(No Model.)

J. H. STORCH.

NECK YOKE.

No. 571,412. Patented Nov. 17, 1896.

Fig. I.

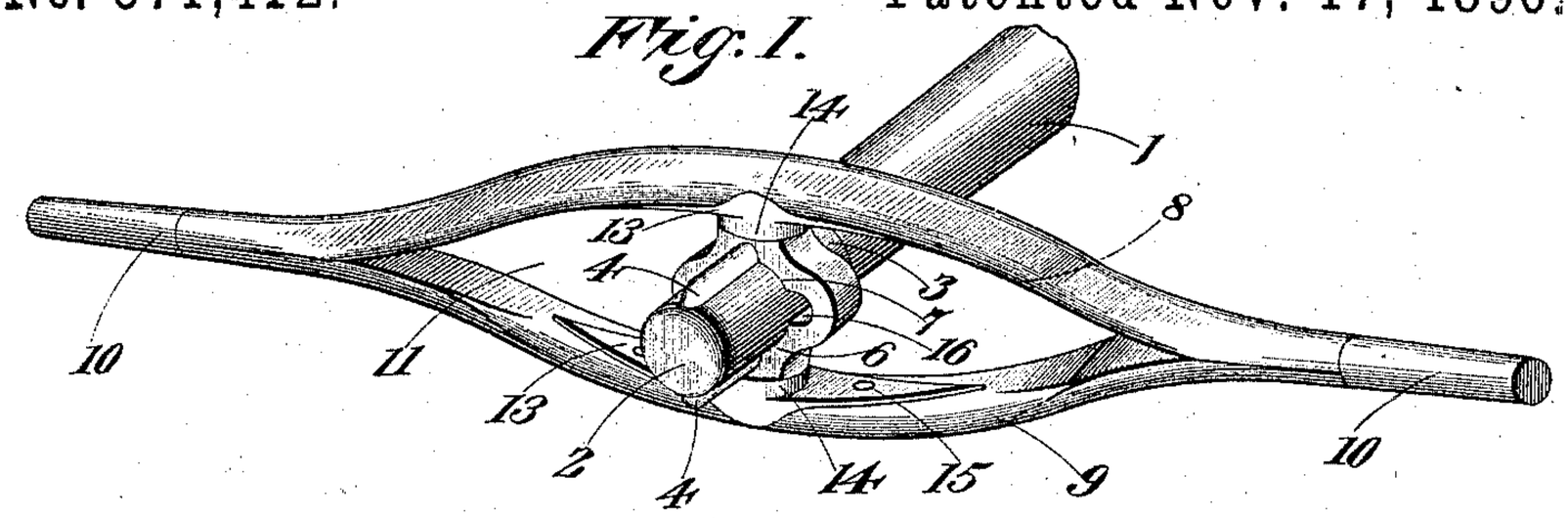


Fig. II.

