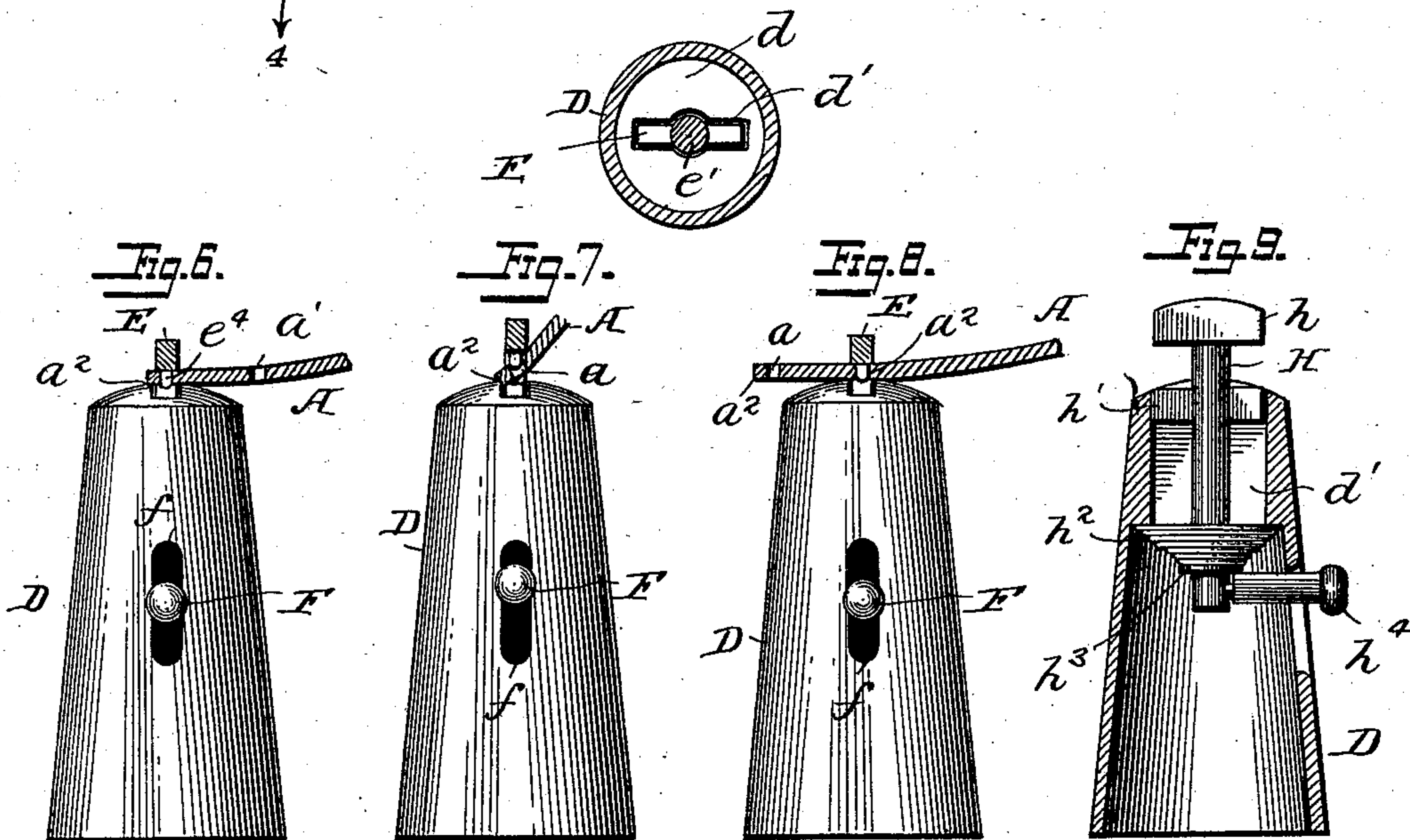
