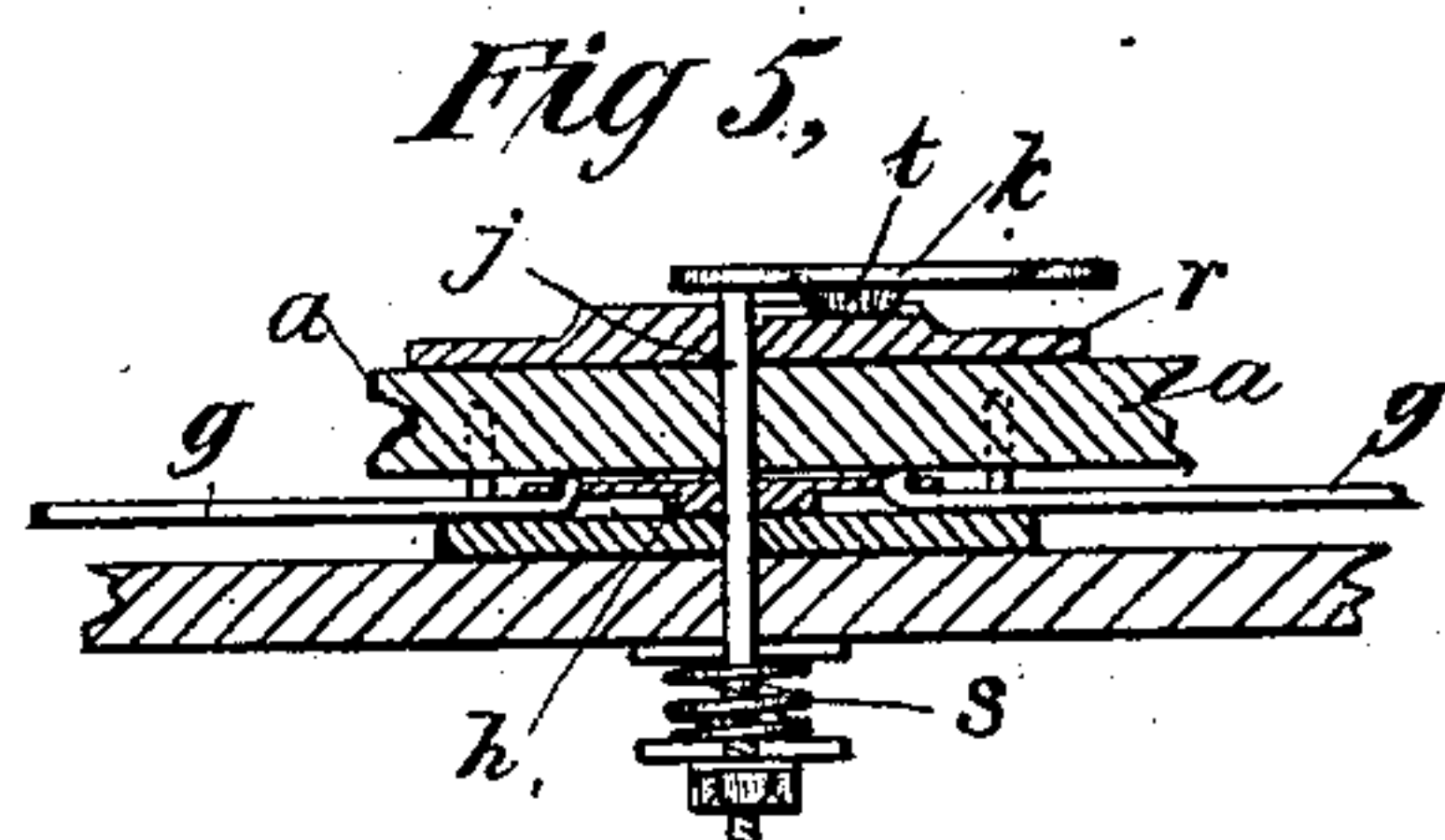
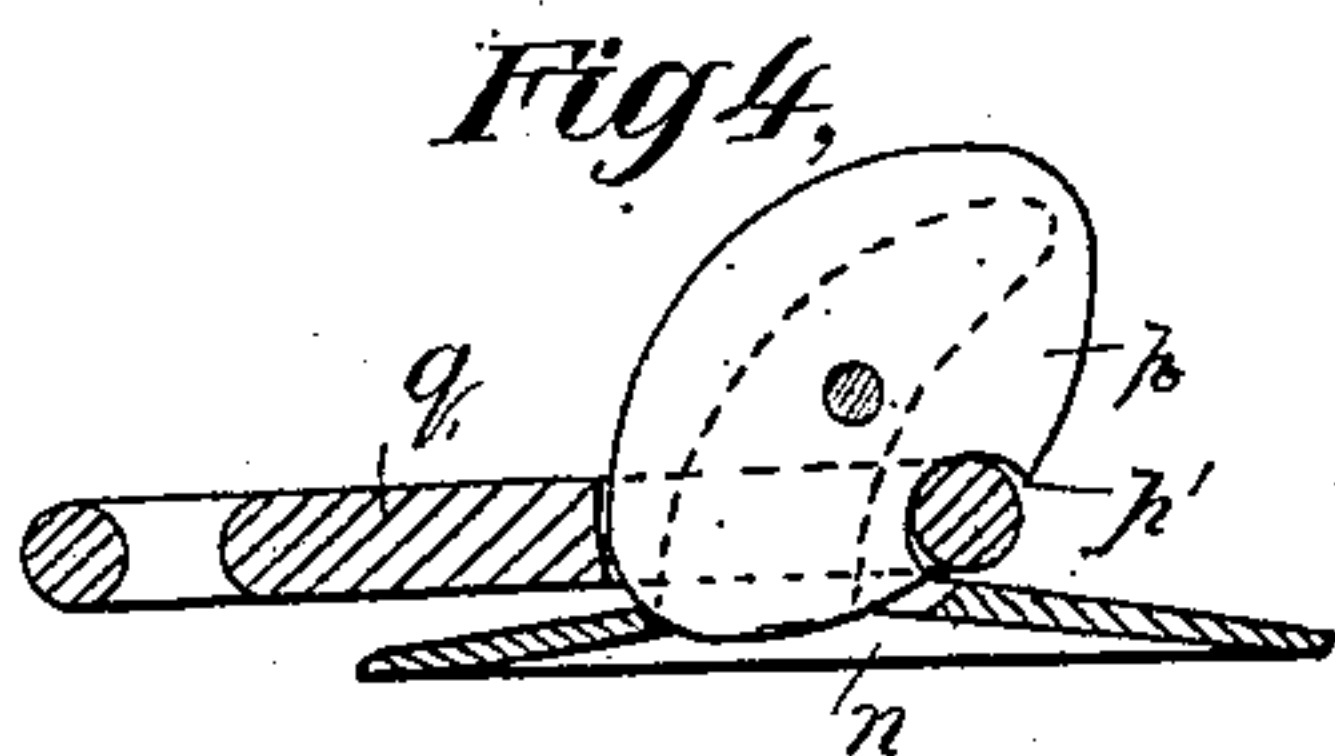
