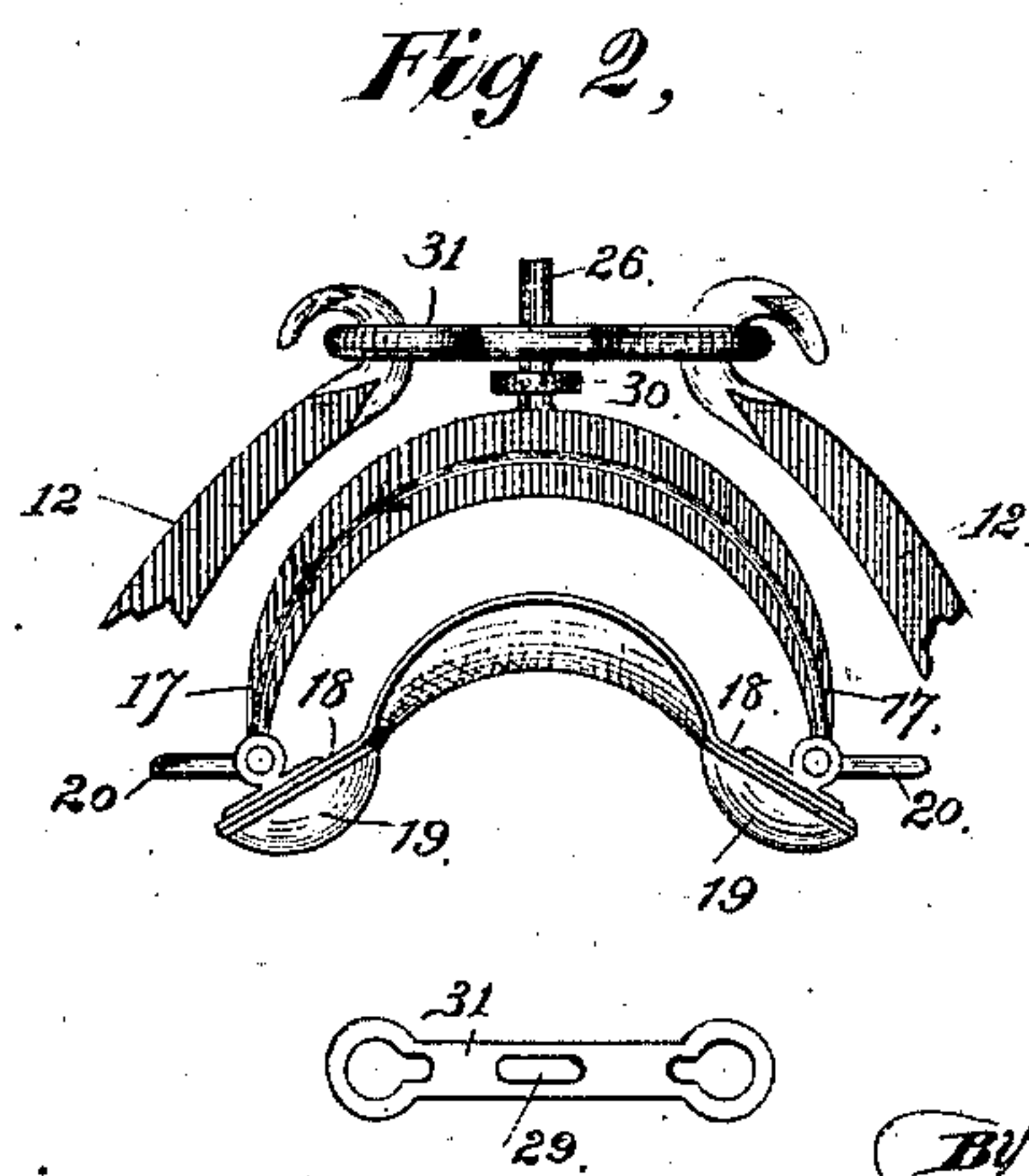
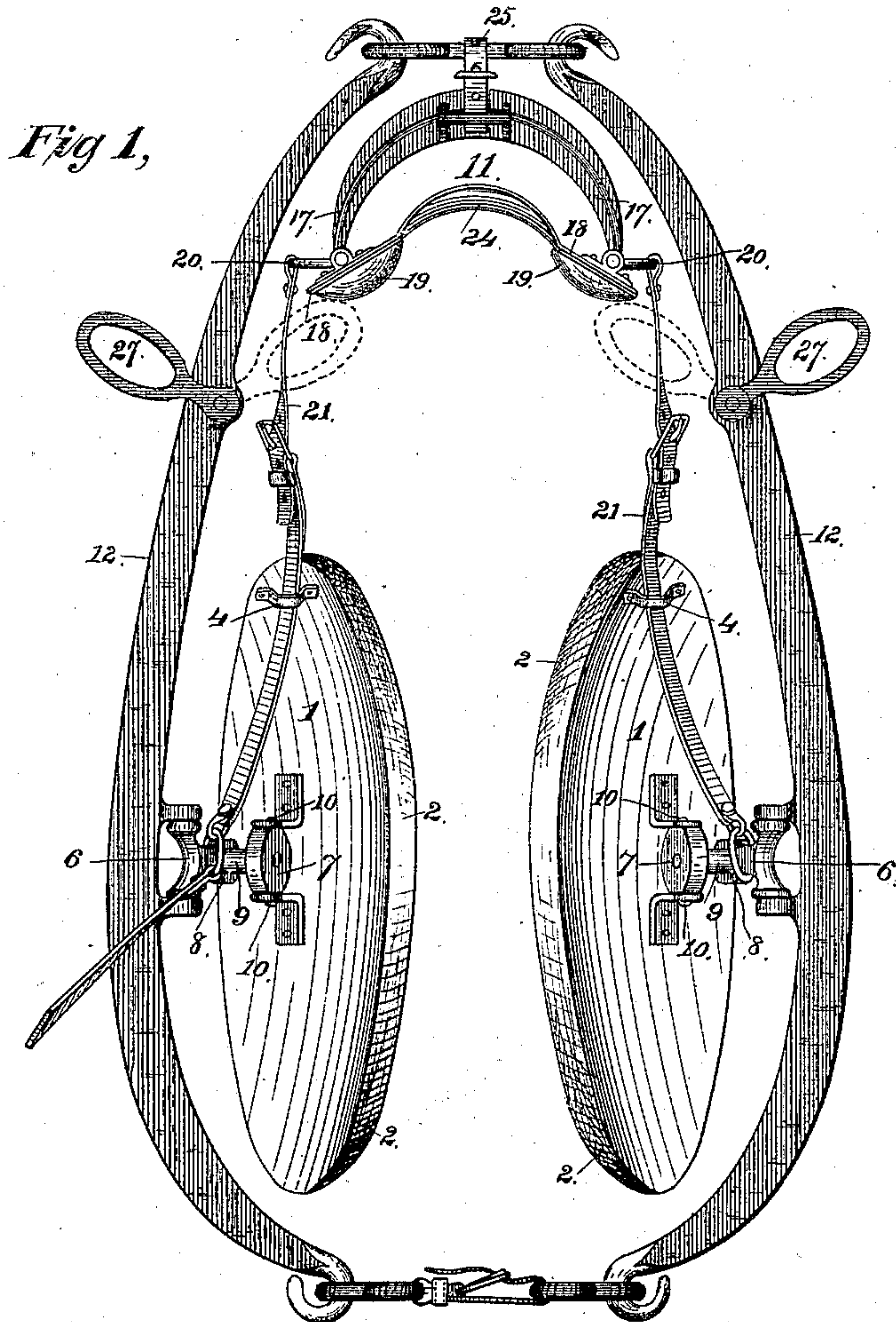


