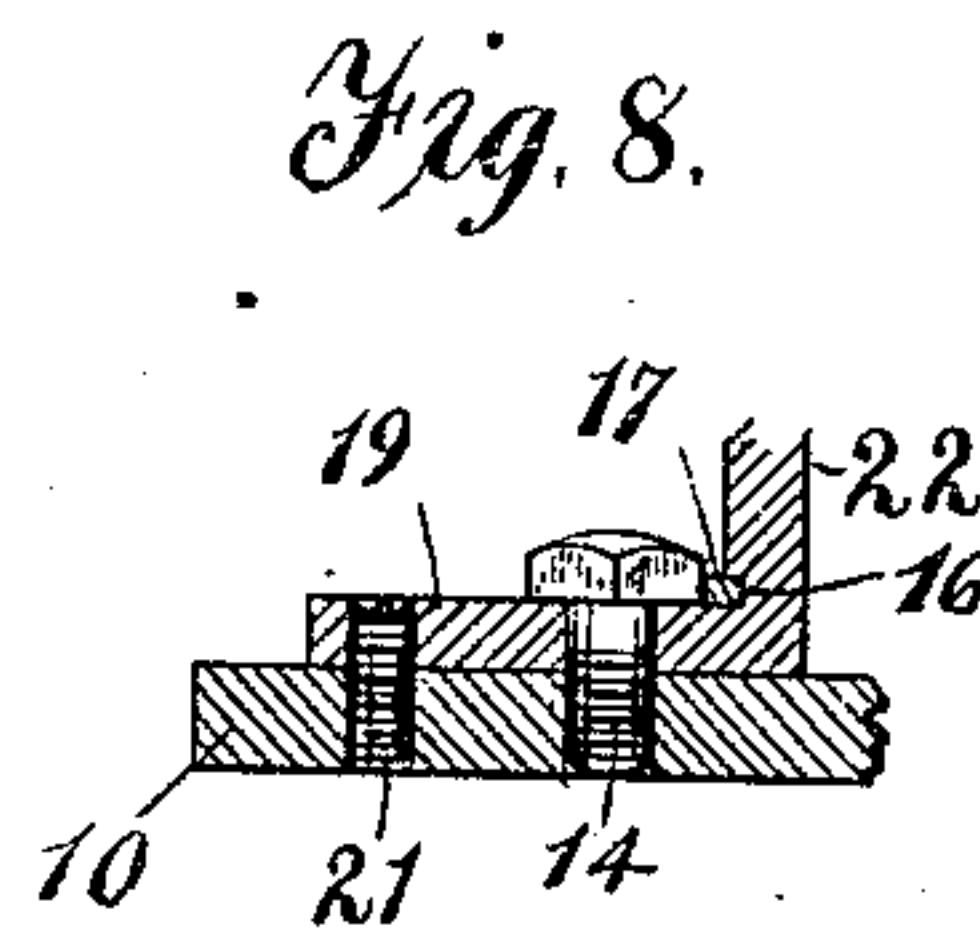
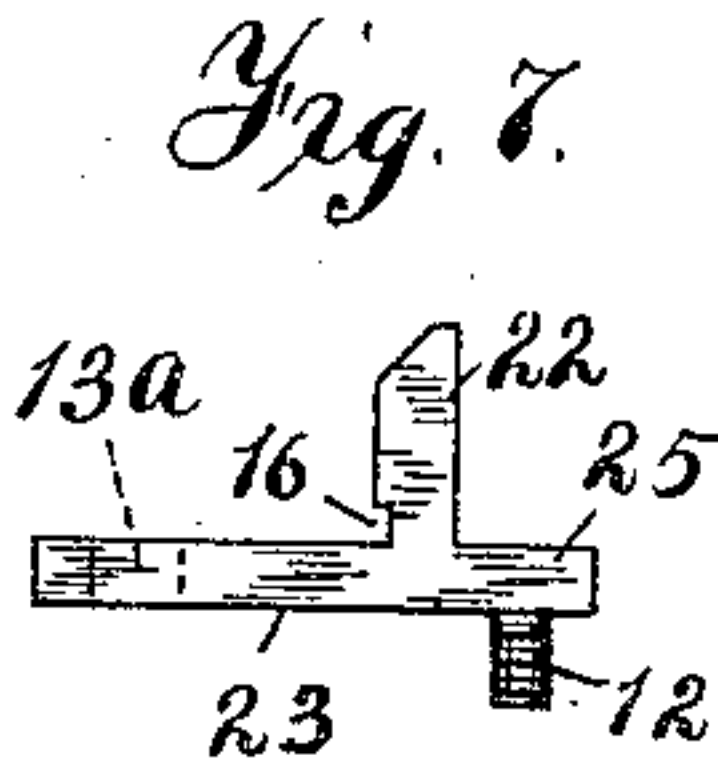