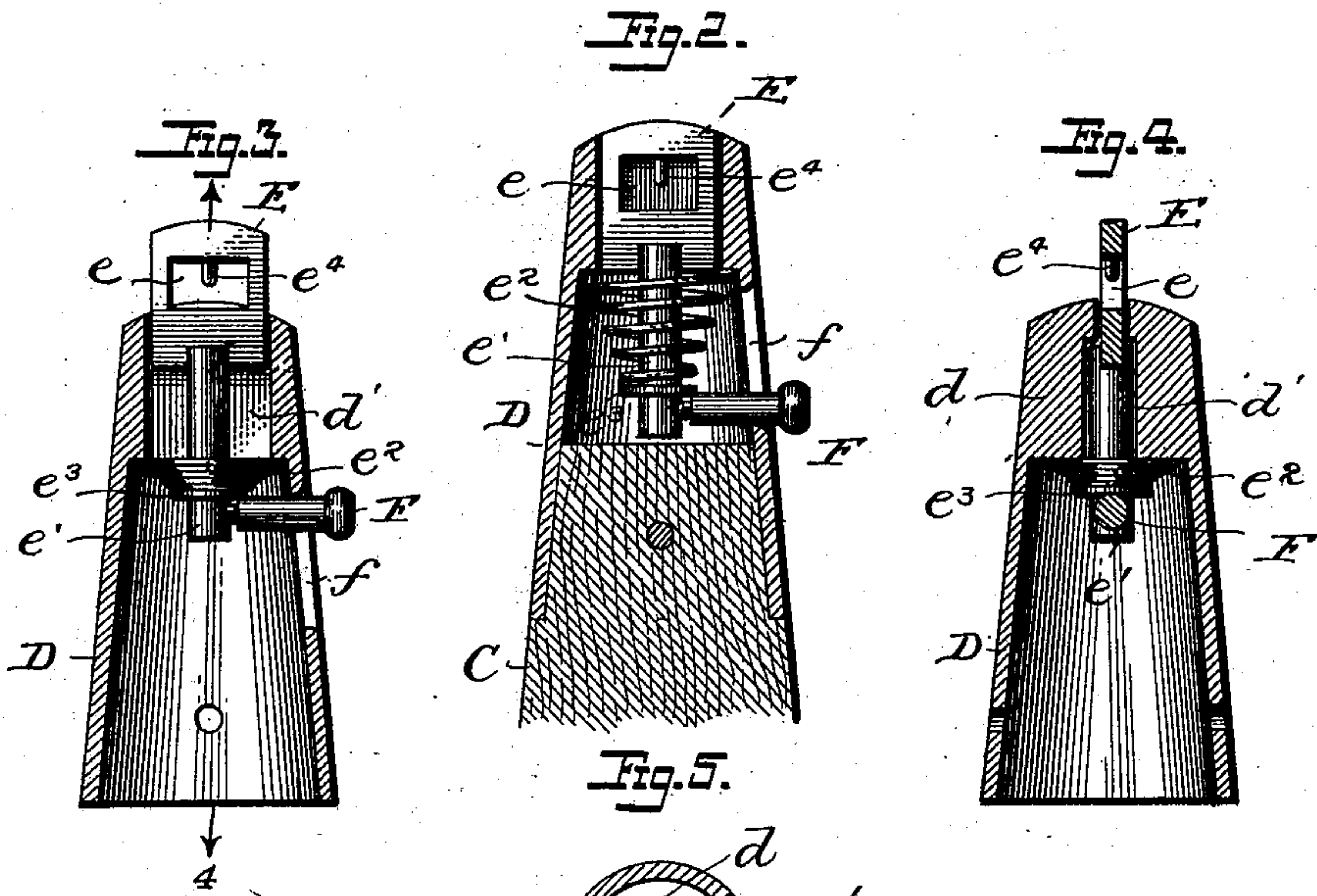
