

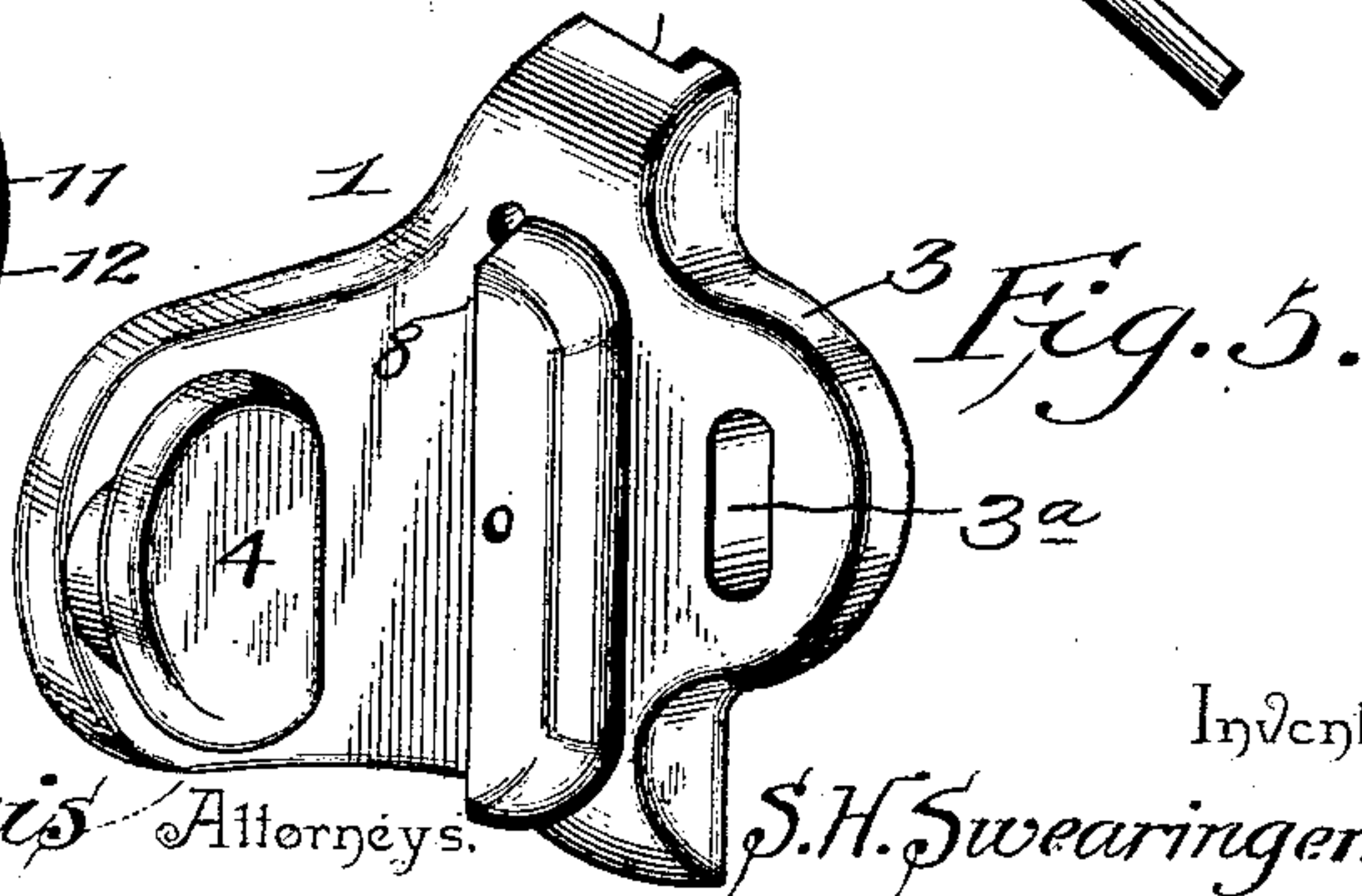
