

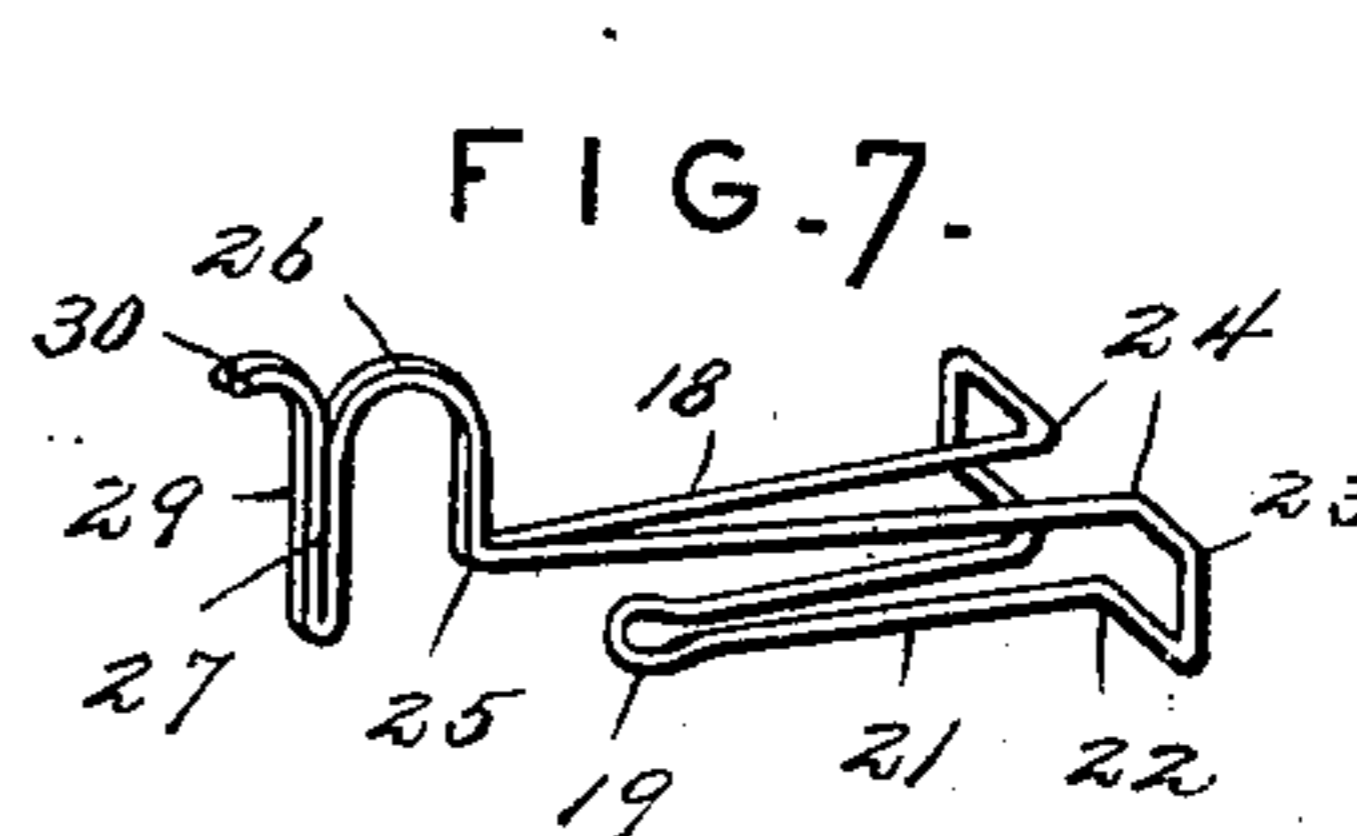