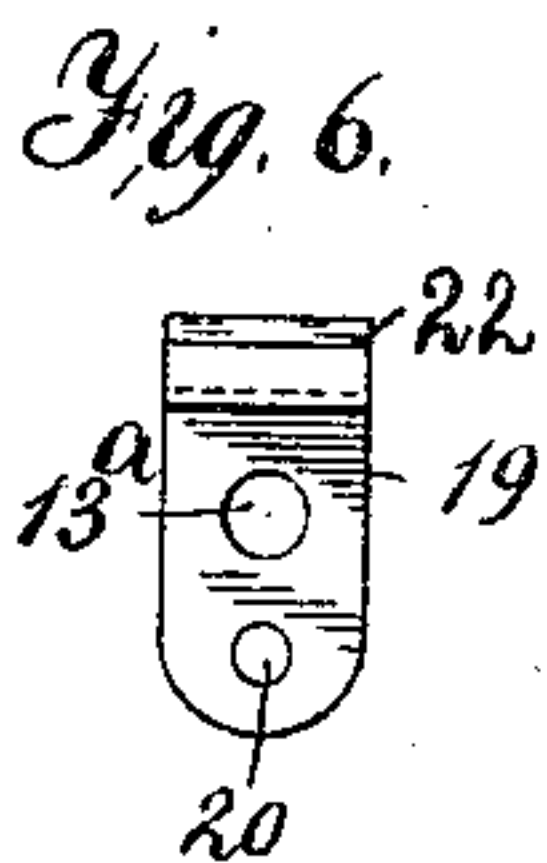
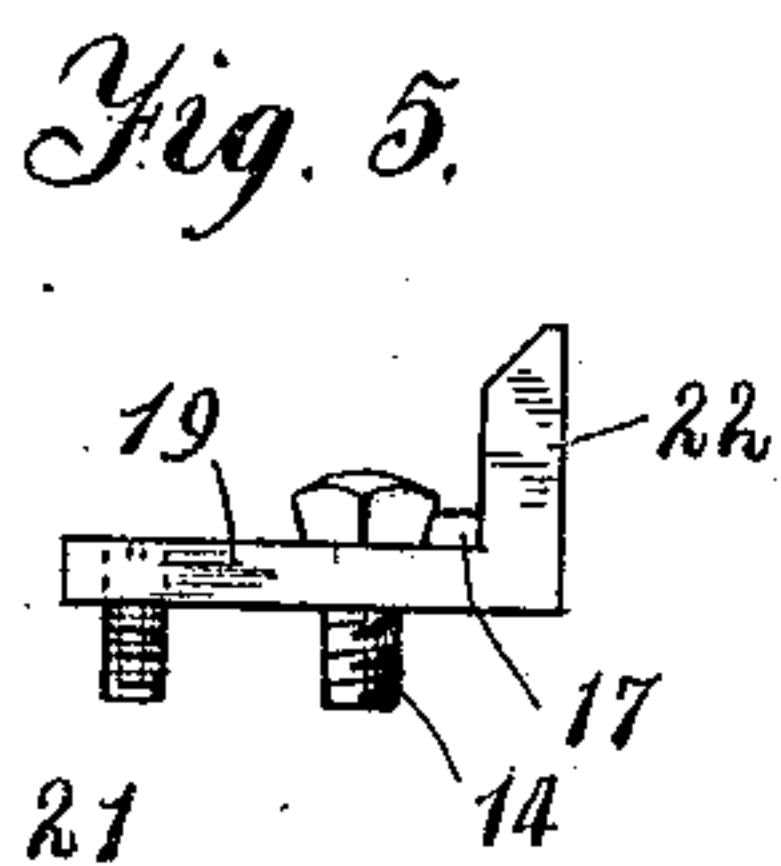