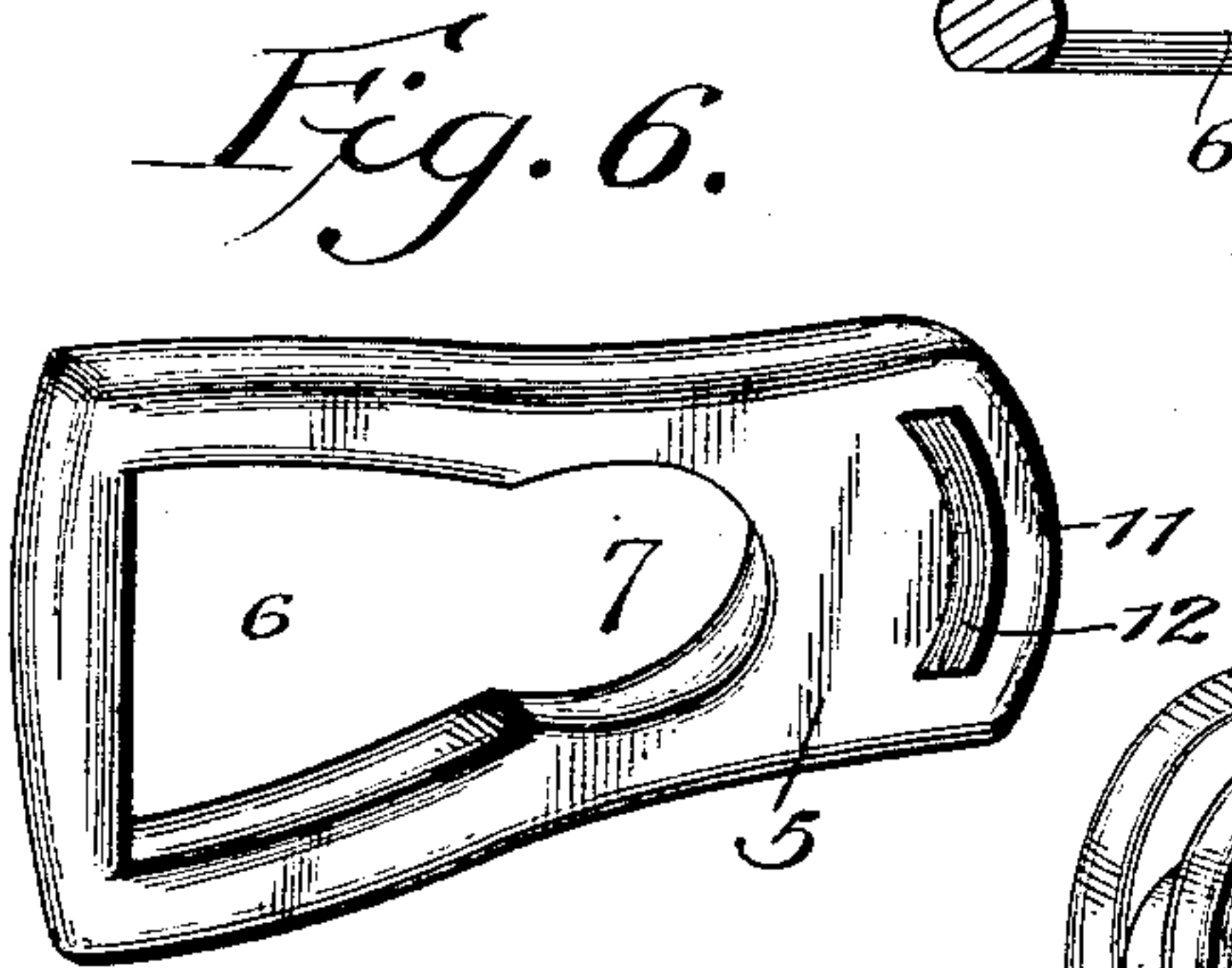