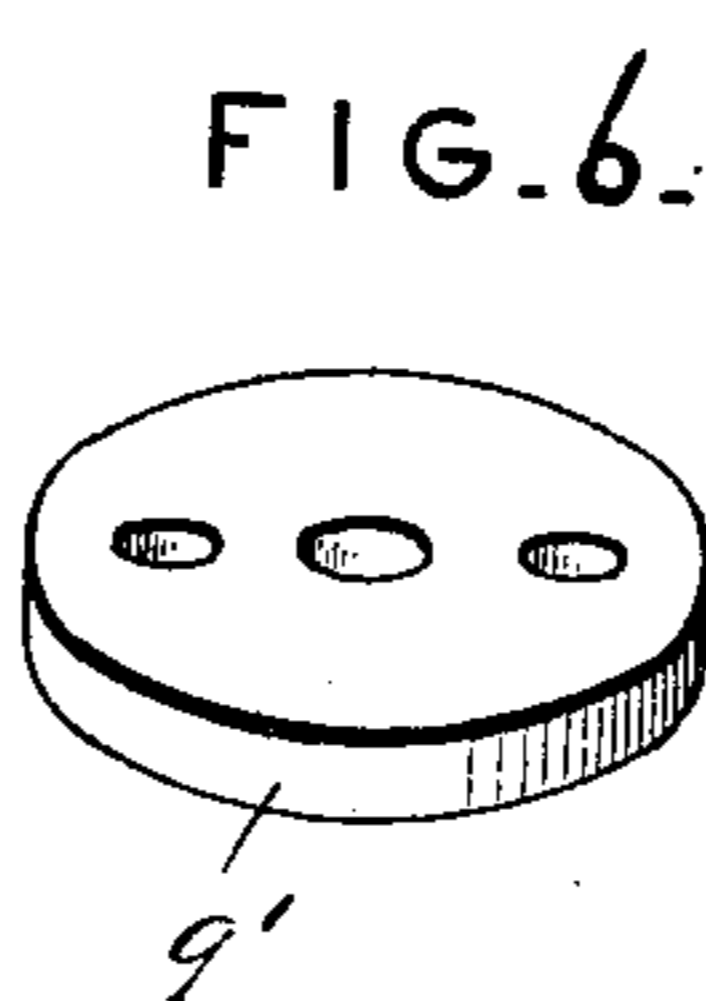
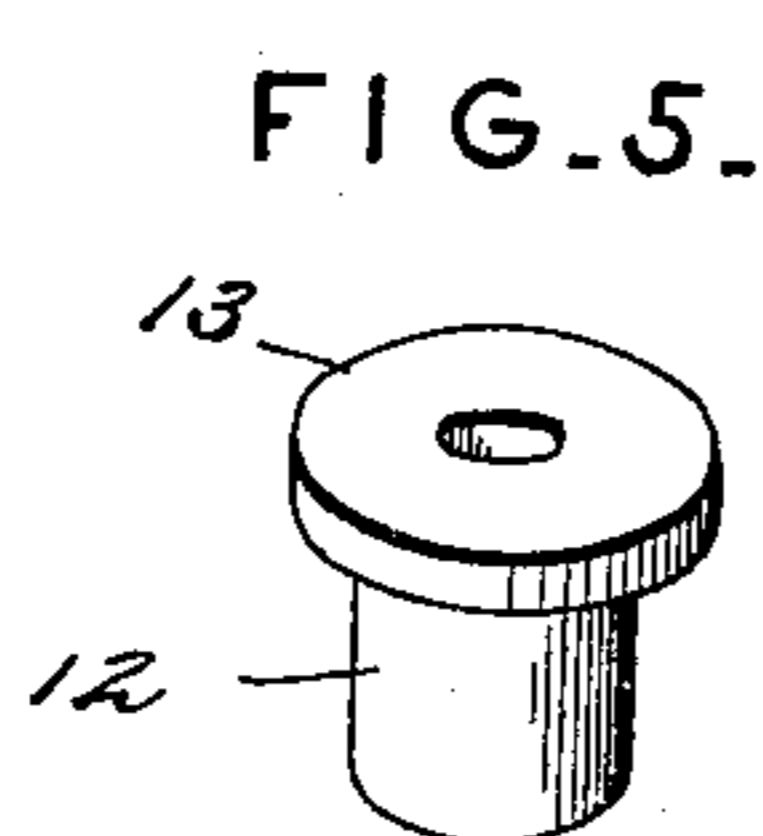