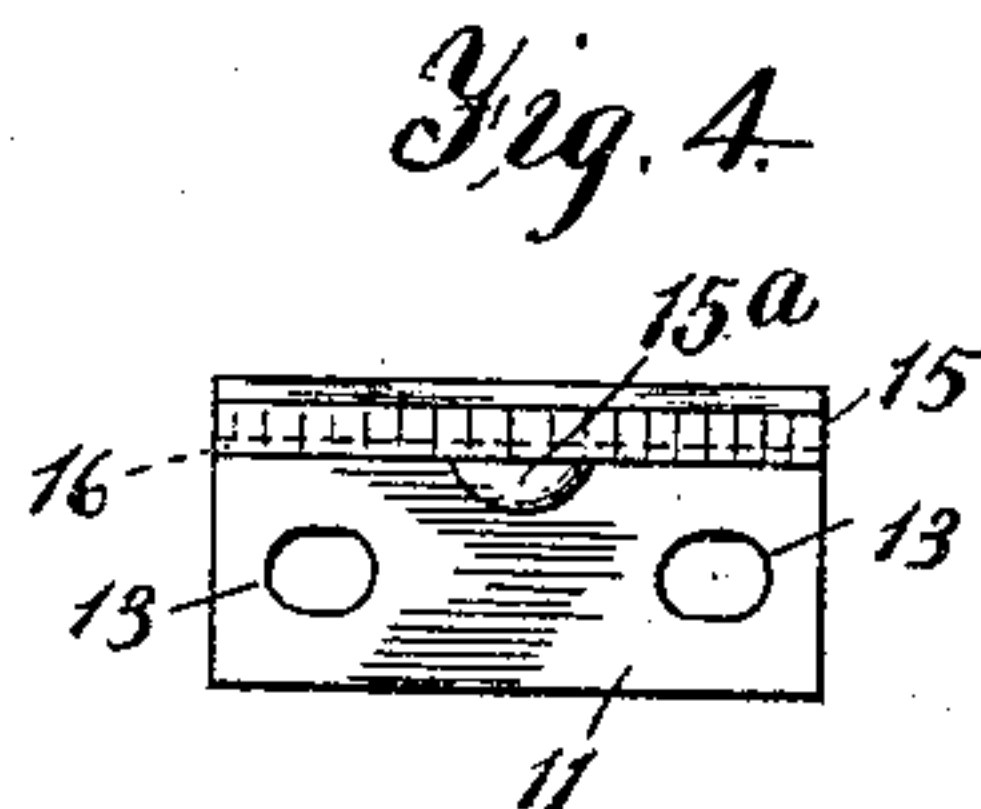
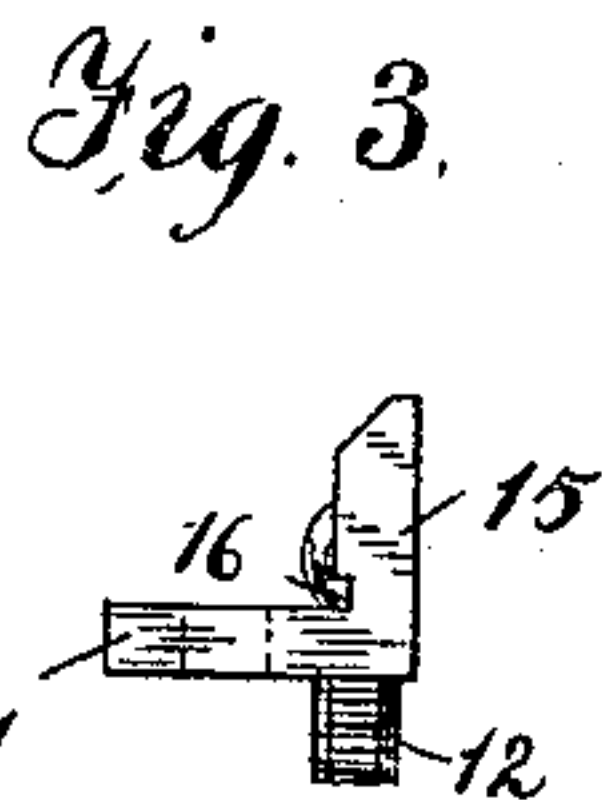