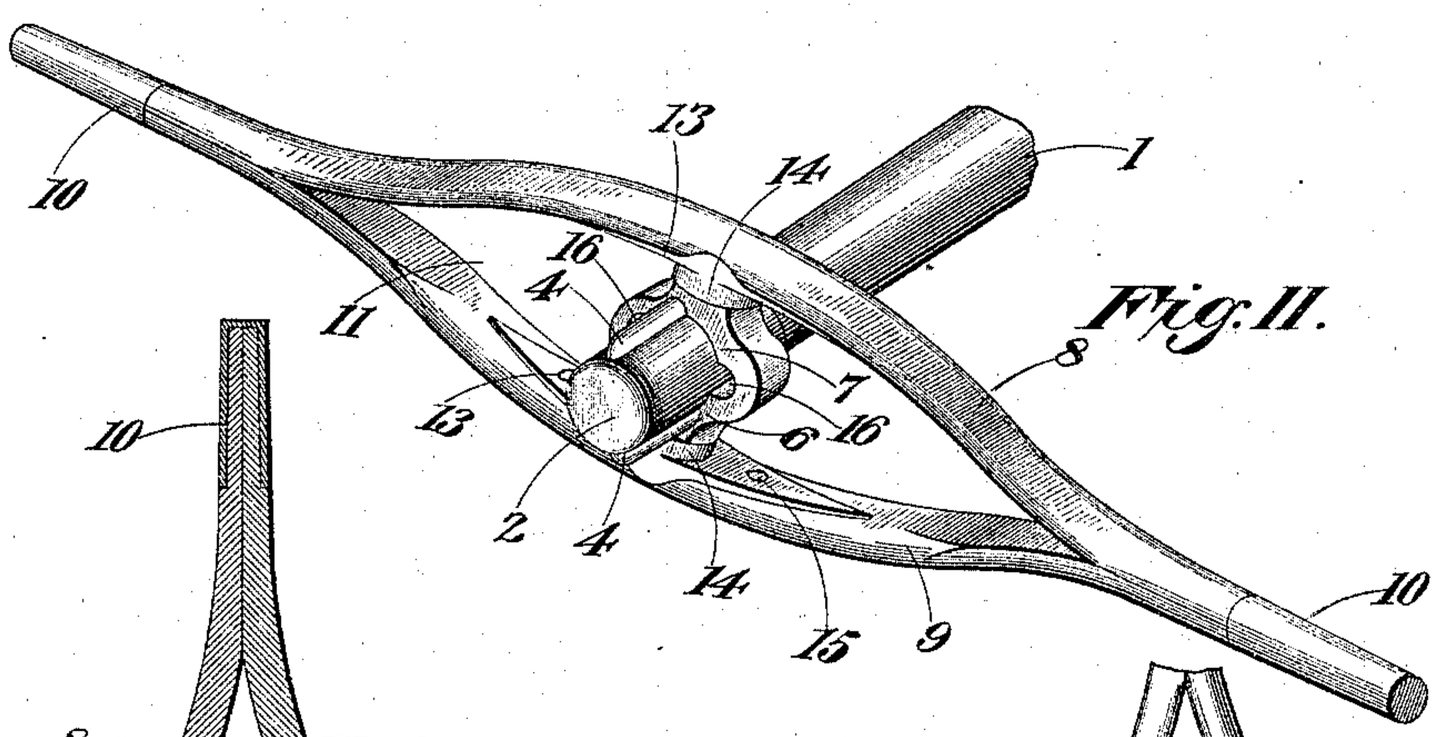


Fig. V.

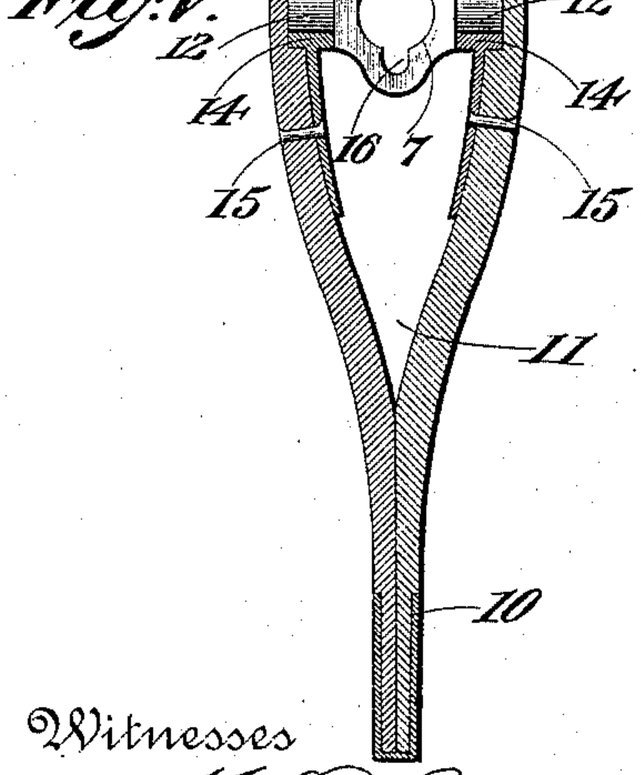


Fig. IV.