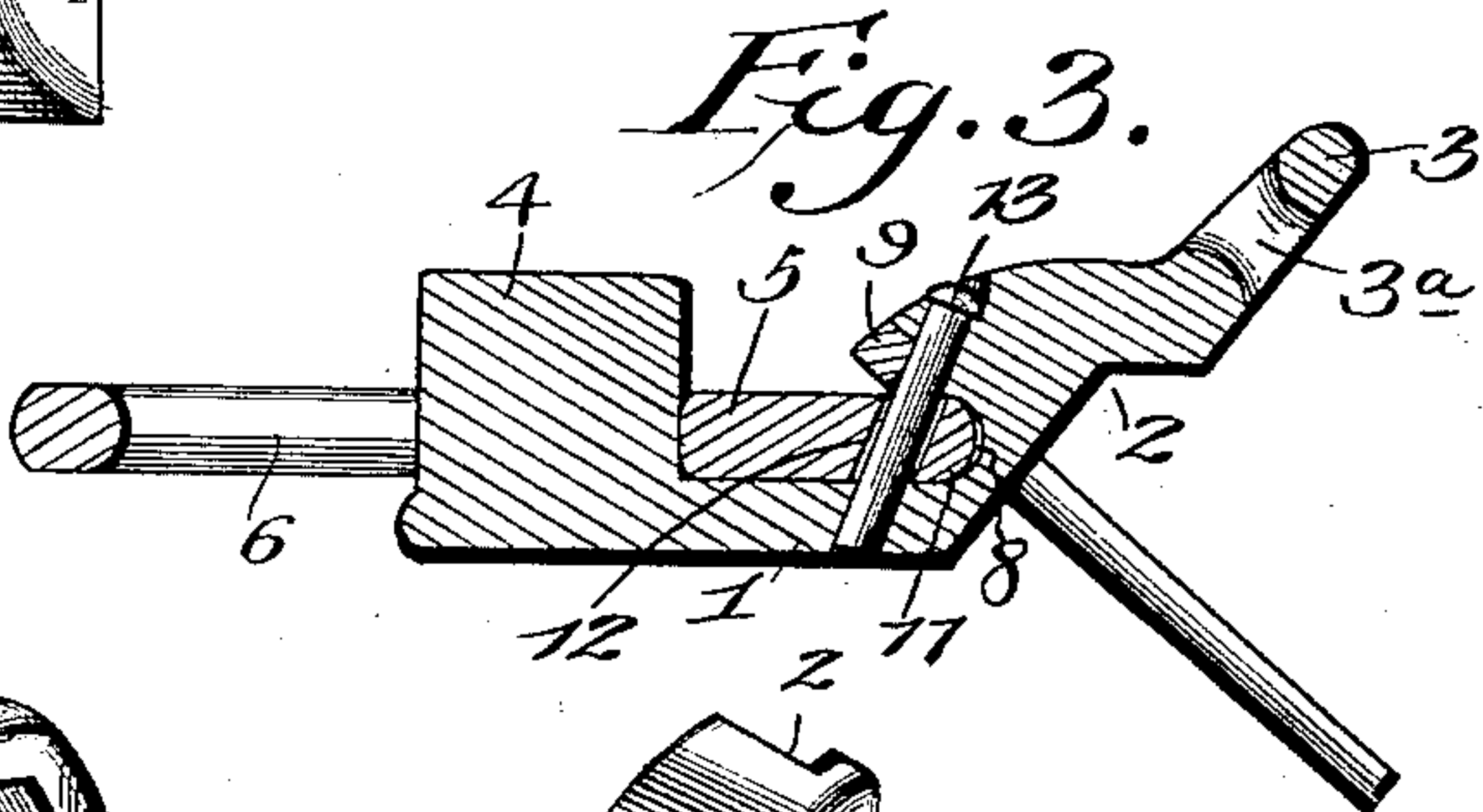