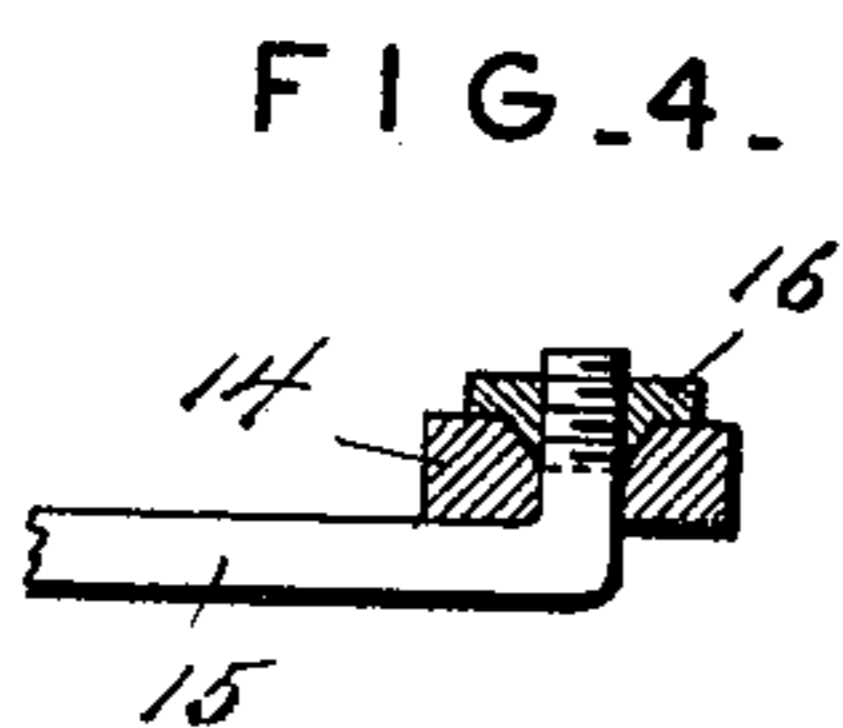
