

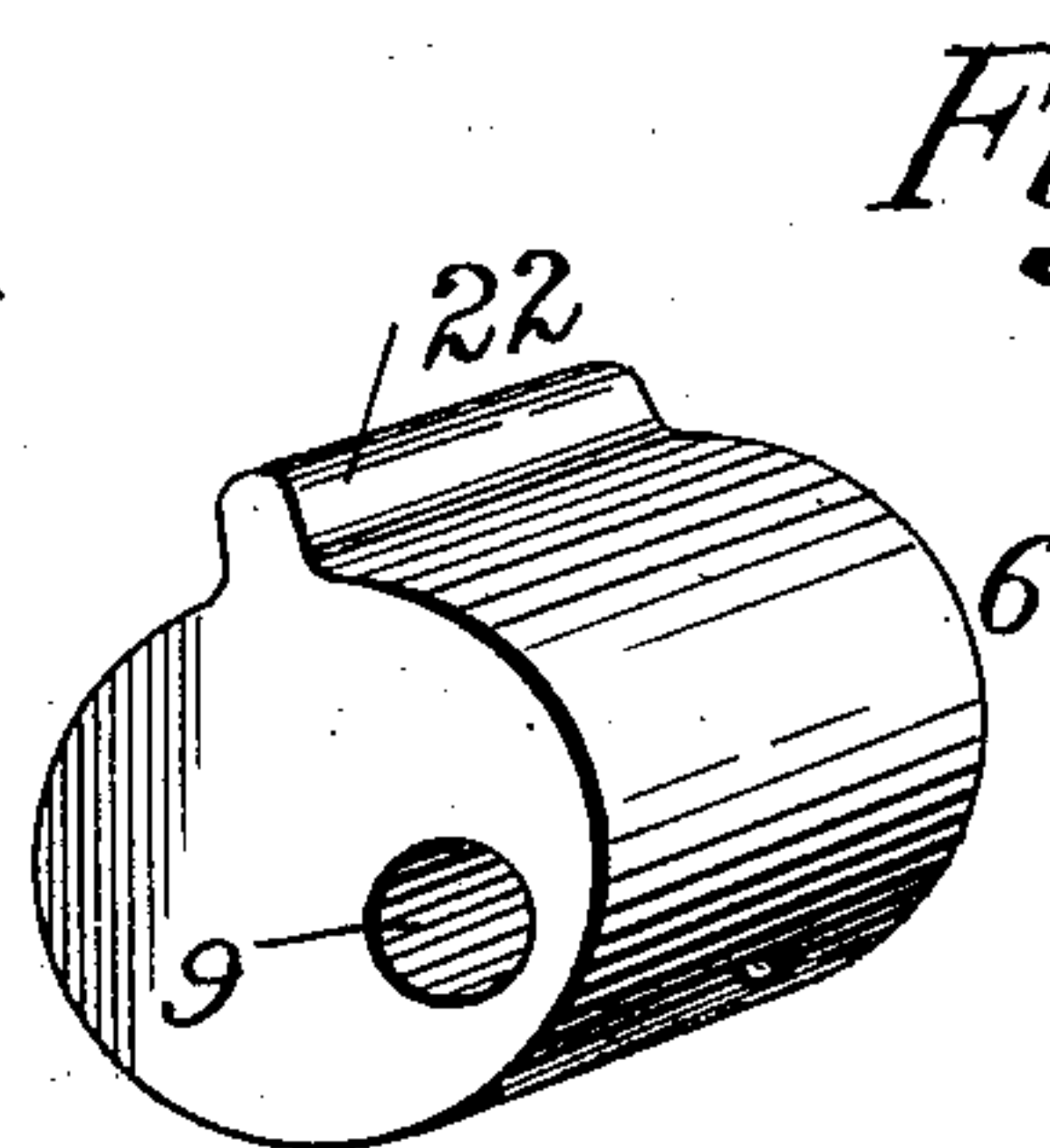