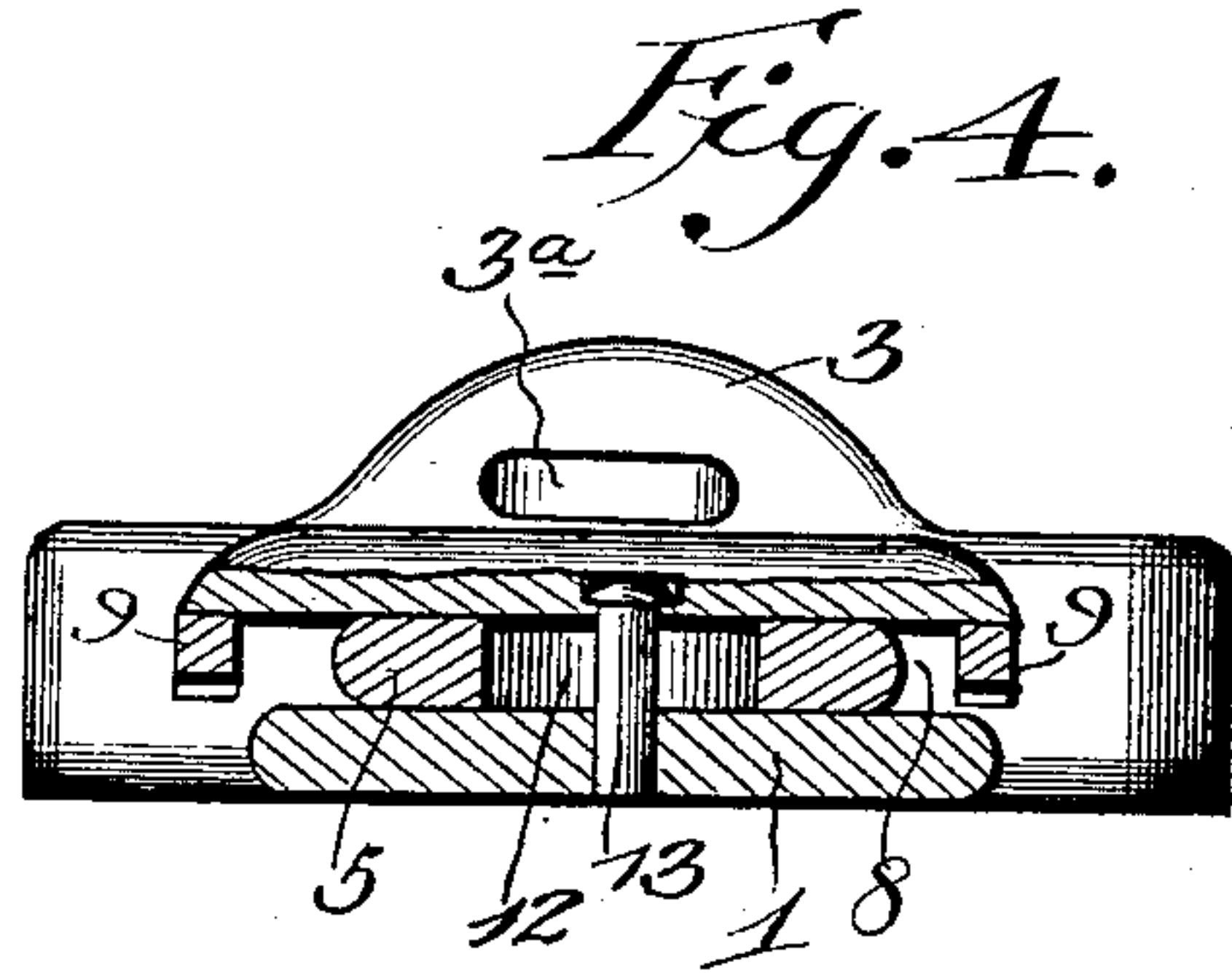