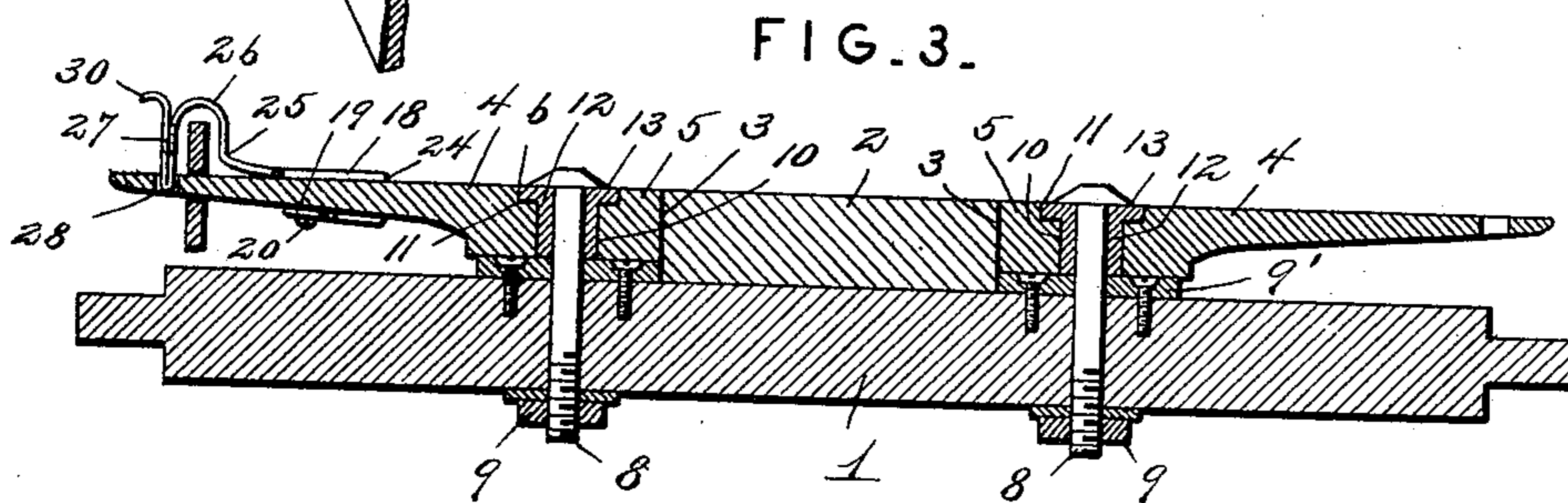
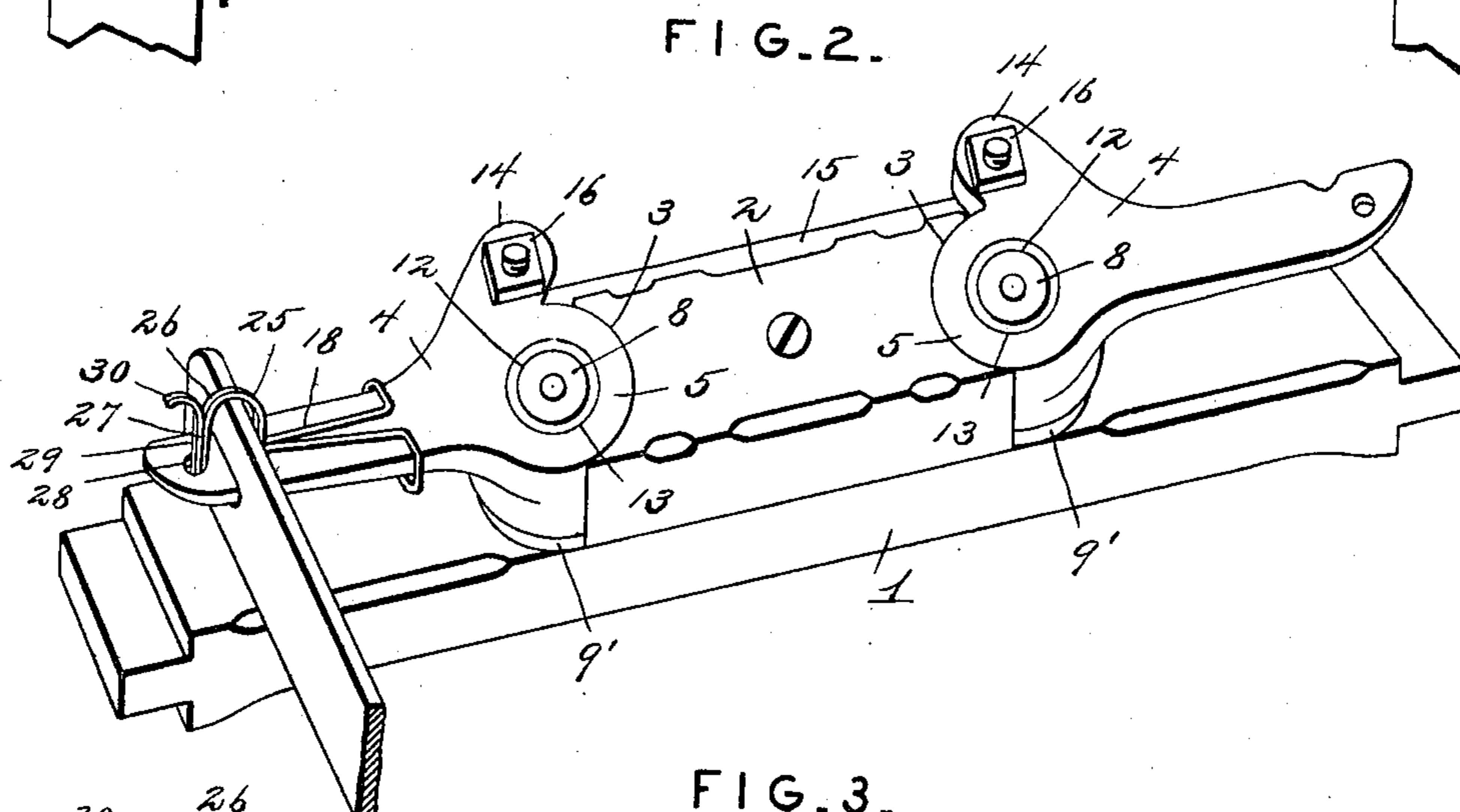