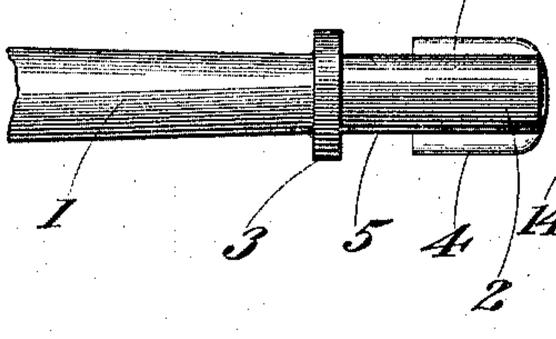
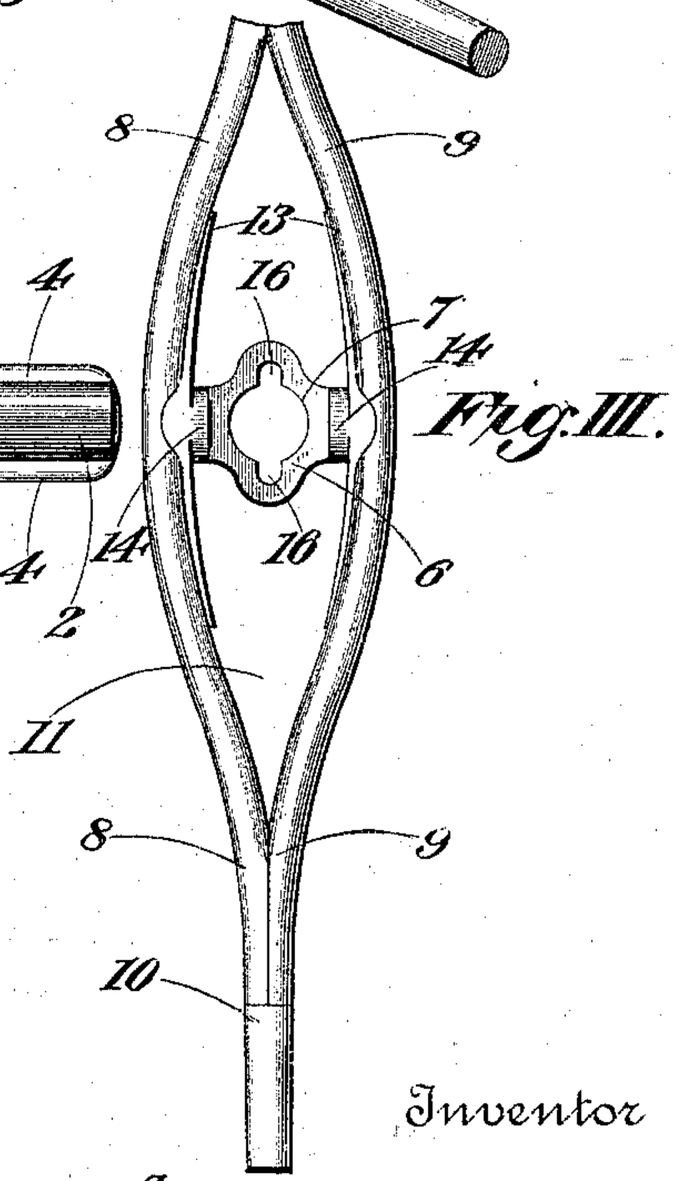


Fig. III.



Witnesses

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NECK-YOKE.

SPECIFICATION forming part of Letters Patent No. 571,412, dated November 17, 1896.

Application filed August 26, 1895. Serial No. 560,472. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. STORCH, a citizen of the United States, residing at Wetona, in the county of Bradford and State of Pennsylvania, have invented a new and useful Neck-Yoke, of which the following is a specification.