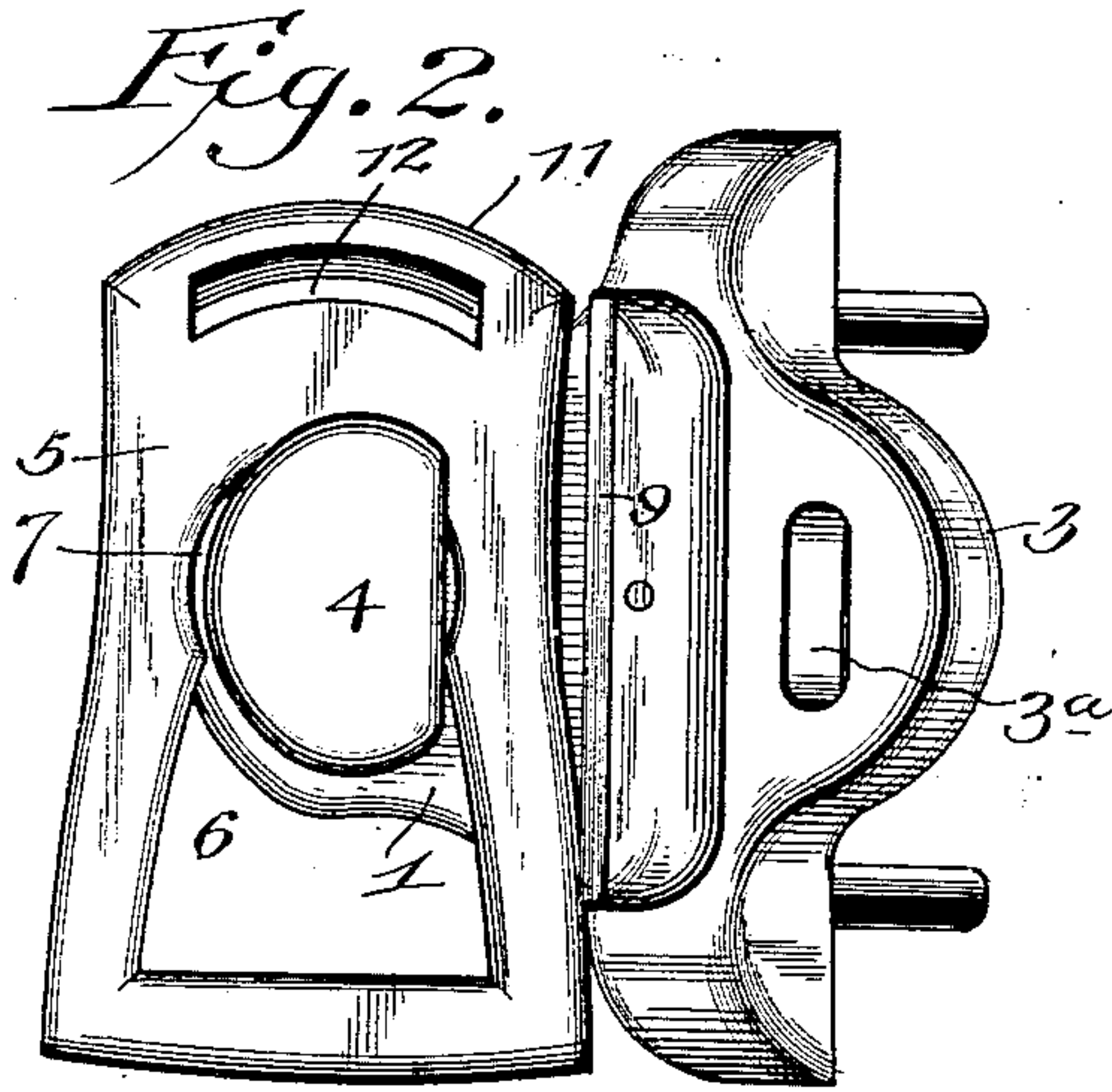