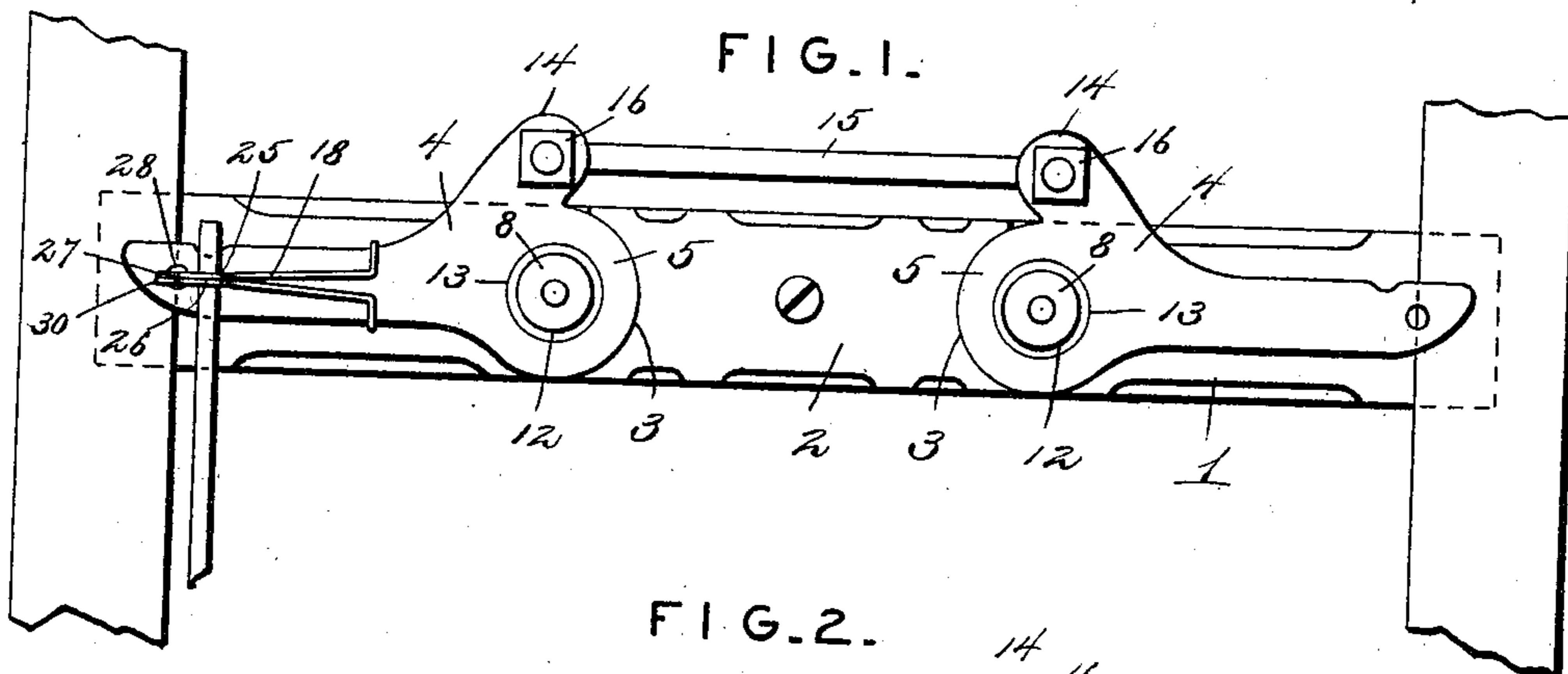
No. 629,681.