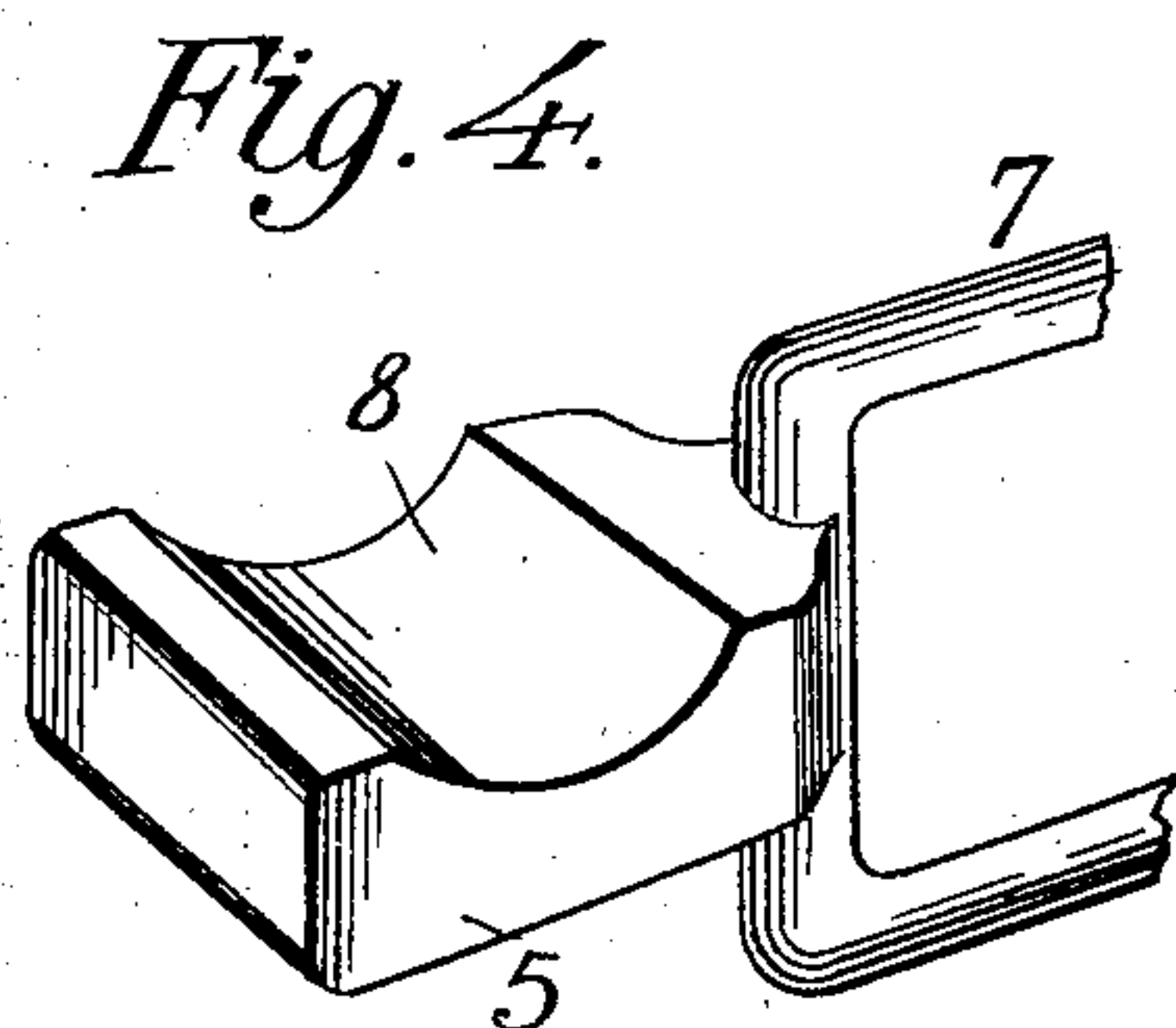