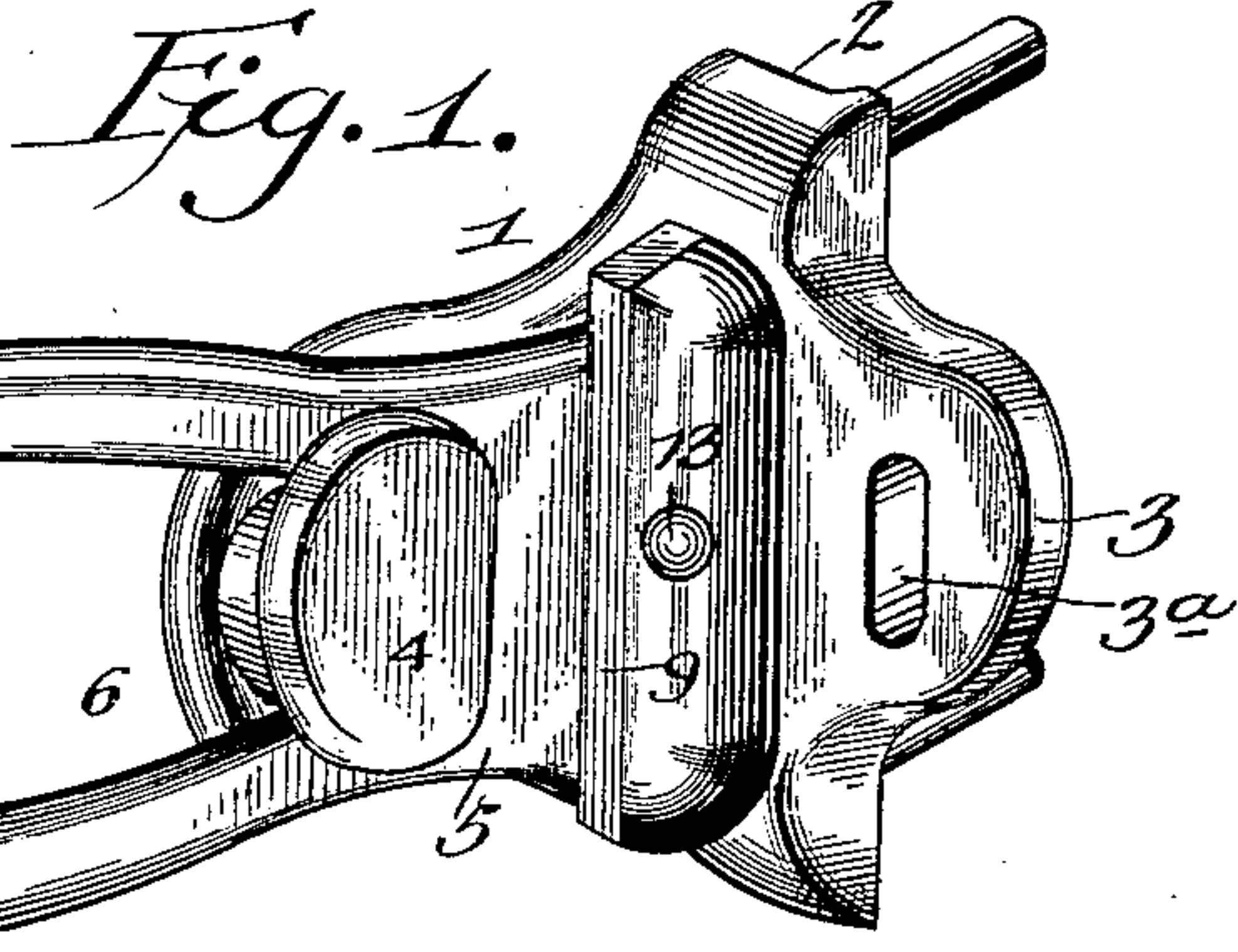
No. 633,401.