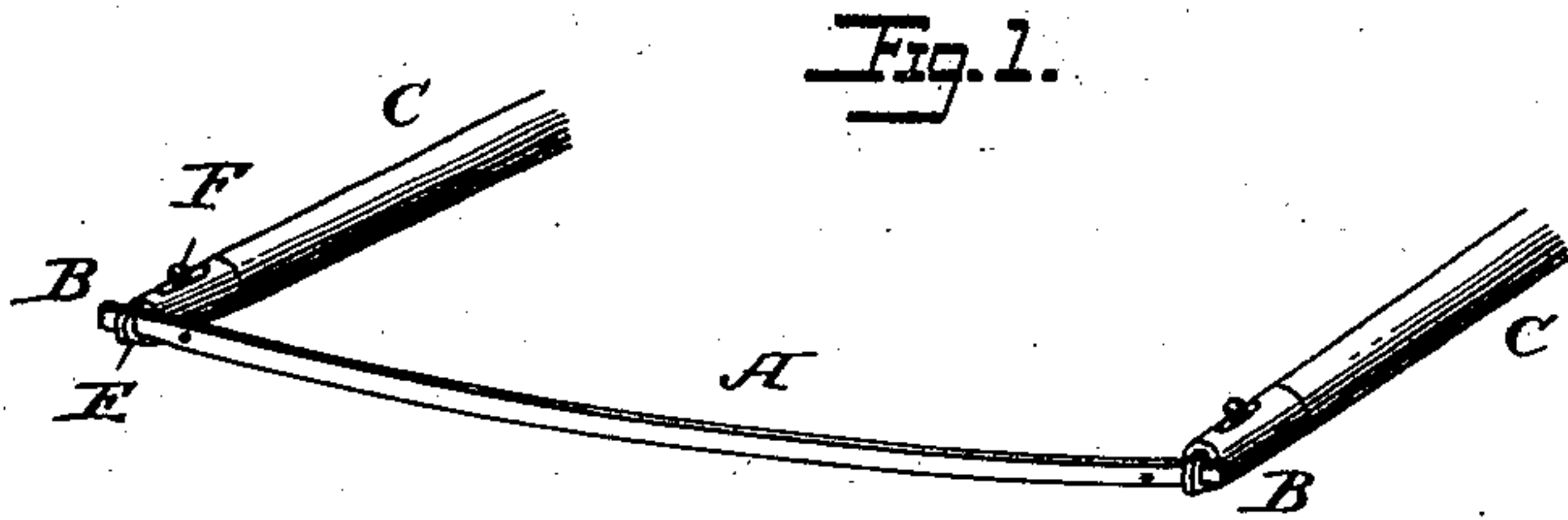