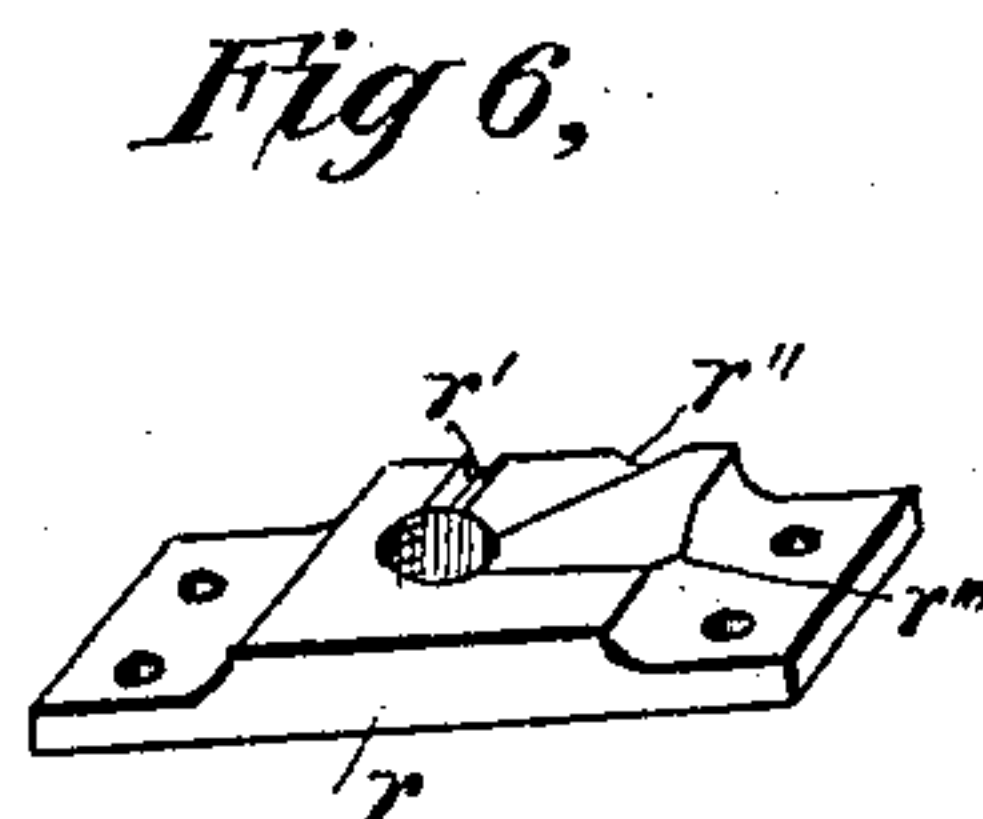