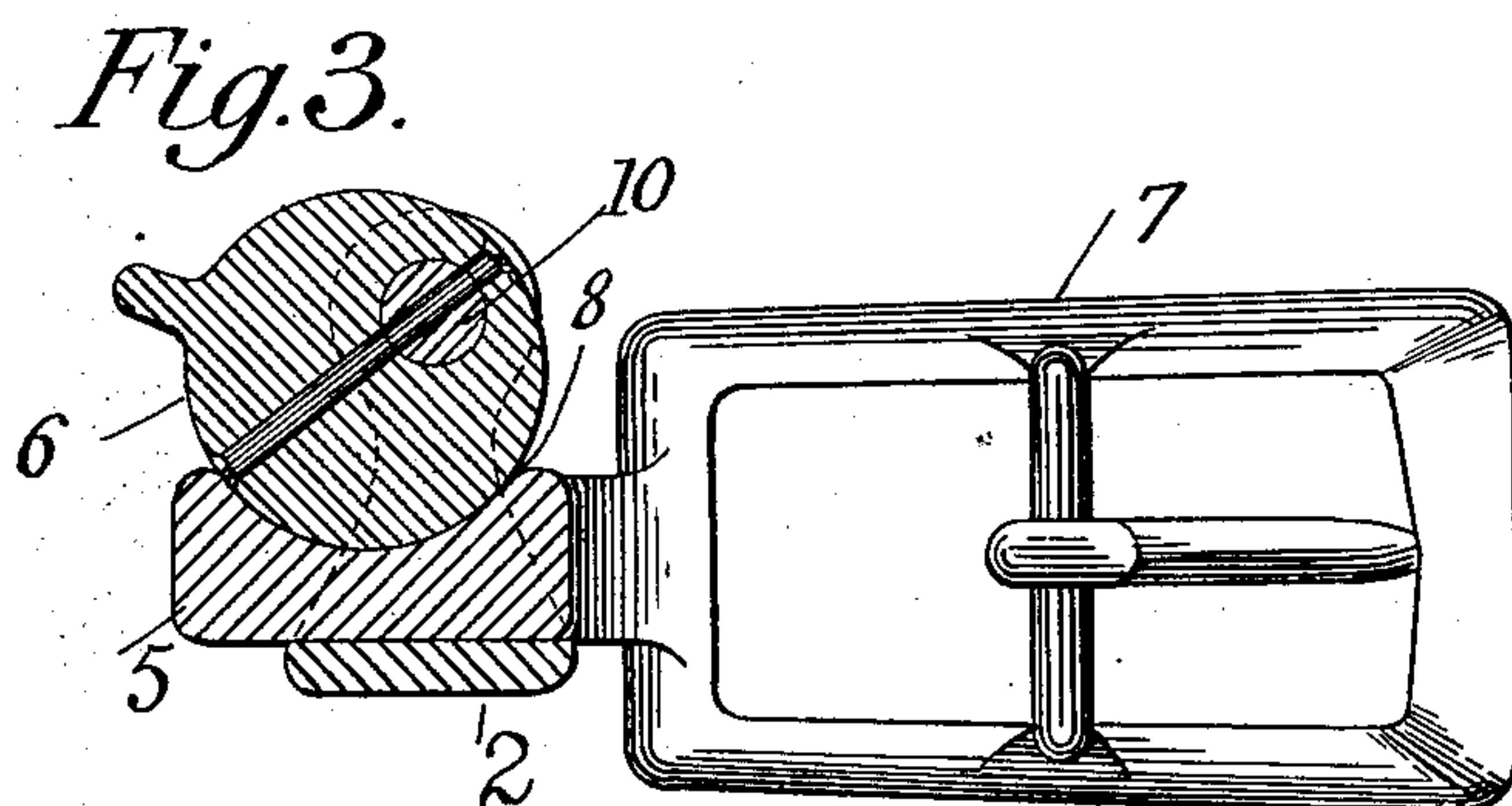