(No Model.)

C. A. EISENHART.  
TIP FOR WAGON SHAFTS.

No. 506,309.

Patented Oct. 10, 1893.



Witnesses  
Jno. G. Hinkel.  
Will E. Stiff

Inventor  
C. A. Eisenhart  
By J. Watson  
Attorney



# UNITED STATES PATENT OFFICE.

CHARLES A. EISENHART, OF YORK, PENNSYLVANIA.

## TIP FOR WAGON-SHAFTS.

SPECIFICATION forming part of Letters Patent No. 506,309, dated October 10, 1893.

Application filed August 24, 1893. Serial No. 483,941. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES A. EISENHART, a citizen of the United States, residing at York, in the county of York and State of Pennsylvania, have invented certain new and useful Improvements in Tips for Wagon-Shafts, Single-trees, &c., of which the following is a specification.

My invention relates to tips for wagon shafts, single-trees and the like and it consists more particularly in a tip having a spring retracted device for engaging and holding a strap.

The preferred form of my invention is that hereinafter described for connecting a rein supporting strap to the ends of wagon shafts.

My invention may be used in other forms however, and adapted to other purposes, such for instance, as connecting traces to a single-tree, as hereinafter described.

In the accompanying drawings, in which like reference signs refer to similar parts throughout the several views, Figure 1 is a perspective view of the ends of a pair of shafts provided with my improved rein support. Fig. 2 is a sectional view of the shaft tip showing the strap holder in its normal or inward position. Fig. 3 is a view similar to Fig. 2 but showing the strap holder projected to its full extent. Fig. 4 is a sectional view on the line 4-4 of Fig. 3. Fig. 5 is an end view of the tip. Fig. 6 is a view showing the strap holder in section with the strap in position to be automatically detached. Fig. 7 is a view similar to Fig. 6, but showing the strap just as it is being automatically detached. Fig. 8 is a view similar to Fig. 6 but showing the strap in its locked position, and Fig. 9 is a view of a modification which may be used for attaching traces to single-trees and for similar purposes.

The object of my invention is to produce a tip for the shafts or other parts of a vehicle suitable for holding a strap.

The preferred form of the invention is a shaft tip adapted to hold a light strap which is arranged to extend from the tip of one shaft to that of the other in front of a horse to form a support for the reins and prevent them from getting under or entangled with the shafts. The rein supporting strap might be permanently connected to one shaft, and de-

tachably connected to the other shaft when needed for use by means of my improved tip. I prefer however to use the tips for both of the shafts.

In order to form a proper rein support the strap should not be too loose between the shafts but should be kept nearly at a level with them. When the strap is thus stretched between the shaft tips, if the horse should start he would come against the strap and the strain in pulling the carriage which is usually transmitted through the traces would be put upon the rein support and might either break it or injure the tips. To prevent this my improved tip is so designed that when the strap is engaged with it in a certain way it will become disengaged automatically if the horse starts; but if the strap is differently engaged with the tip it will be locked thereto and cannot be separated by any amount of pulling upon the strap. Under these circumstances the usual way of using the support would be to lock the strap to one of the shaft tips and connect it to the other by the automatically detachable connection.

Referring to Figure 1 of the drawings A indicates the rein supporting strap which is suspended between the tips B-B of a pair of shafts C-C. Figs. 2, 3 and 4 are sectional views showing the different parts of the tip. The body of the tip is a conical cap or ferrule D open at the larger end to receive the shaft and nearly closed at the smaller end by a thick wall *d*. Through the wall *d* is an oblong opening *d'* in which is fitted a strap holder, the outer end of which is normally kept flush with the end of the tip by means of a spring. The description thus far applies to all of the figures shown in the drawings.

In Figs. 2 to 8 inclusive, the strap holder consists of a flat plate E having an oblong opening *e* to receive the strap and a stem *e'* which is preferably round. The plate E is fitted loosely in the opening *d'* and it is normally drawn into said opening, as shown in Fig. 2, by a spring *e<sup>2</sup>* which surrounds the stem *e'* and is interposed between the wall *d* of the tip and a washer *e<sup>3</sup>* upon the shank *e'*. The plate or tongue E is pressed outward in the position shown in Fig. 3 by means of a stud or handle F which is rigidly fastened to the stem *e'* and extends through an opening



*f* in the cap D. The plate E has a small tongue *e*<sup>4</sup> projecting inwardly from the outer wall of the opening *e* which tongue is about equal in cross section to the tongue of an ordinary buckle but much shorter. In each end of the strap A I make two perforations, one *a* near the end of the strap and the other *a'* which may be an inch more or less from the end.