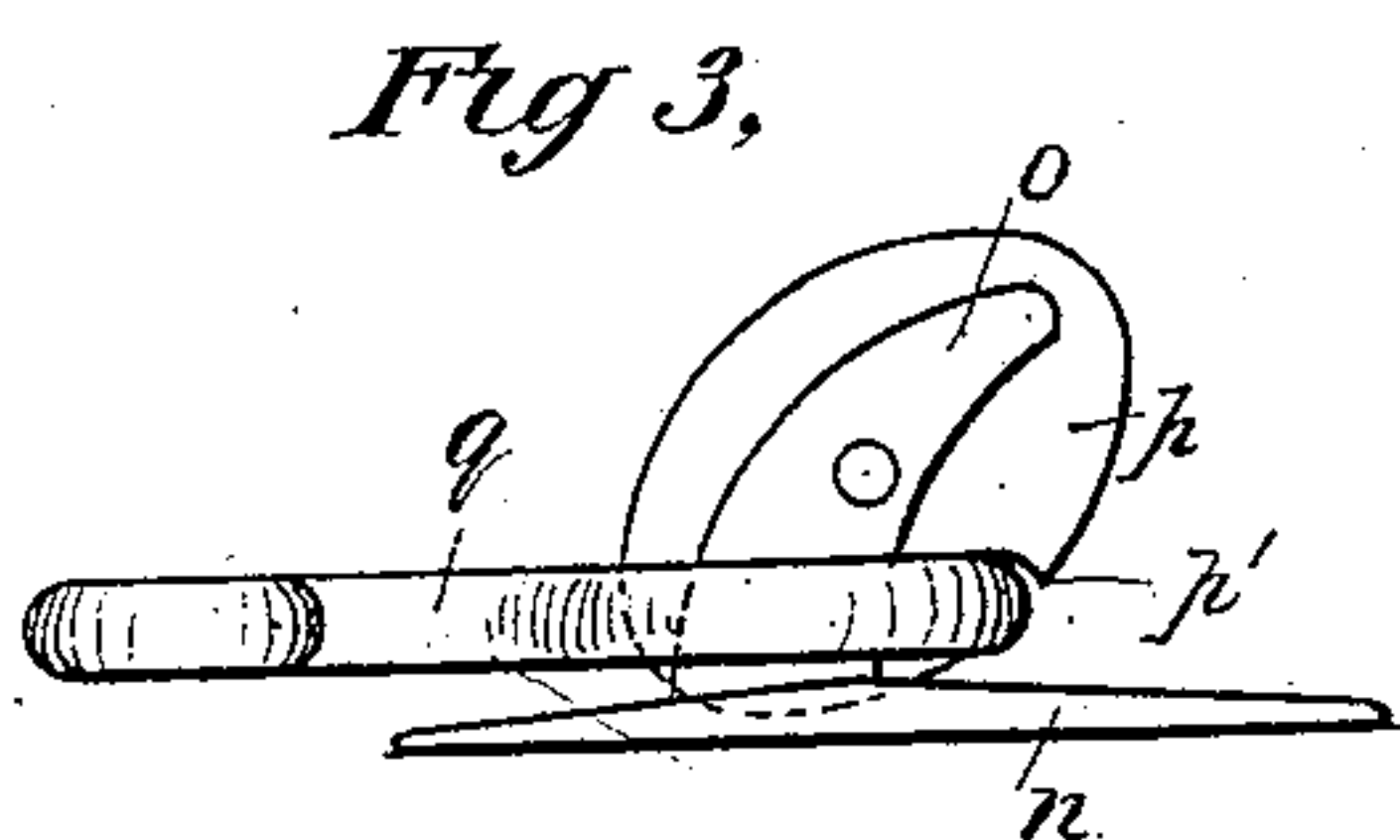
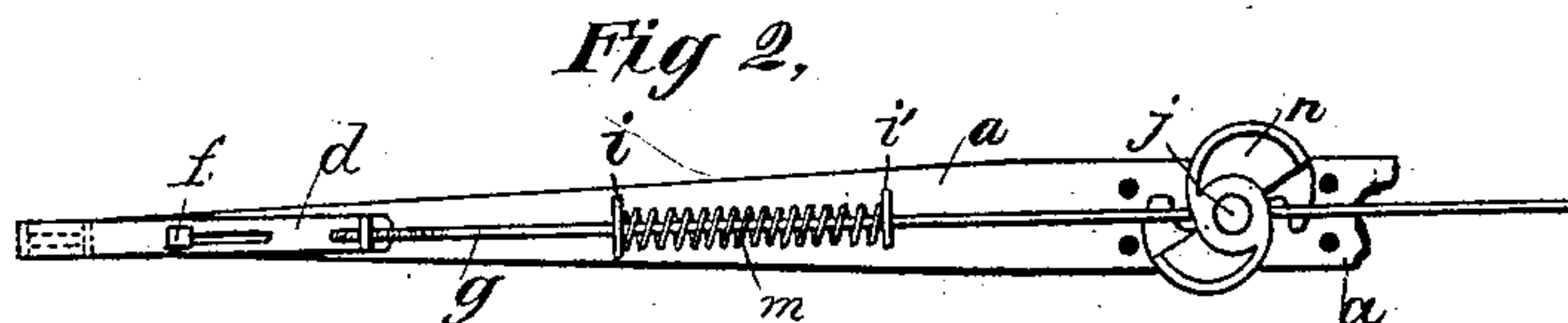
