of the invention.

Along and in the central portion of the section B is fitted a brace or strengthening-plate, D, by letting it into the wood, so as to be flush with the face thereof, and then screwing or riveting it in place at each end only on the front bow. The length of this metal plate D may be from twelve to fourteen inches, and one-eighth of an inch in thickness, more or less, as the nature of the case may require. By means of this plate D the bow is materially strengthened, and at a part requiring additional strength. The plate re-enforces that part of the arm or section B of the bow that

bears upon the back prop when the top is turned back, and which is subject to the greatest strain in throwing back the top. The lower end of the strengthening-plate D is placed opposite to the upper end of the slat-iron E, so that the same pin or screw at J will secure both slat-iron and plate.

To the end of the section B is secured a slat-iron, E, a detached view of which is seen in Fig. 5. This slat-iron is let into the wood, as indicated in Fig. 2, so as to be even with the face thereof, and then secured in place by means of rivets or screws G, passing through the slat-iron and wood. The end of the wood section fits down upon the shoulder H of the shank I, and the end J, Figs. 2 and 5, is in contact with a shoulder formed in the wood section A, as indicated at J, Figs. 1 and 2. By this means the rivets G are relieved from much strain and the slat-iron and the section B materially strengthened.

To give additional strength to the slat-iron, it is curved or tapered from K to L, as seen in Figs. 2 and 5. This form re-enforces a weak part in bows as usually constructed; and in use a front slat-iron is connected to the projection M and the back slat-iron to the projection N; and by means of the hub O the slat-iron E is connected to the neck-iron of the seat for supporting the top.

By the arrangement described a light and strong carriage-bow is produced.

By means of the curved or tapering shoulder P of the slat-iron material strength is insured to this part of the bow, which part, as usually constructed, is rendered so weak as often to cause breakage. By this form of slat-iron a smooth and even finish can be made at the junction of the wood and metal.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In carriage-bows, a splice-coupling con-

sisting of a plate having flanged sides *b e*, and web or rib *f*, in combination with the sections A and B of a carriage-bow, substantially as described, and for the purpose set forth.

2. Coupling the sections of carriage-bows by means of a slit in the abutting ends thereof, for the reception of a web or rib extending from one section to the other, and inclosing the said sections by flanges lapping upon the side and over the abutting ends of the said sections, substantially as and for the purpose specified.

3. A splice-coupling having a central web, and provided with curved side flanges, *e e*, and flanges *b b*, substantially as and for the purpose described.

4. The combination of the flat re-enforcing plate D, embedded in the section B, and confined only at each end, and the upper end of the slat-iron of the front bow of a carriage-top, substantially as and for the purpose of a spring, as described.

5. A carriage-bow consisting of the splice-coupling C, re-enforcing plate D, and slat-iron, in combination with the sections A B of the bow, substantially as and for the purpose set forth.

6. A slat-iron having a curved or tapering shoulder, P, extending from the shank to the flat section thereof, entirely embedded in and which shoulder and flat part are inserted within a groove in and in combination with the section B of the bow, and secured thereto by suitable fastenings, substantially as and for the purpose set forth.

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

WILLIAM F. FLEHARTY.

Witnesses:

J. H. BURRIDGE,  
W. H. BURRIDGE.