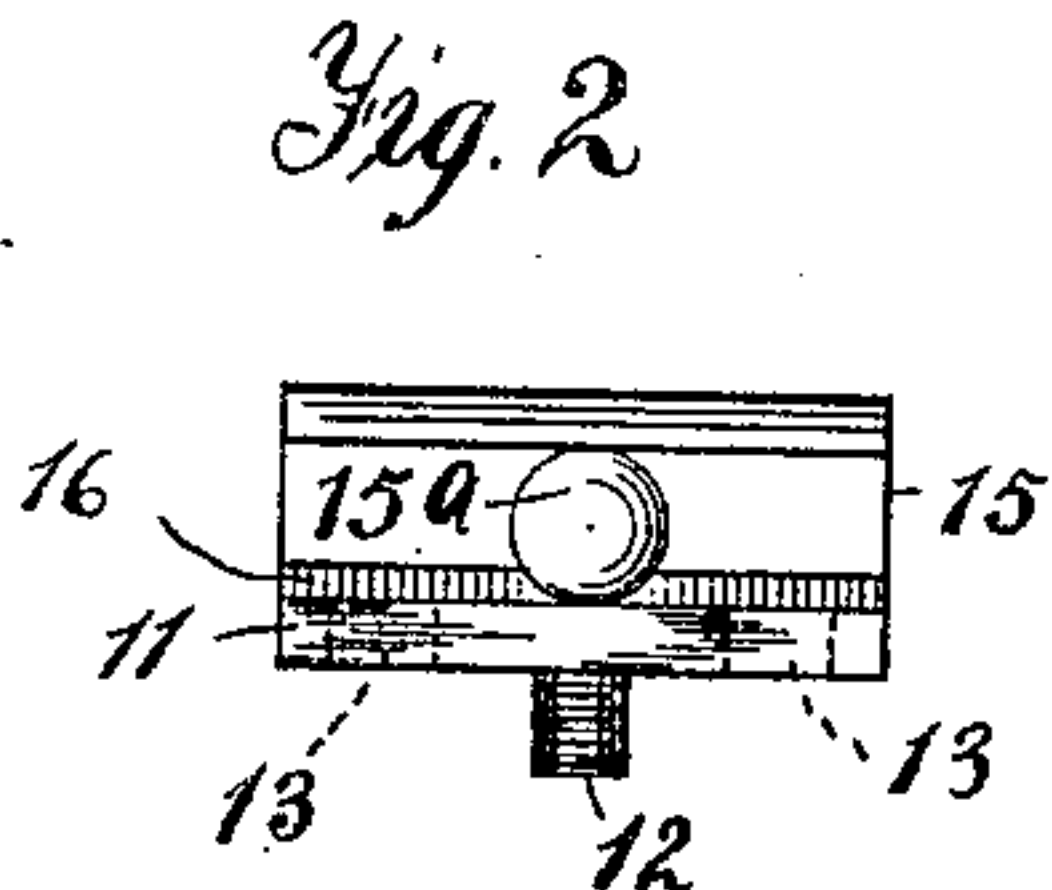
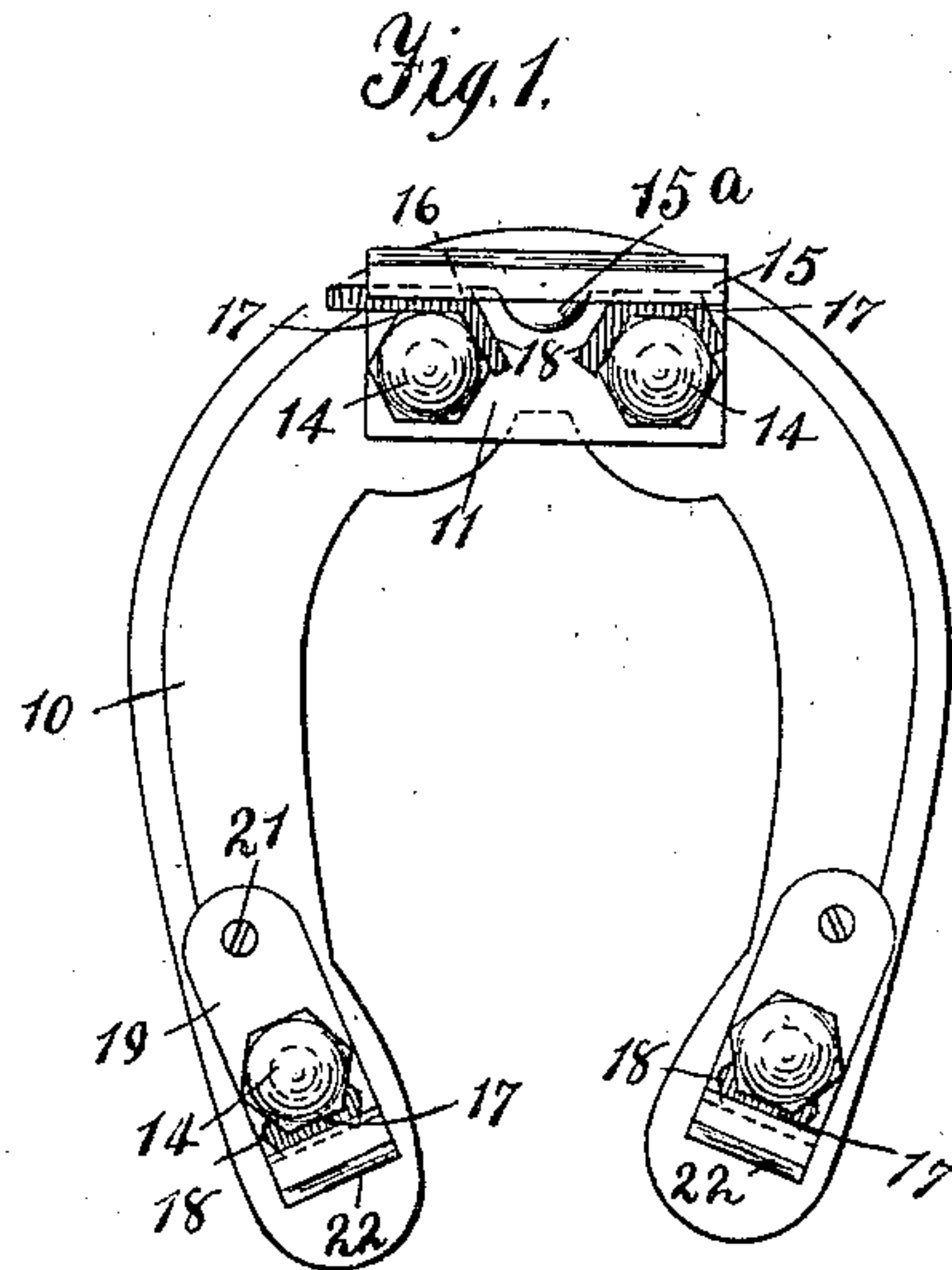