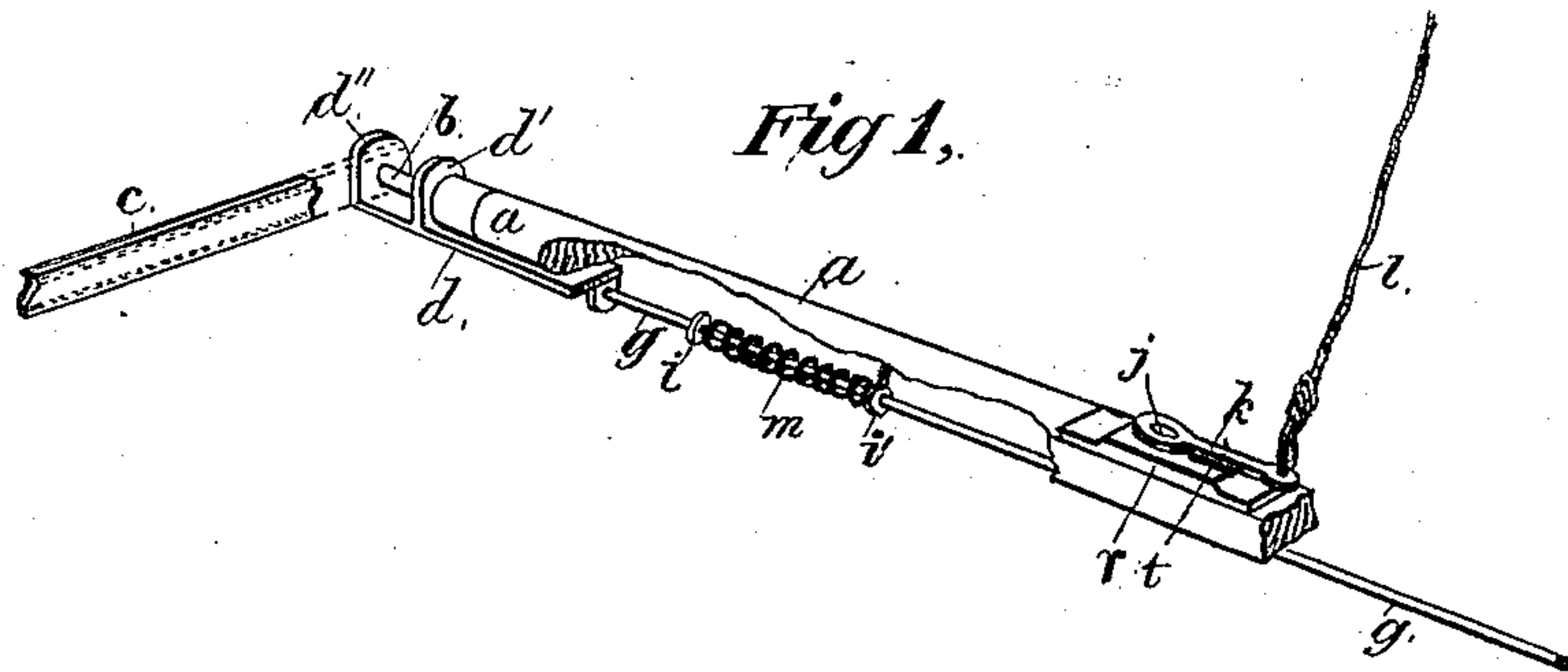