W. B. GUERNSEY.
Horse Hames and Pads therefor.
No. 231,664. Patented Aug. 31, 1880.



Attest:
Geo. A. Smallwood Jr.
Walter Allen

Inventor:
William B. Guernsey
By *Knights*
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Fig 3,

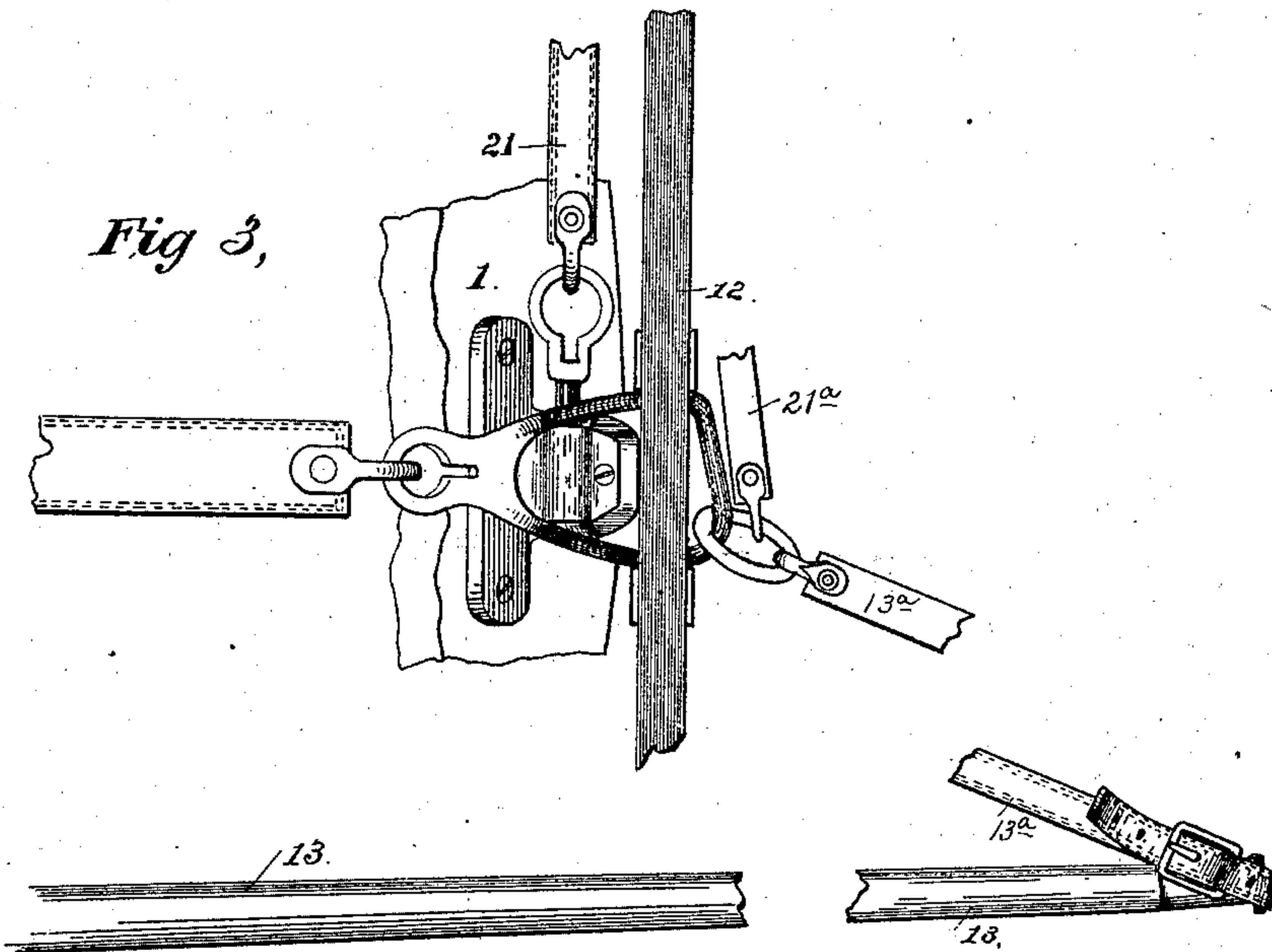


Fig 5,

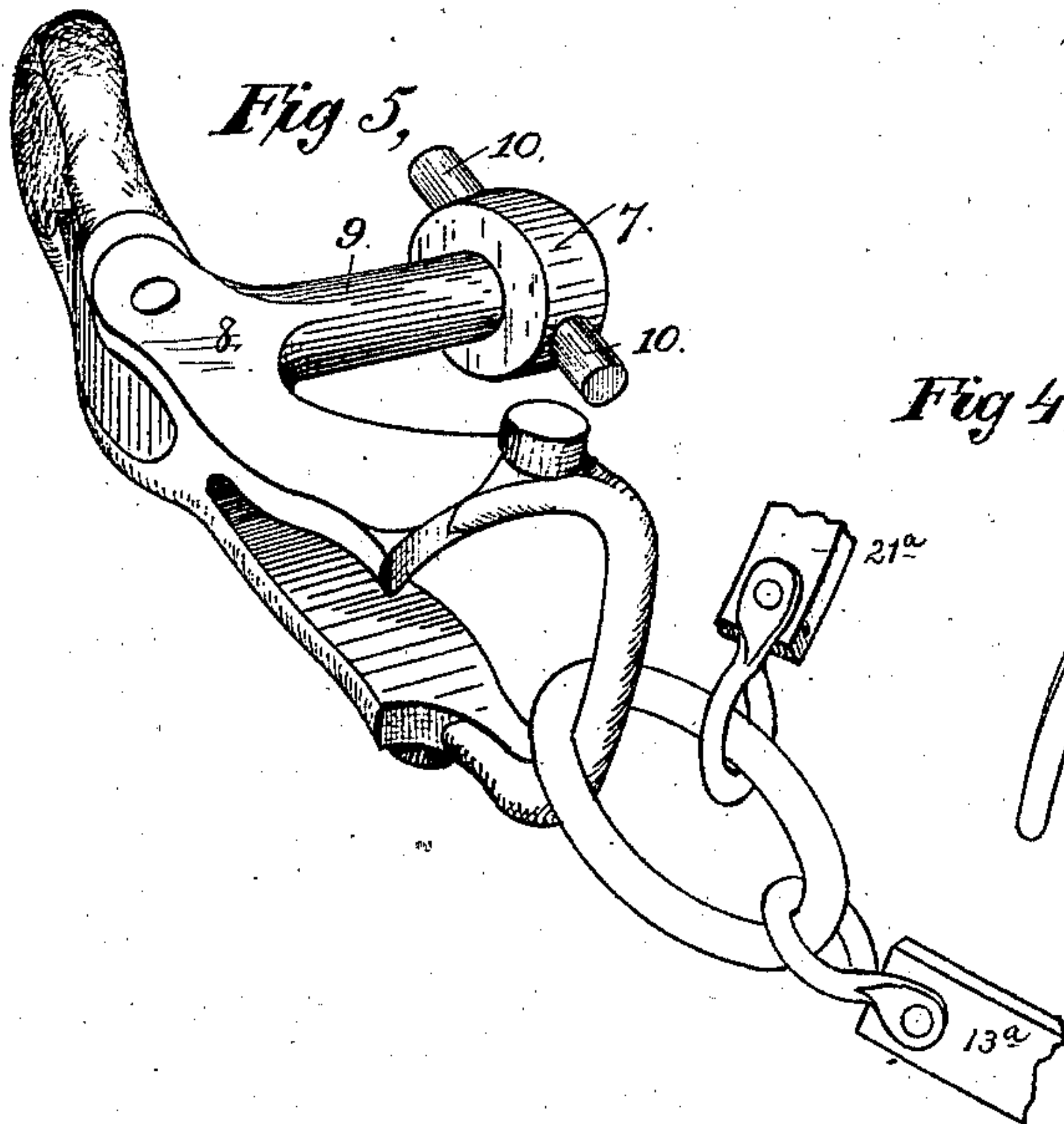
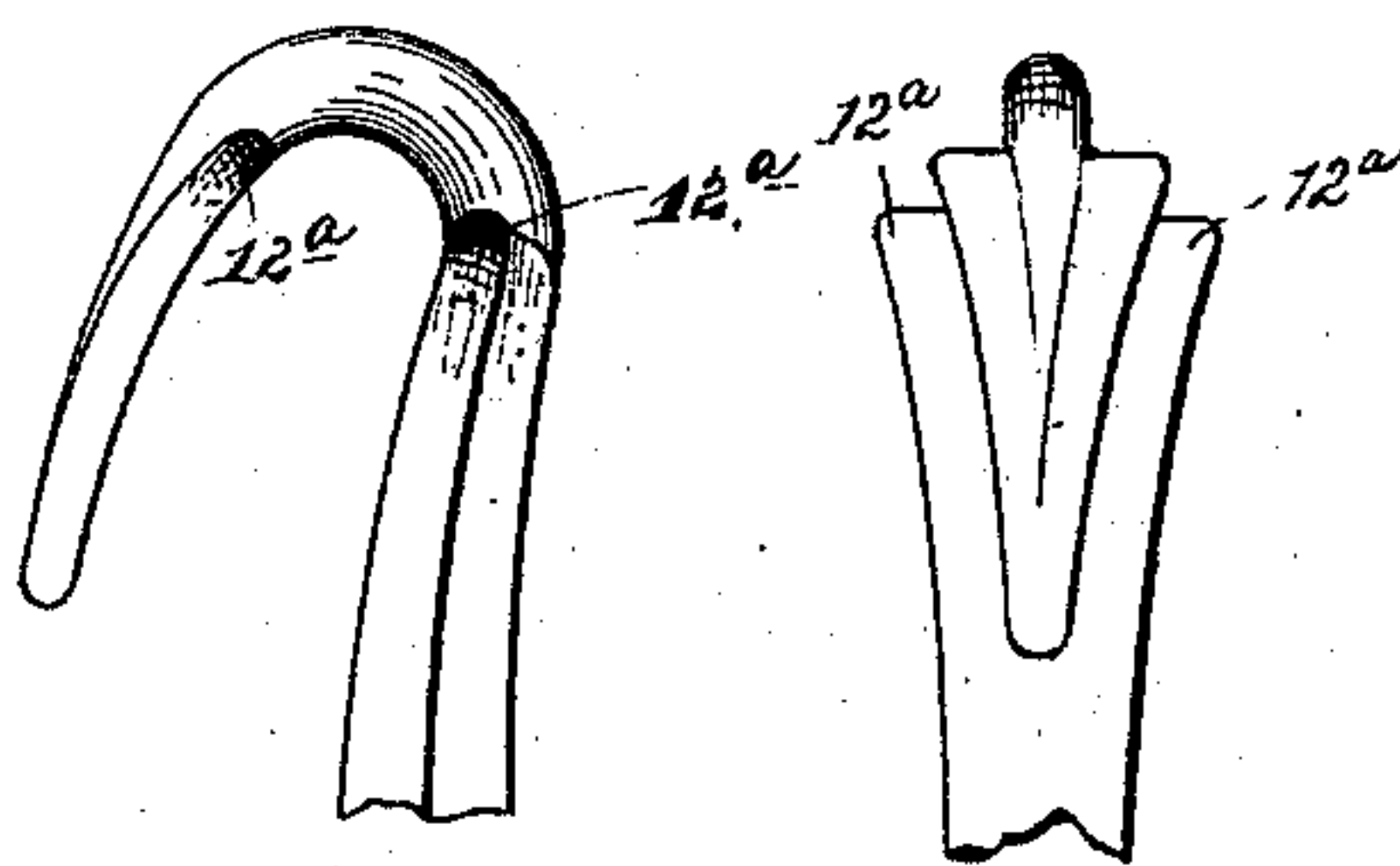