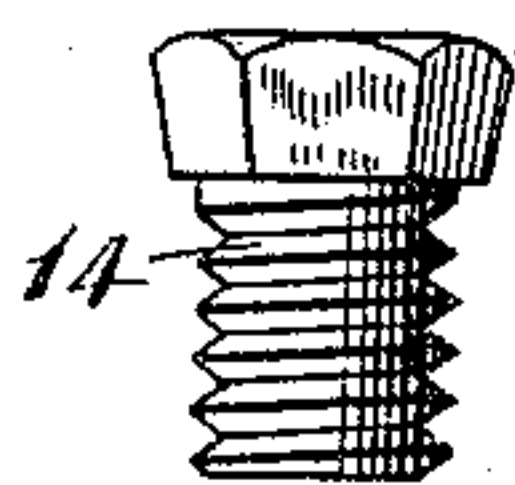
W. H. COX.  
DETACHABLE HORSESHOE CALK.  
APPLICATION FILED APR. 17, 1909.

944,666.

Patented Dec. 28, 1909.



*Fig. 9.*



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# UNITED STATES PATENT OFFICE.

WILLIAM H. COX, OF BUCYRUS, OHIO, ASSIGNOR OF ONE-THIRD TO JOHN A. MORRISON  
AND ONE-THIRD TO BUEL W. MOTTER, OF MANSFIELD, OHIO.

## DETACHABLE HORSESHOE-CALK.

944,666.

Specification of Letters Patent.

Patented Dec. 28, 1909.

Application filed April 17, 1909. Serial No. 490,492.

*To all whom it may concern:*

Be it known that I, WILLIAM H. COX, a citizen of the United States, residing at Bucyrus, in the county of Crawford and State of Ohio, have invented certain new and useful Improvements in Detachable Horse-shoe-Calks, of which the following is a specification.

This invention relates to improvements in detachable horse shoe calks and the especial object of the improvements which form the subject matter of the application is to provide toe and heel calks that can be readily applied to a horse-shoe and that when applied will be firmly and securely held in place.

In the accompanying drawing which forms a part of the application, I have shown two forms of detachable calks embodying the substance of my invention in the following views.