(No Model.)

H. L. WATTS.
Horse Detacher.

No. 241,169.

Patented May 10, 1881.



Attest:
John H. Barr,
Thos. McCombs

Inventor:
Henry L. Watts.
BY Geo. T. Maxwell, atty.

UNITED STATES PATENT OFFICE.

HENRY L. WATTS, OF ST. PETER, MINNESOTA, ASSIGNOR TO THEODORE G. CARTER, OF SAME PLACE.

HORSE-DETACHER.

SPECIFICATION forming part of Letters Patent No. 241,169, dated May 10, 1881.

Application filed July 20, 1880. (No model.)

To all whom it may concern:

Be it known that I, HENRY L. WATTS, a citizen of the United States, of St. Peter, in the county of Nicollet and State of Minnesota, have invented certain new and useful Improvements in Horse-Detachers; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The object of this invention is to provide a simple and effective means whereby a horse can be instantly released from the vehicle to which he is attached at the option of the driver.

The invention consists, first, in providing the whiffletree of a vehicle with a device for releasing the tugs of the harness, and, secondly, in providing a device for automatically releasing the holdback-strap as soon as the tugs become released, as described hereinafter.

To this end I construct the whiffletree with a bolt passing through its center, by which it is attached to the cross-bar of the shafts or the double-tree in the usual manner. Between the whiffletree and cross-bar or double-tree I place an S-shaped cam, through the center of which the bolt passes, said cam operating upon the ends of rods running parallel with the whiffletree. To the opposite ends of these rods are fastened plates, which are secured near the outer ends of the whiffletree by a screw or bolt which passes through a slot in said plate, which allows the plate to move relatively to the rod to which it is attached. Upon the upper face of the plate are two projections, through one of which the rod to which the tug is fastened passes, the other projection forming an abutment for said rod, and also serves to keep the tug in place.

I further provide a device for automatically releasing the holdback-strap, which consists in a bed-plate provided with a forked protuberance, in which is pivoted an elliptical plate, in the under face of which is a notch or cavity for the reception of the holdback-strap loop. This notch or cavity in the lower face of the elliptical plate is made concentric with the upper face of said plate, so that it is impossible

for the strap-loop to become disengaged until it has passed a point at right angles to the bed-plate, so that, it matters not how loose the holdback-strap may be, it cannot become detached until the tug has been released, when the horse will, by his forward movement, release the strap-loop, which will entirely free him from the vehicle.

