F. D. PARRY.
Carriage-Bow.

No. 215,476. Patented May 20, 1879.

Fig. 1.

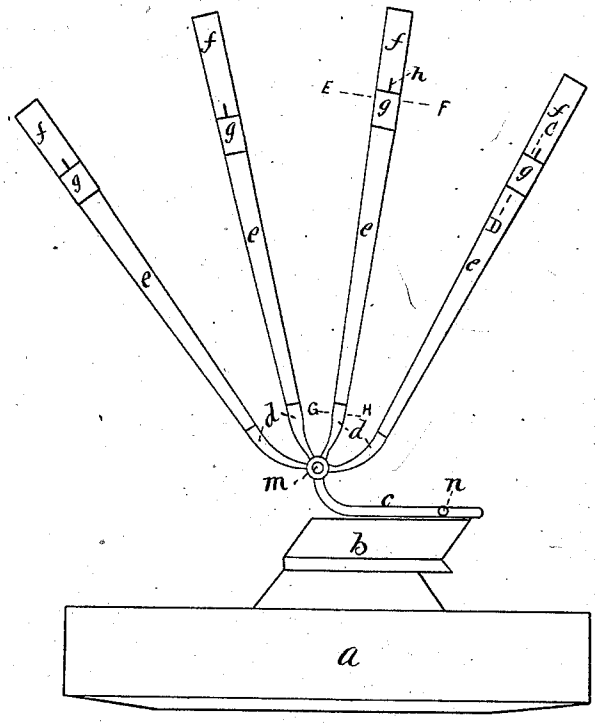



Fig. 4.

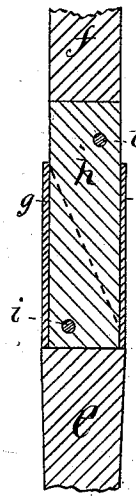



Fig. 3.

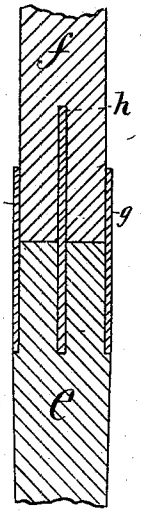



Fig. 5.

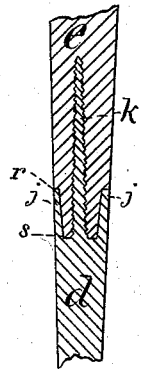



Fig. 6.

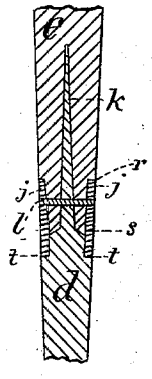



Fig. 9.

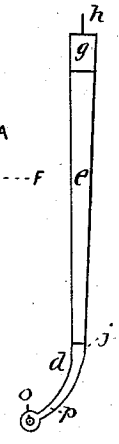



Fig. 2.

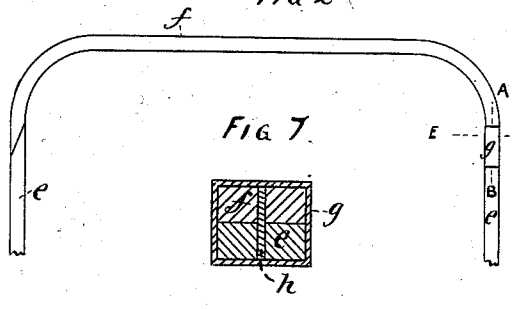



Fig. 7.




Fig. 8.




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# UNITED STATES PATENT OFFICE

FELIX D. PARRY, OF AMESBURY, MASSACHUSETTS.

## IMPROVEMENT IN CARRIAGE-BOWS.

Specification forming part of Letters Patent No. **215,476**, dated May 20, 1879; application filed October 30, 1878.

*To all whom it may concern:*

Be it known that I, FELIX D. PARRY, of Amesbury, State of Massachusetts, have invented Improvements in Carriage-Bows and Slat-Irons, of which the following is a specification.

This invention relates to certain improvements in the bent bows which are employed in the top of light carriages and in the attaching-irons which are employed to secure the bows to the carriage and the invention will be fully described in the body of the specification and specified in the claims, in connection with the accompanying drawings.