Fig 4,



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UNITED STATES PATENT OFFICE.

WILLIAM B. GUERNSEY, OF NORWICH, NEW YORK, ASSIGNOR TO JANE M. GUERNSEY, OF SAME PLACE.

HORSE-HAMES AND PADS THEREFOR.

SPECIFICATION forming part of Letters Patent No. 231,664, dated August 31, 1880.

Application filed November 13, 1879.

To all whom it may concern:

Be it known that I, WILLIAM B. GUERNSEY, of Norwich, Chenango county, New York, have invented a new and useful Improvement in Pad and Hame Draft-Collars, the nature and object of which are fully set forth in the following specification.

This invention covers improvements on Patent No. 208,308, granted to me September 24, 1878; and it consists in an improved form of pad, and in an improved hinge connecting said pad to the connecting-bar or (as I prefer to call it) "knuckle," and also in some improvements in the neck-saddle and arrangement of suspension-straps, as is hereinafter set forth.

In order that my invention may be fully understood, I will proceed to describe it with reference to accompanying drawings, in which—

Figure 1 is a front view of my improved device. Fig. 2 is a front view of the upper portion, showing another mode of connecting the saddle to the hame-strap. Fig. 3 is a side view, showing the pole-connection. Fig. 4 represents a front and side view, on a larger scale, of a hame-top of preferred construction. Fig. 5 is a perspective view of the preferred form of knuckle.