Patented July 25, 1899.

E. T. HARLOR.
WHIFFLETREE.

(Application filed June 3, 1899.)

No Model.)



Witnesses

Harry L. Ames.

Rexford M. Smith

Inventor

Edward T. Harlor.

By V. S. Stockbridge,

Attorney

UNITED STATES PATENT OFFICE.

EDWARD T. HARLOR, OF HARRISBURG, OHIO.

WHIFFLETREE.

SPECIFICATION forming part of Letters Patent No. 629,681, dated July 25, 1899.

Application filed June 3, 1899. Serial No. 719,328. (No model.)

To all whom it may concern:

Be it known that I, EDWARD T. HARLOR, a citizen of the United States, residing at Harrisburg, in the county of Franklin and State of Ohio, have invented a certain new and useful Whiffletree, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to whiffletrees; and the object in view is to provide a whiffletree embodying a plurality of pivotally-mounted sections so connected as to swing simultaneously in opposite directions, motion imparted to one of the sections or ends being communicated to the opposite section or end through an interposed connection. The parts are so mounted that there is no appreciable wear, and in addition thereto the construction renders the whiffletree noiseless, thus preventing objectionable rattling of the parts.

The invention also embodies novel means for securing the traces upon the ends of the whiffletree-sections so that the traces may be quickly attached and detached.

The detailed objects and advantages of the invention will appear more fully in the course of the subjoined description.

The invention consists in a whiffletree embodying certain novel features and details of construction and arrangement of parts, as hereinafter fully described, illustrated in the drawings, and incorporated in the claims.

In the accompanying drawings, Figure 1 is a plan view showing a sufficient portion of a pair of shafts to illustrate the application of the improved whiffletree and its operation. Fig. 2 is a perspective view of the whiffletree, showing also the cross-bar of the shafts and one of the trace-fasteners. Fig. 3 is a longitudinal section through the same. Fig. 4 is a detail section showing the manner of attaching the connecting-rod to one of the whiffletree end sections. Fig. 5 is a detail perspective view of one of the bearing sleeves or collars. Fig. 6 is a similar view of one of the bearing disks or plates. Fig. 7 is a detail perspective view of the trace-fastener detached.

Similar numerals of reference designate corresponding parts in all the views.

Referring to the drawings, 1 designates the cross-bar of a pair of shafts to which the improved whiffletree is to be attached. Secured

centrally to the upper side of the cross-bar 1 is a wooden filling-piece 2, the ends of which are cut out or concaved, as shown at 3, to form bearings or seats for the inner ends of the whiffletree-sections, (indicated at 4.)

The inner ends or portions of the whiffletree-sections 4 are of annular or disk form, as shown at 5, and fit snugly within the concaved ends 3 of the filling-piece 2, said filling-piece thus forming a cushioning-seat for the whiffletree-sections and serving to prevent any rattling of the parts. The sections 4 are composed of metal, and the portions 5 thereof are provided with through-openings 6 for the reception of pivot-bolts 8, which pass through the portions 5 and also through the cross-bar 1, being secured by nuts or other suitable fasteners 9.

Upon the upper surface of the cross-bar 1 are arranged two disk-shaped bearing-plates 9', the same being secured fixedly to the cross-bar and of a circumference corresponding to the circle upon which the concavity 3 is described. The plates 9' form seats or rests for the circular inner ends 5 of the whiffletree-sections 4, and when the parts are assembled the upper surfaces of the parts 2 and 4 lie in the same horizontal plane or flush with each other. The opening in the part 5 is enlarged, as shown at 10, and the upper portion of the opening 10 is further enlarged or countersunk, as shown at 11. A sleeve or collar 12 fits within the opening 10 and rests upon the plate 9'. The upper portion of the collar is provided with a circumferential flange 13, which fits within the enlarged or countersunk upper portion 11 of the opening 10 and prevents the upward movement and escape of the whiffletree-sections in a manner that will be readily understood. The sleeve or collar forms a bearing or journal for the whiffletree-section, the distance between the flange 13 and plate 9' being sufficient to allow the whiffletree-section to turn freely and without binding.