Patented Sept. 19, 1899.

S. H. SWEARINGEN.
HAME AND TRACE COUPLING.

(Application filed Dec. 27, 1898.)

(No Model.)



Witnesses

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UNITED STATES PATENT OFFICE.

SAMUEL H. SWEARINGEN, OF HEDRICK, IOWA.

HAME AND TRACE COUPLING.

SPECIFICATION forming part of Letters Patent No. 633,401, dated September 19, 1899.

Application filed December 27, 1898. Serial No. 700,411. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL H. SWEARINGEN, a citizen of the United States, residing at Hedrick, in the county of Keokuk and State of Iowa, have invented a new and useful Hame-Tug Coupling, of which the following is a specification.

The invention relates to improvements in hame-tug couplings.

10 The object of the present invention is to improve the construction of hame-tug couplings and to increase their strength and lightness and lessen their cost of construction by enabling them to be used on either hame.

15 A further object of the invention is to enable the coupling to have a limited vertical oscillatory movement to accommodate itself to the horse motion and at the same time to prevent any lateral movement which might interfere with a straight draft.

Another object of the invention is to enable the coupling to be securely fastened to a hame and to be arranged so that it will not compress or squeeze a horse-collar.

25 The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

30 In the drawings, Figure 1 is a perspective view of a hame-tug coupling constructed in accordance with this invention. Fig. 2 is a side elevation, the coupling-plate being arranged in a substantially vertical position for removal. Fig. 3 is a longitudinal sectional view, the parts being arranged as shown in Fig. 1. Fig. 4 is a transverse sectional view. Fig. 5 is a detail perspective view of the hame-plate. Fig. 6 is a detail perspective view of the coupling-plate.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

45 1 designates a hame-plate composed of a front portion and a rear portion arranged at an obtuse angle to the front portion, as clearly illustrated in Fig. 3 of the accompanying drawings, and the said front portion has its inner face 2 recessed to conform to the configuration of a hame and provided at its outer edge with an ear 3, having a vertically-elongated

slot 3^a, adapted to receive a hame-ring and capable of enabling the coupling to be employed on either hame. The rear portion of the hame-plate projects from the hame and extends longitudinally of the harness, being provided near its rear edge with a headed stud or lug 4, which is engaged by a coupling-plate 5. The coupling-plate 5 is provided with a longitudinal opening 6 to receive the stud 4. The front and rear edges of the head of the stud are flush with the sides of the shank, and the top and bottom of the head project beyond the said shank and are adapted to engage the coupling-plate when the latter is in a horizontal position. The coupling-plate is adapted to be partially rotated to bring it to substantially a vertical position, as illustrated in Fig. 2 of the accompanying drawings, and it is then moved vertically to bring its contracted portion 7 beyond the head of the stud. The contracted portion 7 of the opening 6 is disposed toward the front end of the plate and the rear portion of the opening is enlarged to enable the head of the stud to pass readily through it. When the plate is in the position illustrated in Fig. 2 of the accompanying drawings, it is adapted to be rotated on its front side to swing its rear side outward, and this movement disengages the plate from the stud.

When the coupling-plate is in a horizontal position, the head of the stud 4 spans and projects beyond the contracted portion 7 of the opening and the front end of the plate fits in a recess 8 and is engaged by a staple 9, which passes through the hame-plate and the hame to secure those parts together. The staple has straight sides provided with shoulders for engaging the outer face of the hame-plate and located at the top and bottom of the recess 8. The transverse or outer portion of the staple is located in the space between the stud and the recess, and it practically forms an extension of the walls of the latter.

The recess, which is formed in an enlargement of the hame-plate, opens rearwardly and is curved to conform to the configuration of the curved front end 11 of the coupling-plate and to permit the latter to be turned into and out of engagement with it. By engaging the front portion of the coupling-plate

in this manner it is effectually prevented from swinging inward and outward and it cannot interfere with a perfectly straight draft.