The improved form of pad is shown at 1, and consists, essentially, in the raising of a lip, 2, upon the inner edge of the pad shown in Patent No. 208,308, to act as a fender against the neck, protecting it from the side thrusts of the pole 13. Cross-sections of the face of this improved pad coincide, or nearly so, with answering cross-sections from the most approved forms of stuffed collars.

The single vertical hinge, shown in said Patent No. 208,308 as connecting the pad and knuckle, I now convert into a double or two-way joint, as shown at 6 6. I construct the knuckle 8 with a stud-shaft, 9.

The vertical hinge consists of a cradle, 7, around which the pad 1 rotates on gudgeons 10 10. A hole in the cradle 7 admits the knuckle-shaft 9, which is therein fastened by riveting or otherwise. The pad can thus rotate around the cradle and around the knuckle-shaft. This motion relatively to the knuckle relieves the hame of considerable torsional strain.

The suspension or side straps, 21, depending from the neck-saddle 11, support the knuckle 8, and through it the hame 12 and the pole 13. In order to keep the pads 1, when not actually at work and under strain, in line with hames, I embrace this suspension-strap 21 with a loop, 4, which I fasten to the upper end of pad for that purpose, and through which the strap renders freely.

The saddle-tree 17 consists of a rigid arch with rigid side bars, 18, attached, and loops 20, from which the side straps depend. Hinged to the rigid side bars are bearing-pads 19, which rest upon the sides of the neck and adapt themselves to the proper angle desired. A web, 24, of leather or other flexible material, connects these pads in such manner that should the horse's neck prove too thin to admit of the side pads having their intended bearing the said web will bear upon the top of the neck in same manner as is now usual in draft-collars.

I connect the top of the hames with the tree by any proper or convenient method, the object being to keep the hames and neck-saddle in line with each other, or nearly so, without interfering with the desired flexibility of the apparatus.

I show a strap-connection at 25 and a standard-connection at 26, Fig. 2. This standard is inserted in the top of tree and passes up through a slot, 29, in metallic hame-straps 31. A milled disk, 30, enables the standard to be easily inserted or removed. This arrangement makes it easy, by lifting the hames, to pass the check or bearing rein over and around said standard.

27 27 represent terrets, which may be so arranged as to permit the reins to be passed on either side of the hames.

In Fig. 4 I represent my improved hame-tops having feathers 12^a 12^a, forming seats for the strap 31.

I do not claim any jointing of the pad which enables it to turn on an axis perpendicular to its own surface, so as to give to its ends freedom of relative motion in a vertical plane at right angles to the line of draft. Such a movement, permitting the angle of the pad to the median line of the animal to vary from the

proper or natural angle of the shoulder, I regard as injurious.

Having thus described my invention, the following is what I claim as new and desire to secure by Letters Patent:

1. In a combined hame and pad, the shoulder-pad 1, constructed with a protecting-flange, 2, and provided with a hinge or knuckle joint for attaching it to a suitable hame.
2. In a combined hame and pad, a neck-saddle, 11; constructed with pads 19 at its extremities, to adapt it to bear on the sides of the neck, as explained.
3. In a combined hame and pad, the neck-saddle 11, provided with end pads, 19, in combination with a connecting-band, 24, extending over the top of the neck, as explained.
4. The combination, with the pad 1 and hame 12, of the double knuckle-joint 7 8 9 10, constructed with vertical and horizontal piv-

ots, substantially as and for the purposes herein set forth.

5. The combination, with hames 12, pads 1, hinged thereto through the medium of the described double knuckle-joint, and a suitable neck-rest or saddle, 11, of straps 21, depending from the neck-saddle and passing through loops at the upper ends of the pads to control the position of the latter, as set forth.

6. In combination with the hames and pads pivoted thereto, as described, a neck-saddle, a pole-strap connection, and a suspension-strap, applied substantially as shown, so as to sustain the pole-strap from the neck-saddle independently of the hame-pads.

W. B. GUERNSEY.

Witnesses:

J. WHITE,
ISAAC BROWNE.