The operation of the device above described is as follows: When it is desired to connect the strap so that it will automatically detach itself when pulled by the horse I push the plate E outward and insert the strap with the end hole *a* opposite the tongue *e*<sup>4</sup>. The spring is then permitted to draw the tongue into the hole in the strap and the strap will be thus retained so long as it is not pulled outward by the forward movement of the horse. The ordinary strain upon the strap due to the weight of the lines will never be sufficient to detach it. But should the horse start forward the strap will be strained in the direction indicated in Fig. 7 and on account of the shortness of the portion *a*<sup>2</sup> between the hole *a* and the end, this portion will act as the short arm of a lever which will press the plate E slightly outward and permit the strap to slide off of the tongue *e*<sup>4</sup> as shown in Fig. 7. If it is desired to lock the strap to the tip the tongue *e*<sup>4</sup> is placed in the second hole *a'*. When in this position the strap cannot be disengaged from the tongue by pulling it in any direction. To disengage the strap the tongue must be pressed outward by means of the knob or handle F. The strap is usually carried in the carriage or wagon and when the horse is to stand for any considerable time the strap is connected to the shafts to support the lines. The preferred mode of attaching it is to connect the outer hole of the strap to one of the tips and the inner hole at the other end to the other tip so that the strap may be disengaged automatically without danger of its dropping to the ground or its getting lost.

In Fig. 9 I have shown a tip for the end of a single-tree which is arranged to receive and hold the trace. Instead of the plate E on the shaft tip I use a shank or stem H which has a T-shaped head *h* and guided wings *h'* which run in the opening *d'* of the wall *d*. The shank H is provided with a spring *h*<sup>2</sup>, a washer *h*<sup>3</sup> and a knob or handle *h*<sup>4</sup> similar to the corresponding parts in the shaft tip. To connect the trace to the single-tree the shank H is pressed outward and the T-shaped head is passed through the hole in the trace after which the trace is given a quarter turn as usual. The spring *h*<sup>2</sup> is then allowed to retract the stem H and the trace is compressed and held between the head *h* and the wall *d'* at the outer end of the tip. The trace is thus held in the usual manner but with additional security by reason of the substitution of the spring head *h* for the ordinary rigid head or fastening.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination with the tapered cap or ferrule having a wall across its outer end provided with an oblong opening, of a shank or stem passing through the opening and provided at its outer end with a strap holding device and at its inner end with a spring adapted to draw the strap holding device within the opening of the wall, substantially as described.

2. The combination with a tapered cap or ferrule having a wall across its smaller end provided with an oblong opening therein, of a shank or stem passing through the opening, a strap holding device upon the outer end of said shank, a handle upon the inner end projecting through an opening in the ferrule, and a spring arranged between the handle and the wall, substantially as described.

3. In a shaft tip the combination with the cap or ferrule having a wall across its outer end and an opening in the wall, of a plate adapted to slide within the opening, said plate having an opening, a tongue projecting inwardly from the outer wall of the opening, and a spring arranged to draw the plate within the tip, substantially as described.

4. In a shaft tip the combination with the cap or ferrule having a wall across its outer end and an oblong opening in the wall, of a plate E having a rectangular opening *e*, a tongue *e*<sup>4</sup> projecting inwardly from the outer wall of the opening, a shank *e'* having a handle F extending through the side of the cap or ferrule, and a spring arranged to normally hold the plate E within the opening in the wall, substantially as described.

5. The combination with the cap or ferrule having a wall across its outer end and an oblong opening in the wall, of a plate adapted to slide within the opening, said plate having a rectangular opening *e* and a tongue *e*<sup>4</sup> projecting inwardly from the outer wall of the opening *e*, a spring arranged to draw the plate E normally within the tip, and a strap having a perforation close to its end to receive the tongue *e*<sup>4</sup>, said strap being adapted to be engaged with and disengaged from the tip, substantially in the manner set forth.

6. The combination with the tapered cap or ferrule having a thick wall integral therewith across its outer end, said wall being provided with an oblong opening, of a shank having a plate E at its outer end provided with a rectangular opening *e* and tongue *e*<sup>4</sup>, and a washer *e*<sup>3</sup> and stud or handle F at its inner end, and a spring *e*<sup>2</sup> interposed between the washer and the end wall of the tip, substantially as described.

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

CHARLES A. EISENHART.

Witnesses:

JOHN C. DEETER,  
PETER E. STOUGH.