The object of my invention is to produce improvements in neck-yokes whereby a wagon tongue or pole is securely fastened in a swivel-ring that is inserted into the neck-yoke so as to divide the longitudinal axis thereof, the axis of the ring and the longitudinal axis of the neck-yoke being preferably arranged at right angles to each other. Thereby the accidental separation of the neck-yoke and pole is prevented and vertical and horizontal play of the neck-yoke upon the pole is promoted. In other words, I unite the neck-yoke and the pole by a species of gimbal or universal joint.

In the accompanying drawings, Figure I is a perspective view of my yoke attached to the end of a pole, showing the yoke in a horizontal position and at right angles to the pole. Fig. II is a perspective view showing the yoke inclined from the horizontal and with respect to the pole. Fig. III is a front view of the yoke detached. Fig. IV is a side elevation of the end of the pole, Figs. III and IV being in juxtaposition and showing the yoke and tongue occupying the proper relations for connecting or disconnecting those parts in practice. Fig. V is a longitudinal vertical section of a yoke detached.

Referring to the figures on the drawings, 1 indicates a pole or wagon-tongue of any suitable and ordinary construction. It carries upon its end a head 2, which is provided at its rearward end with a shoulder 3 and at its forward end with a lug or lugs 4. I prefer to employ two lugs 4, one diametrically opposite to the other.

5 indicates the spindle or bearing part of the head, located between the lugs 4 and the shoulder 3. It is designed to carry the bearing ring or collar 6 of the neck-yoke, whose bore 7 is fitted snugly to the spindle so that it may turn smoothly thereon, but without undue play. The neck-yoke may be of any suitable construction and may be made of wood or metal or partly of wood and partly of metal, the distinctive feature being that it is adapted to receive the ring 6 within it, so that the ring shall in effect divide the longitudinal axis of the yoke.

In the accompanying drawings I have illustrated the yoke as formed of two parts 8 and 9, united together at their extremities, as indicated at 10, and spread or bowed out in their middle parts to form a medial cleft 11. I repeat, however, that the form illustrated is intended solely for the purpose of illustration and nothing more. The ring 6 is inserted into the middle of the yoke, as, for example, between the sides 8 and 9 of the cleft 11, where it is pivotally mounted in suitable bearings, the axis of which is at right angles to the longitudinal axis of the yoke. For this purpose trunnions 12 upon opposite sides of the ring may be employed, which enter the bearings in the side pieces 8 and 9 of the yoke.

As illustrated, a bearing-plate 13 is secured to each of the side pieces 8 and 9, respectively, each of the plates being provided with a bearing-thimble 14, which, as illustrated, is sunk into the body of the material of the neck-yoke, the plate being secured by additional means, as, for example, rivets or screws 15.

The ring is preferably at right angles to the trunnions 12, provided with a number of recesses 16 to correspond with the number of lugs 4 employed upon the head of the pole. The recesses 16 open into the bore 7 of the ring and are large enough to receive the lugs 4 and to permit the ring 7 to slip over the head of the pole, and the lugs are adapted to secure it upon the spindle 5 thereof. The recesses 16 being in alinement with the longitudinal axis of the neck-yoke and the lugs 4 being located in vertical alinement upon the pole, it is necessary, in order to apply the neck-yoke to the pole or to remove it therefrom, to hold the neck-yoke in the vertical position, so that the recesses 16 shall come opposite the lugs 4, as may be more fully understood by comparison with Figs. III and IV. After the neck-yoke is slipped upon the head of the pole the former is turned so as to bring the neck-yoke in the horizontal position, in which position, or in any position except the vertical, it is retained by the lugs 4.

The ring 6, swiveled or pivotally mounted in the neck-yoke as above described, together

with the spindle 5 of the pole, constitute in effect a gimbal; that is, a joint permitting universal movement of the united members.

What I claim is—

The combination with a neck-yoke provided in its middle part with two sides defining a cleft or spaces therein, of bearing-plates upon the opposite sides, a bearing-thimble in each of the plates, a ring, trunnions upon opposite sides of the ring adapted to enter the thimbles, respectively, and an inwardly-opening recess in the side of the ring in alinement with the longitudinal axis of the yoke, substantially as set forth.

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