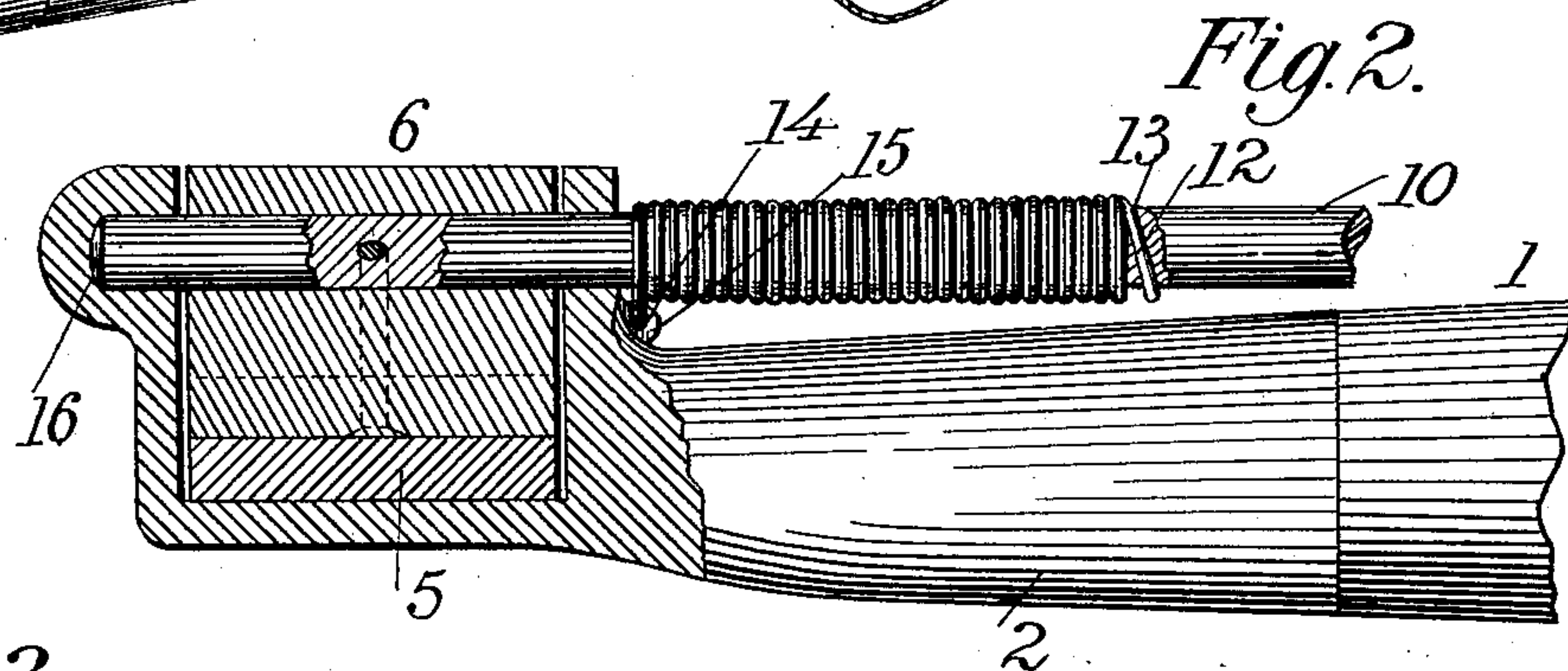
