J. W. ANDERSON.

Clip-Iron for Carriages.

No. 199,679. **Patented Jan. 29, 1878.**

Fig. 2.

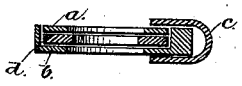


Fig. 3.

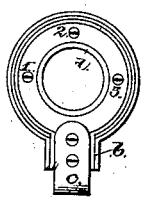


Fig. 4.

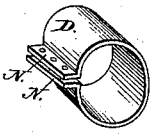


Fig. 5.

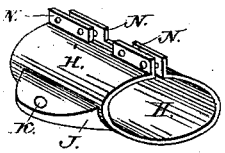


Fig. 1.

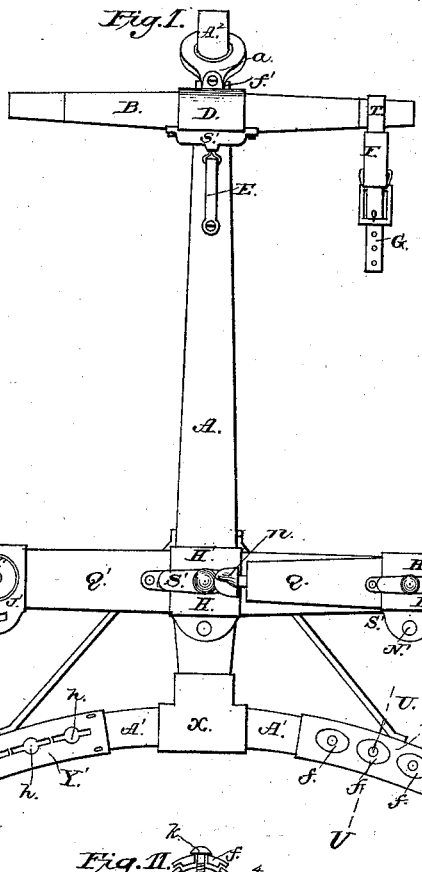


Fig. 6.

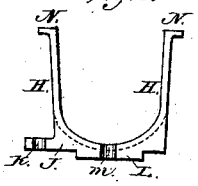


Fig. 7.

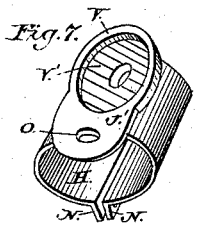


Fig. 8.

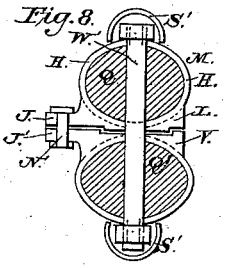


Fig. 9.

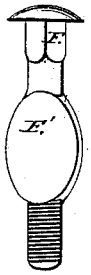
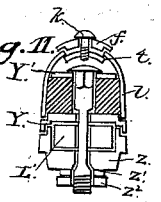


Fig. 10.

Fig. 11.



Attest.

James Watson,
Wm. W. Hayden.

Inventor:

John W. Anderson;
By Theophilus Weaver,
His Atty.

UNITED STATES PATENT OFFICE.

JOHN W. ANDERSON, OF GREENE, PENNSYLVANIA.

IMPROVEMENT IN CLIP-IRONS FOR CARRIAGES.

Specification forming part of Letters Patent No. **199,679**, dated January 29, 1878; application filed March 26, 1877.

To all whom it may concern:

Be it known that I, JOHN W. ANDERSON, residing at Greene post-office, Lancaster county, and State of Pennsylvania, have invented certain Improvements in Clip-Irons for Vehicle-Poles, Double-Trees, Whiffletrees, and Neck-Yokes; and I hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 represents a top view of a carriage-pole with my improvements applied to draft devices thereon. Figs. 2 and 3 are plans of the pole-ring. Fig. 4 represents a perspective view of the neck-yoke clip. Figs. 5 and 6 represent views of my male double-tree clip. Fig. 7 represents a perspective view of my female double-tree clip. Fig. 8 represents a sectional view of a pair of male and female whiffletree-clips united to each other and mounted on whiffletrees. Figs. 9 and 10 represent a bolt and extension bow-iron, respectively, as modified in practice under Christian K. Mellinger's improvement on extension bow-irons for carriage-poles, granted January 19, 1877; and Fig. 11 is a cross-sectional view of said extension-bow device as modified in practice, said view being taken at indicated line U in Fig. 1.

The object of my invention is to provide compensating clip-irons for embracing and holding the wood-work of carriage-poles, double-trees, whiffletrees, and neck-yokes in such manner and by such means that such irons may be readily applied and retightened about said wood-work without heating and without defacing surfaces by simply closing more closely certain flanges by rivets, without removing the irons, thus taking up or accounting for the shrinkage of the wood. My improved irons may also be applied without driving, and may be rabbeted slightly into the wood-work. My said irons also guide and stop the throw of the whiffletrees in a novel manner, thus discarding objectionable straps and preventing forward canting and dangling, as well as rattling and defacing of surfaces, and securing strength sufficient without immoderate swell at the middle of the trees. Besides, the joints of the clip-irons are concealed by removable cappings.

In the accompanying drawings similar reference-letters refer to like parts in the several views.