Figure 1 is a bottom plan view of a horse-shoe equipped with my improved toe and heel calks; Fig. 2 is an elevation of my improved toe-calk; Fig. 3 is an end view of the calk shown in Fig. 2; Fig. 4 is a top plan view of the calk shown in Fig. 2; Fig. 5 is a side elevation of one form of heel calk; Fig. 6 is a top plan view of the form shown in Fig. 5; Fig. 7 is a side elevation of a modified form of my improved heel calk; Fig. 8 is a sectional view taken through a heel calk and the attached portion of the shoe, and Fig. 9 is an enlarged detail of a stud-bolt used in my invention.

Referring to the details of the drawing 10 represents a horse-shoe of well-known style having enlarged toe portions to afford a wide bearing for the toe-calk. The toe-calk 40 consists of a rectangular base-portion or plate 11 from which extends at right angles a vertical portion 15 the edge of which is beveled or sharpened to provide an effective tread for the shoe. Extending along the 45 base of the vertical wall 15 is a groove 16 which is adapted to receive a locking key 17 preferably made of soft steel so that it may be easily bent. About midway between the ends of the wall 15 a lug 15<sup>a</sup> projects 50 into the groove 16, said lug serving to deflect outwardly the ends of the keys 17 when they are driven into the groove, and thereby facilitating the final bending of the keys around the heads of the stud-bolts 14 as 55 shown at 18, Fig. 1. The keys are of suffi-

cient length to embrace at least three sides of the hexagonal heads of the bolts, and, when so bent, serve to effectively lock the latter against unscrewing. The bolts after passing through the slots 13 in the base 11, 60 enter suitably tapped holes in the horse-shoe, as shown in Fig. 8. The base 11 is also provided with a threaded stud 12 which is also screwed into a suitable hole in the shoe at a point midway between the slots 13. 65

As shown in Figs. 5 and 6, the heel calks consist of a base member 19 and a vertical or tread member 22 at right angles to the base. The groove 16 is provided in the member 22, but the opening 13<sup>a</sup> to receive the 70 bolt 14 is round instead of elongated as shown in Fig. 4. The base is also provided with a hole 20 to receive a screw 21 which is screwed into a suitable hole tapped in the shoe. 75

As shown in Fig. 7, the base 23 is formed with an extension 25 from which the threaded stud 12 projects, and the vertical wall is between this extension 25 and the hole 13<sup>a</sup>, so that the attaching means are on opposite 80 sides of the wall 22 instead of on the same side as in Figs. 5 and 6.

From the construction described it will be noted that both heel and toe calks have double means for attaching them to the 85 shoes to wit:—the screw studs 12 or 21, and the bolts 14, and that the latter are effectively locked against rotation so long as the keys are in the seats provided for them. If, however, it is desired to remove the 90 calks for sharpening or renewing, it is only necessary to straighten the keys 17 and drive them out, when the bolts 14 can be unscrewed by a suitable wrench. The studs 12 or 21, may be made integral with the 95 plates 11 or 19, if desired, in which case they would be unscrewed by turning the calks of which they form a part about an axis represented by the studs. A wrench and a screw driver are the only tools necessary for the 100 application or removal of my improved calks.

By employing the form of bolt 14 shown in Fig. 9, in which the sides of the head taper inwardly from the top, I may dispense 105 with the groove 16 and drive the wedge between the inner face of the wall 22, and the head of said bolt, as shown in Fig. 5, the overhanging side walls of the head serving 110 to prevent the key from falling out.



Having thus described my invention what I claim is:—

5 1. A horse-shoe calk comprising a base member and a tread member integrally formed, said base member having a bolt-receiving opening therein and said tread member having a groove therein, a bolt adapted to engage said opening, a key seated in said groove and adapted to engage the  
10 bolt head, and means on said calk for deflecting the end of the key when seated.

2. A horse-shoe calk comprising a base-member and a tread member integrally formed, said base member having slots  
15 therein and said tread member having a groove therein and having a boss on its inner face, bolts adapted to engage said slots and keys seated in said groove and adapted

to engage the heads of the bolts and to have their ends deflected by said boss. 20

3. A horse-shoe calk comprising a base-member having a bolt receiving opening and a tread member having a boss thereon, said base and tread members being integrally formed and at right-angles to each other, 25 means for securing said base member to a shoe, said means comprising a bolt adapted to engage said opening and a key adapted to engage the bolt-head and the boss, substantially in the manner set forth. 30

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

WILLIAM H. COX.

Witnesses:

LEAH GRAESSLE,  
H. J. BOGAN.