In order to enable the coupling-plate to have a limited vertical oscillation to accommodate itself to horse motion, it is provided at its front end with a curved slot 12, arranged concentric with the curve of the end 11 and adapted to receive a pin 13, which passes through the recess and the hame-plate to limit the movement of the coupling-plate and prevent it from dropping downward and becoming accidentally disengaged from the headed stud should the trace become loose. The pin 13 may be threaded in the perforation of the hame-plate or otherwise secured to the same, and when it is desired to uncouple the plate 5 the pin is removed and the plate is then permitted to rotate freely. The invention has the following advantages: The hame-tug coupling, which is simple and comparatively inexpensive in construction, is light, strong, and durable and is adapted to be used on either hame. The coupling-plate which detachably engages the headed stud of the hame-plate is permitted a limited vertical oscillation to yield to the movements of a horse and the head of the stud. The socket and the staple firmly support the coupling-plate and prevent the front portion from twisting or moving inward and outward. The device is adapted to preserve a straight draft, and the particular form of the hame-plate prevents the hame from twisting and compressing or squeezing the collar. Also the coupling-plate is guided in its limited movement, so that there is no liability of its striking the shoulder of an animal.

Changes in the form, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

What is claimed is—

1. A device of the class described comprising a hame-plate having front and rear portions arranged at an obtuse angle to each other, the front portion being secured to a hame and the rear portion forming a rigid rearwardly-extending projection, a stud mounted on the rear portion of the hame-plate, a coupling-plate interlocked with the stud, and means for engaging the front end of the coupling-plate to prevent the same from swinging inward and outward, substantially as described.

2. A device of the class described comprising a hame-plate having front and rear portions arranged at an obtuse angle to each other, the front portion having its inner face recessed to fit a hame, and provided with a slotted ear, and the rear portion forming a rigid rearwardly-extending projection, a headed stud mounted on the rear portion of the

hame-plate, and a coupling-plate interlocked with the stud, substantially as described.

3. A device of the class described comprising a hame-plate provided with a stud, a coupling-plate interlocked with the stud, and provided at its front end with a curved slot, and a fastening device arranged in the slot and limiting the oscillation of the coupling-plate, substantially as described.

4. A device of the class described comprising a hame-plate provided with a stud and having a recess in advance of the same, and a coupling-plate interlocked with the stud and having its front portion fitting in the recess and held against inward and outward movement by the same, substantially as described.

5. A device of the class described comprising a hame-plate provided with a recess, opening rearwardly, a staple for securing the hame-plate to a hame arranged contiguous to the recess, and a coupling-plate interlocked with the hame-plate at a point in rear of the staple and having its front end supported by the staple and the recess, substantially as described.

6. A device of the class described comprising a hame-plate provided with a recess, a staple arranged contiguous to the socket, a stud mounted on the hame-plate, a coupling-plate having an opening to receive the stud and interlocked with the same, said coupling-plate extending beneath the staple and into the recess and provided with a slot, and a fastening device passing through the slot and limiting the movement of the coupling-plate, substantially as described.

7. A device of the class described comprising a hame-plate designed to be secured to a hame, a coupling-plate pivoted between its ends to the hame-plate and provided with a curved slot, and a fastening device passing through the curved slot of the coupling-plate and mounted on the hame-plate to limit the pivotal movement of the former, substantially as described.

8. A device of the class described comprising a hame-plate, a staple passing through the hame-plate for securing the same to a hame, said staple projecting beyond the hame-plate to provide a loop, and a coupling-plate pivoted between its ends on the hame-plate and having one end arranged within the loop formed by the staple, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

SAMUEL H. SWEARINGEN.

Witnesses:

J. P. TALLEY,
GEO. L. BARTOW.