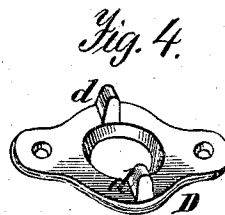
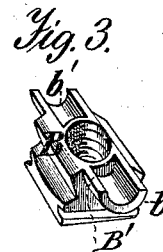
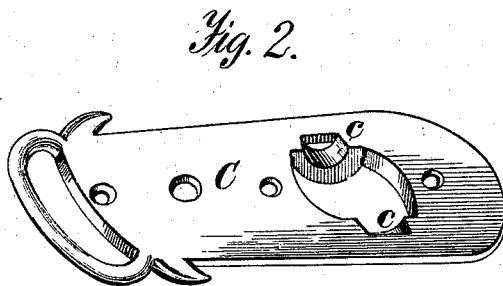
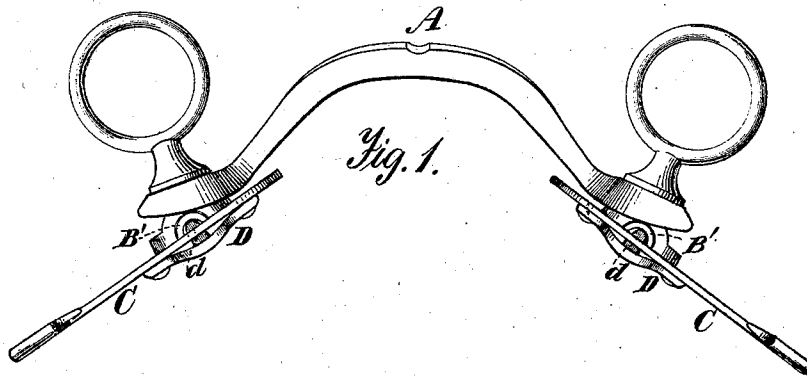


K. FRAZER.
Harness-Saddles.

No. 147,627.

Patented Feb. 17, 1874.



Witnesses.
A. Ruppert.
H. Quinn

Kasson Frazer
Inventor.
By A. Edgar, Esq.
his atty

UNITED STATES PATENT OFFICE.

KASSON FRAZER, OF SYRACUSE, NEW YORK.

IMPROVEMENT IN HARNESS-SADDLES.

Specification forming part of Letters Patent No. **147,627**, dated February 17, 1874; application filed January 22, 1874.

To all whom it may concern:

Be it known that I, KASSON FRAZER, of Syracuse, in the county of Onondaga and State of New York, have invented a certain Improvement in Harness-Saddles, of which the following is a specification:

This invention relates to a self-adjusting tree for harness-saddles, and it is more especially intended to perfect the construction of the joints between the crotch and the pad-plates of the tree, covered by the patent granted to Pope & Frazer on the 5th day of February, 1847. Trees constructed according to said patent are now very extensively used; but, although considered the best of their kind now in the market, they have always been somewhat defective in construction, by reason of the rapid wear between the covering-plate and the knife-edges of the journals of the terret-nut, for, to obtain the required degree of flexibility in the joint, it was found necessary to file the knife-edges down so much that in a comparatively short time these edges would wear off and leave the joint in a loose and rickety condition. To overcome this objection, I, some time since, instituted experiments which resulted in my present improvement, which consists in making the lower or under side of the journals of the terret-nut concentric with its upper side, and providing the covering-plate with projections moving in contact with the concave bearing-surfaces thus formed in the under side of said journals. This apparently slight change in the construction of the joint has proved to be of great practical value, as it wholly remedies the above-mentioned defect in a self-adjusting tree, otherwise highly appreciated by the trade and the public at large.

In the annexed drawings, Figure 1 is a side elevation of the complete tree. Fig. 2 is a perspective view of one of the pad-plates inverted. Fig. 3 is a perspective view of one of the terret-nuts inverted. Fig. 4 is a perspective view of the nut-covering or confining-plate.

The same letters of reference are used in all the figures in the designation of identical parts.

The crotch A of the tree is connected to the terret-nuts B in the same manner as described in the aforesaid patent of Pope & Frazer, to which reference is made for a more detailed description thereof; and the general manner of pivoting the terret-nuts and pad-plates C together is also like that there shown and explained. The novel features consist in making the journals B' of the terret-nuts in the form of segments of hollow cylinders, of which the convex or outer surfaces *b* come in contact with the bearing-surfaces *c*, formed in the pad-plate, as of old, while the concave or inner surfaces *b'* bear against the projecting studs *d* of the covering or confining plate D. The ends of the studs *d* are rounded, as shown, to reduce the friction between them and the bearing-surfaces *b'* of the journals of the nut to a minimum.

I prefer to make the bearing-surfaces *c* and *b* somewhat broader than they have ordinarily been made in the old tree. This will add considerably to the durability of the joint without decreasing its mobility or flexibility.

The confining-plate D is provided with a hole, centrally located, to enable the terret-shank to pass through the plate when made necessary, as in cases of repair, by using the common long-shank terret in general use.

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

1. In a self-adjusting tree of the character stated, the terret-nuts B, having journals B' in form like segments of a hollow cylinder, in combination with the covering-plate D, having projections *d*, between which and the bearing-surfaces *c* of the pad-plate C the journals of the nut are confined, substantially as and for the purpose specified.

2. The confining-plate D, having projections *d*, and a central aperture, into or through which the terret-shank may pass, substantially as specified.

In testimony whereof I have signed my name to the foregoing specification in the presence of two subscribing witnesses.

Witnesses: KASSON FRAZER.

JNO. WALLER,
F. G. BURKE.