A represents a carriage-pole having on it the neck-yoke B, which has on it a compensating-clip, D, illustrating a modification of my invention, the joint of said clip being concealed by the cap S′, which is coupled to pole A by the metallic strap E, and clip D is connected with pole A in front by the metal ring-box *c a b*, retaining between its plates *a b* the buffer-leather ring *d* to protect the pole-tip A^2, which is usually silver-plated.

On the pole A is mounted the double-tree Q′, and on the latter is mounted the whiffletree Q, the last two devices being provided with my compensating clip-irons proper, and the capping S′ for the clip-seam, all of which will be hereinafter especially described.

Said pole A at its rear end is joined to the bow A′ A′ by a three-way cap-plate, X, and the bow extremities are the extension bow-irons L′ L′, which are slotted narrowly, key-hole style, at R, to retain adequate strength in them.

The bolt F is flattened at its middle F′ to enter at its thin part the narrow part of slots R, as well as like parts of slots *g h h* in the upper face-plate Y′, the enlarged eyes of said slots being adapted to admit the round parts of said bolt.

The slotted bearing-plates Z Y Y′, extension-irons L′, and wood-work A′ are united, as shown in Fig. 11, and the heads of bolts F and slots *g h h* are concealed by the cap-plates *l*, whose openings for operating bolts F are closed by the locking, self-centering screw-buttons *f t*. Said cap-plates *l* are analogous to caps S′, more especially hereinafter described, and the other parts of the extension-bow devices are related to the improvements of C. K. Mellinger, already referred to and substantially claimed, they being here only incidentally incorporated as they occur in practice.

The proper limits of my invention are shown in Figs. 5, 6, 7, and 8, and such parts of Fig. 1 as show the devices in those figures in combination. The pair of male and female compensating clip-irons (shown in Figs. 5 and 7, respectively) are adapted for use on a carriage-pole, A, and on a double-tree, Q′, to

unite them transversely in position, as shown in Fig. 1.

A pair of male and female compensating clip-irons are shown in Fig. 8 as applied to whiffletree Q and double-tree Q′. Said clip-irons are mainly similar to each other, each having the clip or hasp form body H cleft open longitudinally, and having the edges of the cleft turned outward at right angles to form the flanges N N, through which, by rivets, the clip is tightened about the wood-work by a slightly-distended seam—that is, a seam that may be closed more tightly by subsequent riveting, when required, after shrinking of the wood-work has occurred. Said flanges N N are omitted or cut away at their middle to afford a direct bearing on the body H for the head and the nut of the pivot-bolt W′, as shown in Figs. 5 and 8.

The distended seam made by flanges N N, as well as the head and nut of said bolt W′, are covered by a removable sheet-metal cap, S′, as shown in Figs. 1 and 8. Said cap device conceals not only said parts, but also the tool-marks made while retightening the joint by striking up the rivets, as stated, thus avoiding the necessity of repainting and polishing surfaces.

The neck-yoke compensating-clip (shown in Fig. 4) has a similar open seam at flanges N N, and when applied to the yoke B has the seam covered by the cap S′, as shown in Fig. 1. It is simply a clip without bearing-plates, and is therefore a modification of my invention.

J J′ represent the horizontally-extended bearing-plates of my clip-irons, which are cast as part of the clip-body H, in form and position as shown. The bearing-plate J has the pivot center boss L formed thereon, and the bearing-plate J′ has a center recess, V′, in it, adapted to snugly journal boss L therein, thus relieving the connecting-bolt W′ of nearly all stress, except in the vertical direction—that is, to hold plate J superimposed on plate J′—thus providing that comparatively slender connecting-bolts W′ may be used, and causing less boring away of the wood-work at points where the greatest strength is required.

Bearing-plate J has fixed in it at K a headed stud or bolt, N′, and bearing-plate J′ has a curved slot, O, in it, by which said stud or bolt connects said plates together, so as to align them, and to allow them limited oscillation upon each other in the same plane, thus preventing forward canting of the whiffletree, and limiting the throw of its ends or the swing about its pivot, without the necessity of using objectionable back-straps or cuffs.

My improved clip-irons may be made as castings, of which Fig. 6 shows a specimen in U form. After annealing, the parts H H may be formed about a suitable mandrel to attain the form shown in Fig. 5.

It will be observed that the flanges N N are made amply strong about the angles to resist straightening when the stress of the rivets is on the said flanges while tightening the irons on the wood-work.

It may be further noticed that the wood-work of carriage-poles, neck-yokes, double-trees, and whiffletrees may be slightly rabbeted where my improved clip-irons are to be seated thereon, as no driving of the irons over the wood is required, thus securing a better finish, as such seats can be neatly turned to fit the irons.

Having thus fully and clearly described my invention, what I desire to secure by Letters Patent of the United States is embraced in the following claims:

1. The combination of a pair of flanged clip-irons, H N, provided with bearing-plates J J′, united by stud or bolt N′ and pivot-bolt W′, and operating substantially as and for the purposes set forth.

2. The clip-irons H N, adapted to be tightened about whiffletrees and other carriage wood-work by riveted seams, as described, in combination with the seam-covers S′ applied thereto, as and for the purposes set forth.

In testimony that I claim the foregoing as my invention I have hereunto set my hand in the presence of two witnesses.

JOHN W. ANDERSON.

Attest:

THEOPHILUS WEAVER,
PETER STUCKER.