Figure 1 is a side elevation of a carriage provided with my improved bows. Fig. 2 is a front or rear view or elevation of one of said bows. Fig. 3 is an enlarged detached longitudinal section taken on line A B, Fig. 2. Fig. 4 is a similar section taken on line C D, Fig. 1. Fig. 5 is a detached longitudinal section of the bow and slat-iron, showing the method of uniting them, and with the ferrule *j* formed as an integral part of slat-iron *d*, and the central spur *k* shown screw-threaded. Fig. 6 is a section similar to Fig. 5, but showing ferrule *j* as formed separate from the slat-iron *d*, and a transverse rivet, *l*, shown as a substitute for the screw-thread on spur *k*. Fig. 7 is an enlarged transverse section taken on line E F, Figs. 1 and 2. Fig. 8 is an enlarged transverse section taken on line G H, Fig. 1. Fig. 9 is an elevation of a vertical or lower member of my improved bow fitted with the metallic coupling for connection with the bent portion, and also fitted with the slat-iron for connection with the seat.

As heretofore constructed, carriage-bows have been bent of a single piece or bar of wood, and of course the fiber and strength thereof were the same throughout. This method of construction was open to the serious objection that the quality of timber which would permanently retain its form or curve at the bends was too soft and weak to withstand the strain when the top was turned down and the weight thereof was exerted by a lever-like strain across the lower top-joint prop, the ratio of such leverage being as the ratio of the whole height of the top to the distance from *m* to *n*, the latter representing the fulcrum, to counteract which long socketed slat-irons re-enforced by an interior metallic plate have been employed; but even these are objectionable, as the tube and plate when once bent remain so, the inclosed wood being of insufficient strength and elasticity to bring the socket and rib back into position. But with wood of the required strength and elasticity surrounding the central spur the bows retain their form permanently. And I form the head or bent portion of the bow of the required fine-grained soft quality of wood, which, when bent and dried, will permanently retain its form, while the vertical members which receive the principal strain are formed of the best quality of hickory, ash, lance-wood, or other suitable elastic woods.

In the drawings, *a* is the body, *b* the seat, and *c* the rail, all which are only shown for the convenient description of the invention. *d* represents the slat-irons, and *e e* the vertical or lower members of the bows, while *f* is the head or bent portion thereof, which extends across the top and down the sides sufficient to form the bends and the connection with members *e*, as is plainly shown in Fig. 2.

The connection of members *e* and *f* may be effected by a variety of appliances; but I prefer the method and means which I have invented, consisting in a scarfed joint of the two parts, as shown in Fig. 2 and by dotted lines in Fig. 4, an inserted metal plate, *h*, and an inclosing ferrule, *g*, the latter encircling the several parts, as shown, the whole being secured together by pins *i i*, which pass through the respective parts.

The slat-iron *d* is formed with the usual eye *o* and shank *p*, while the upper end terminates in a central spur, *k*, which may be screw-threaded for contact with the bow *e*, as shown in Fig. 5; or it may be smooth, as shown in Fig. 6, in which case the pin *l*, passing through the ferrule, bow, and spur, as shown in Fig. 6, may be used as a substitute for the screw-thread. The ferrule *j*, to inclose bow *e*, may be formed as a part of the slat-iron, as shown in Fig. 5, or it may be separate, in which case it extends above and below the abutting joint, *s*, where the end of bow *e* bears against a shoulder of the slat-iron, as shown in Fig. 6; and when the separate ferrule is

employed the slat-iron is formed with a second shoulder at *t*, Fig. 6, against which the ferrule *j* abuts with a flush-joint. The ferrule *j*, when formed separately, may, after the parts are finished and fitted, be soldered to the slat-iron.

By forming the bow in three parts the members *e* may be finished and mounted with all the connecting-irons in large quantities as an article of manufacture, and then the bent head may be fitted of such height and width as may in each case be desired, and by thus manufacturing the principal portion of the bows ready finished and ironed a material saving in cost may be effected, while the quality of the work may be largely enhanced.

I do not, in this application, claim a slat-iron formed with a socket to receive the end of the bow, and with a flat blade to be inserted in a longitudinal slot or saw-kerf through the bow, as I am aware that such irons have been so employed heretofore; but

What I do claim is—

1. A slat-iron, *d*, having a thin shoulder, *t*, to receive ferrule *j*, a thicker shoulder, *s*, to receive the bow *e*, and a central spur, *k*, all substantially as specified.

2. In a carriage-bow, the slat-iron *d*, having a shoulder, *t*, a shoulder, *s*, and a central spur, *k*, the ferrule *j*, and part *e* of the bow, all substantially as specified.

3. A carriage-bow consisting of parts *e e* and *f*, with ferrule *g*, plate *h*, and slat-iron *d*, substantially as specified.

4. In a carriage-bow, the combination of parts *e f*, having a meeting line or joint oblique to their axis, the ferrule *g*, and plate *h*, substantially as specified.

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