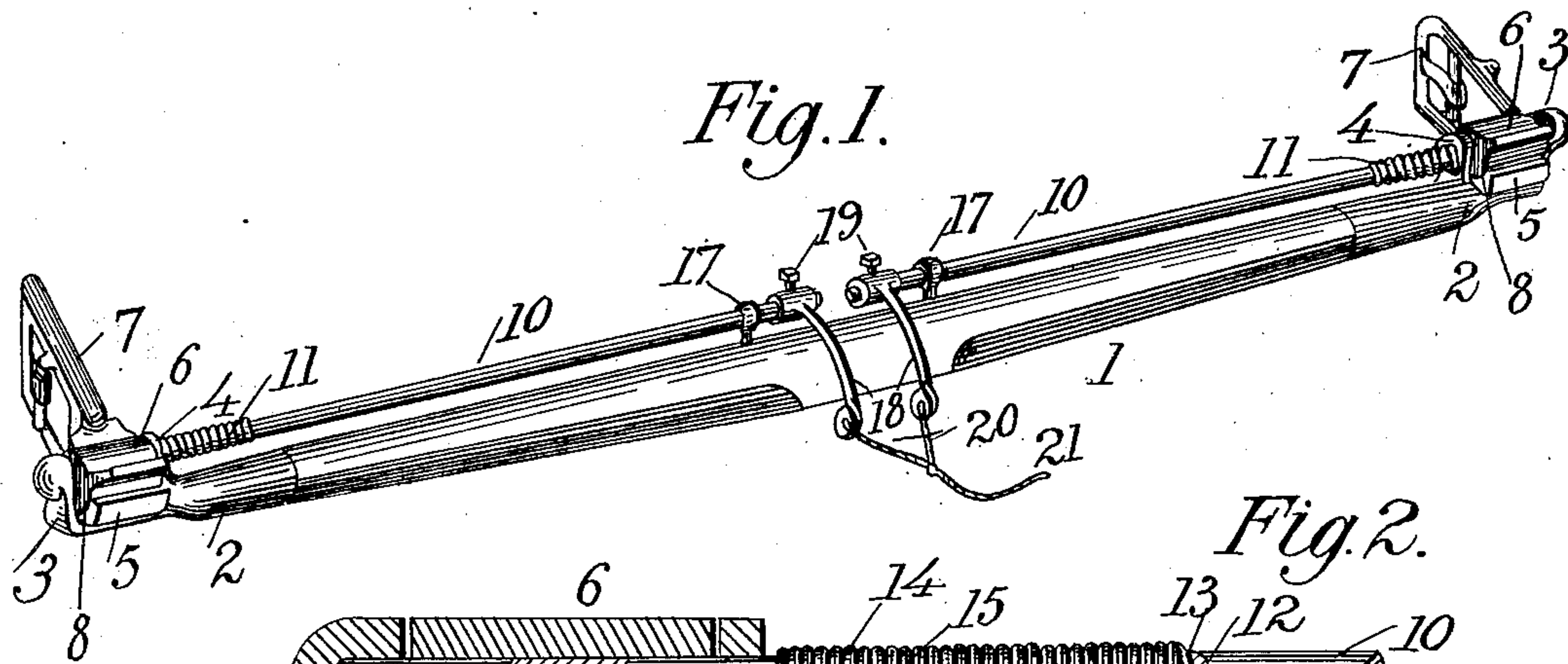
No. 685,375.