In the accompanying drawings, Figure 1 is a perspective view of a device constructed according to my invention. Fig. 2 is an underside view of a portion of a whiffletree with my device applied. Fig. 3 is a detail view, on a larger scale, of the device for holding the holdback-strap. Fig. 4 is a section of the same. Fig. 5 is a longitudinal vertical section through the central part of whiffletree and cross-bar. Fig. 6 is a perspective view of the notched plate for holding the winch to place.

a represents the whiffletree; *b*, the rod or stud to which the tug *c* is attached; *d*, the plate secured near the end of the whiffletree, and provided with two projections, *d'* *d''*, for the purpose of holding the tug *c* securely in place on the rod or stud *b*.

f is the screw or bolt by which the plate *d* is held in place.

g is the rod, which passes through an eyebolt, *i*, secured to the whiffletree. The inner end of the rods are flattened and turned at right angles toward the whiffletree, thus forming a hook, around which the S-shaped cam engages when the parts are as shown in Fig. 1, which serves to securely hold the parts in place and prevent the tugs from coming unfastened. The other end of this rod is secured to the plate *d*.

Through the center of the S-shaped cam passes the bolt *j*. The upper (or lower, if preferable) extremity of this bolt is provided with a winch, *k*, to which a cord, *l*, is attached, which is passed to a place convenient for the driver.

n represents the bed-plate of my holdback-strap support; *o*, the forked protuberance; *p*, the elliptical plate, having notch or cavity *p'* for the reception of the strap-loop *q*.

In order to keep the parts firmly in place, I find it necessary in some cases to provide a plate, *r*, on the top of the whiffletree, having an annular flange provided with three notches,

r' r'' r''' , to receive a wedge-shaped protuberance, t , formed on the winch k . This construction, together with a spring, s , situated above or below, holds the parts firmly in place, but does not interfere with their ready operation. The first notch, r' , holds the parts in the position desired to hold the tugs c upon the rods b . The second notch is to hold the parts in the position to allow the tugs to be taken off or put on by hand, and the third notch is to hold the parts in the position they reach when the tugs are forced off.

The spring s may be of spiral or flat form and placed in any convenient place, and in some cases rubber may be used; but I prefer to use a spring of spiral form, as shown at s , which bears against a plate fastened to the lower extremity of bolt j , and by the constant downward pressure of said spring cause the protuberance t to occupy the notches r' r'' r''' as they are in succession brought in line with the winch k . The parts are thus firmly held in any desired position in such a manner as not to interfere with their ready operation.

The operation is as follows: When desired to release the horse the driver has simply to pull the cord l , which rotates the bolt j , and consequently the **S**-shaped cam h , which is rigidly attached to the bolt. This forces the rods g outward, and with them the plates d and projections d' d'' formed thereon, the projection d' , in its movement, forcing the tug from the rod or stud b . The tugs now being released, the forward movement of the horse detaches the holdback-strap, as hereinbefore set forth. Upon releasing the cord and disengaging the winch k with the plate r , the parts are immediately returned to place by a spring, m ,

one end of which abuts against the eyebolt fastened to the whiffletree, through which the rod g passes, and the other end abuts against a collar, i' , upon the rod g , which tends to keep the inner end of the rods constantly in contact with the **S**-shaped cam h .

The device is applicable to double as well as single teams.

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

1. The combination, with the whiffletree of a vehicle, of plates d d' d'' , secured to rods g , said rods being provided with springs m , and abutting against an **S**-shaped cam, h , and bolt j , provided with winch k , as and for the purpose set forth.

2. The backing-strap support consisting of bed-plate n , forked protuberance o , and elliptical plate p , provided with notch p' , for the purpose set forth.

3. In combination with the whiffletree of a vehicle and the detaching devices thereof, the plates r , provided with notches r' r'' r''' , bolt j , winch k , protuberance t , and spring s , substantially as and for the purpose set forth.

4. In a whiffletree, the combination of plates d , having projections d' d'' , secured to rods g , which are bent at right angles at their inner ends, with the **S**-shaped cam h , as and for the purpose set forth.

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

HENRY L. WATTS.

Witnesses:

GID. S. IVES,
S. O. STRAND.