Each of the whiffletree-sections is provided with a rearwardly and laterally extending lug or ear 14, and the two sections are connected by means of a rod 15, arranged, preferably, in rear of the filling-piece 2 and having its ends bent upward at an angle and extended through openings in the ears 14. The upper

portions of the openings are countersunk to receive nuts or fasteners 16, which set into the recesses formed by countersinking the ears, thus leaving no objectionable projection. By the construction just described it will be apparent that when one of the whiffletree-sections is vibrated corresponding motion may be communicated to the other section by means of the interposed connecting-rod 15, so that as the outer end of one section is swung forward the corresponding end of the other section is caused to swing rearward.

The outer end of each whiffletree-section is provided with a trace fastener or holder 18, which is constructed of spring-wire. A piece of spring-wire is bent at its central portion to form an eye 19, which lies against the under side of the whiffletree-section and is secured by a suitable fastener 20. The terminals of the wire are then extended inward, as shown at 21, then bent at the points 22 and extended in opposite directions and formed with U-shaped bends 23, which embrace the side edges of the whiffletree-section. After forming the U-shaped bends the terminals are bent at the point 24 on the upper side of the whiffletree-section and extended in substantially parallel relation outward toward the end of the section. At the point 25 the terminals are given an upwardly-extending U-shaped bend 26 and then extended downward to form a trace-retaining lip 27, which enters and passes partially or wholly through an opening 28 near the end of the whiffletree-section. The terminals are then bent or recurved upon themselves and extended upward, as shown at 29, and the extremities thereof are bent outward laterally, as shown at 30, to form a lip or extension by means of which the end of the spring trace-fastener may be raised and lowered to admit of the application of the trace to the whiffletree-section and its removal therefrom.

From the foregoing description it will be apparent that I have provided a whiffletree which is practically noiseless in operation and which is capable of long use without material wear. By having the points of connection of the connecting-rod to the whiffletree-section substantially at right angles to a line drawn through the pivots of the two sections the sections may swing simultaneously and easily without causing any binding of the parts. The ears 14 also form stops which cooperate with the projecting ends or corners of the filling-piece 2, so as to limit the swinging movement of the sections, one of the ears limiting the swinging movement in one direction and the other ear limiting the swinging movement in the opposite direction. The construction also provides for readily attaching and detaching the traces.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. The combination with a cross-bar or other suitable support, of a pair of whiffletree-sections having disk-shaped inner ends pivotally mounted on the cross-bar, a rod pivotally connecting said sections, and a wooden filling-piece secured to the cross-bar and having concaved ends which embrace and fit snugly against the inner portions of the whiffletree-sections, substantially as and for the purpose specified.

2. The combination with a cross-bar or other support, of a pair of whiffletree-sections pivotally mounted thereon and having disk-shaped inner portions with laterally-projecting ears, a rod connecting said ears, and a wooden filling-piece secured to the cross-bar and having concaved ends which partially embrace and fit snugly against the inner portions of the whiffletree-sections, said ears and filling-piece cooperating to form limiting-stops for regulating the amount of swing of the whiffletree-sections.

3. The combination with a cross-bar or other support, of a pair of whiffletree-sections pivotally mounted thereon and having disk-shaped inner ends, a wooden filling-piece secured to the cross-bar and having concaved ends which partially embrace and fit snugly against the inner ends of the whiffletree-sections, annular or disk-shaped bearing-plates interposed between the whiffletree-sections and the cross-bar, bearing sleeves or collars, passing through the sections and resting upon said plates, securing-bolts passing through the whiffletree-sections, collars or sleeves, plates and cross-bar, and a connection between said sections causing them to swing simultaneously, substantially as described.

4. The combination with a whiffletree, of a trace-fastener composed of spring-wire bent at its central portion to form an eye arranged beneath the end of the whiffletree and designed to receive a suitable fastener, the U-shaped embracing portions extending around the side edges of the whiffletree, longitudinal portions extending outward therefrom toward the end of the whiffletree, an arched or U-shaped portion extending upwardly above the whiffletree, a depending portion outside of said arched or U-shaped portion engaging an opening near the end of the whiffletree, and a terminal lip extending laterally outward from the end of the fastener, substantially as and for the purpose described.

In testimony whereof I affix my signature in presence of two witnesses.

EDWARD T. HARLOR.

Witnesses:

J. O. SMITH, Jr.,
C. H. COPELAND.