Patented Oct. 29, 1901.

S. A. HAINES.  
HORSE DETACHER.

(Application filed Apr. 3, 1901.)

(No Model.)



Witnesses  
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# UNITED STATES PATENT OFFICE.

SAMUEL ALFRED HAINES, OF GARRETT, TEXAS.

## HORSE-DETACHER.

SPECIFICATION forming part of Letters Patent No. 685,375, dated October 29, 1901.

Application filed April 3, 1901. Serial No. 54,198. (No model.)

*To all whom it may concern:*

Be it known that I, SAMUEL ALFRED HAINES, a citizen of the United States, residing at Garrett, in the county of Ellis and State of Texas, have invented a new and useful Horse-Detacher, of which the following is a specification.

The invention relates to improvements in horse-detachers.

The object of the present invention is to improve the construction of horse-detachers and to increase their strength, durability, and efficiency and to provide one adapted to enable a horse to be readily released from a pair of shafts and capable of facilitating hitching and unhitching.

Another object of the invention is to provide a horse-detacher of this character, capable of enabling the traces to be simultaneously disconnected from a singletree, and adapted to permit them to be attached to and removed from the same separately.

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.

In the drawings, Figure 1 is a perspective view of a whiffletree provided with a horse-detacher constructed in accordance with this invention. Fig. 2 is an enlarged longitudinal sectional view of one end of the whiffletree. Fig. 3 is a transverse sectional view of the same. Fig. 4 is a detail perspective view of the concaved plate. Fig. 5 is a similar view of the cam.

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

1 designates a whiffletree designed to be mounted on the cross-bar of a pair of thills and provided at its ends with sleeves or ferrules 2, tapered outwardly and provided at their outer ends with inner and outer upwardly-extending ears 3 and 4, arranged in pairs and forming recesses for the reception of plates 5, which are engaged by cams 6. The plates 5, which have flat lower faces, are formed integral with and constitute shanks or extensions of buckles 7, and the said plates, which are approximately rectangular, fit be-

tween the upwardly-extending perforated ears 3 and 4 and are provided with concave upper faces 8, forming cam-receiving recesses. The plate, which is arranged in a plane at right angles to that of the buckle, is connected to the rear end bar of the latter at the center of the same, and the said buckle, which is arranged in a vertical plane, extends longitudinally of and is adapted to receive an ordinary trace.

The cams, which are circular in cross-section, are provided with eccentrically-arranged openings 9 and are mounted on longitudinal shafts 10, journaled in suitable gearings of the inner and outer ears, as clearly illustrated in Fig. 2 of the drawings. The cams, which engage the recessed upper faces of the plates, are held against the latter by coiled springs 11, disposed on the shafts 10 and connected with the same and with the sleeves or ferrules. The inner end 12 of the spring is arranged in a perforation 13 of the shaft, and the outer end 14 of the said spring is passed through a perforation of a lug 15, formed integral with the sleeve or ferrule and arranged adjacent to the inner ear. The shafts pass through perforations of the inner ear and have their outer ends fitted in sockets 16, formed by enlargements of the outer ears. The inner portions of the shafts are supported by suitable eyes or bearings 17 of the whiffletree, and arms 18 are secured by set-screws 19 or other suitable fastening devices to the inner ends of the shafts and are connected with branches 20 of a flexible operating connection 21, designed to extend to the vehicle and to be arranged within easy reach of the driver. The arms are adapted to be swung upward by the flexible connection to rotate partially the longitudinal shafts and swing the cams upward out of engagement with the plates of the buckles. This arrangement also permits the shafts to be rotated independently of each other, so that the traces may be connected with and detached from the whiffletree independently of each other in hitching and unhitching, and in order to enable the cams to be readily lifted by hand they are provided at their rear faces with lips or flanges 22, adapted to be readily grasped by the operator. The cams are se-



cured to the ends of the shafts by suitable transverse fastening devices passing through the cams and the outer ends of the shafts.

It will be seen that the horse-detacher is  
5 exceedingly simple and inexpensive in construction, that it is adapted to simultaneously disconnect the traces from a singletree to free a horse and prevent injury to a vehicle and its occupants in event of a runaway, and that  
10 it will enable the traces to be separated.

What I claim is—

1. A device of the class described comprising a whiffletree, sleeves arranged at the ends of the whiffletree and provided with inner and  
15 outerears forming recesses, buckles provided at their rear ends with plates or shanks arranged in planes at right angles to the buckles and provided at their upper faces with recesses, longitudinal shafts mounted on the  
20 whiffletree, and cams arranged between the ears and connected with the shafts and en-

gaging the said plates, substantially as described.

2. A device of the class described comprising a whiffletree, sleeves arranged on the  
25 whiffletree at the ends thereof and provided with ears forming recesses, said sleeves being also provided with perforated lugs, longitudinal shafts mounted on the whiffletree, coiled springs disposed on the shafts and having  
30 their inner ends arranged in perforations thereof, the outer ends of the springs being arranged in the perforations of the lugs, and cams mounted on the shafts and arranged between the ears, substantially as described. 35

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

SAMUEL ALFRED HAINES.

Witnesses:

W. H. SPAKE,

O. H. CHAPMAN.