

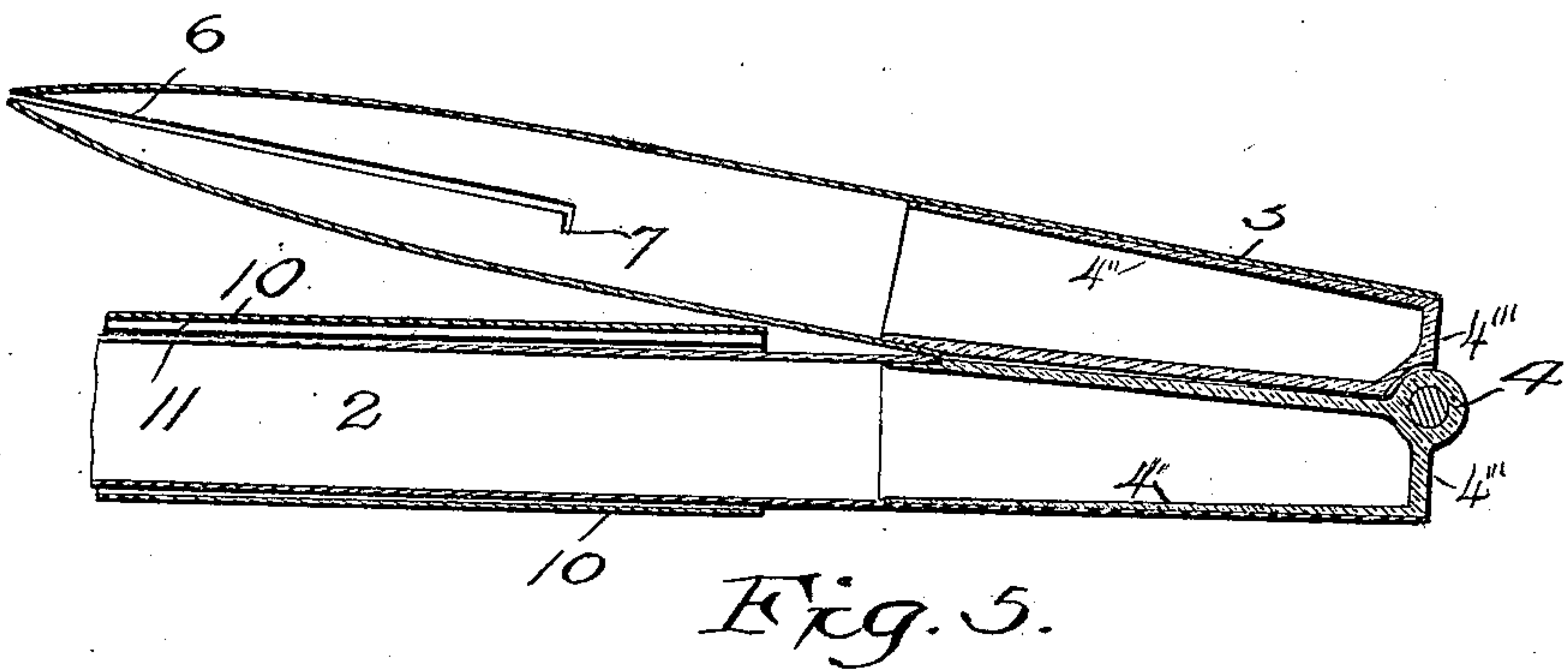
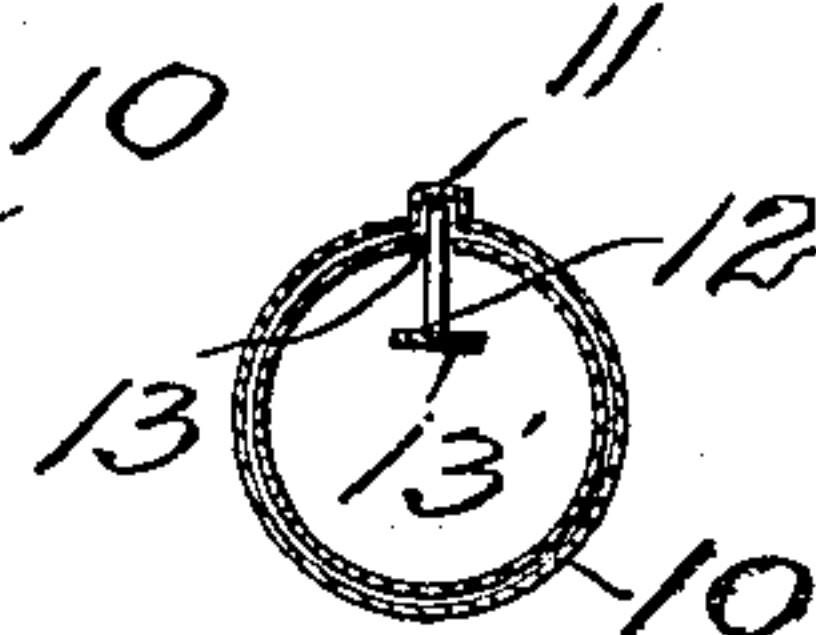
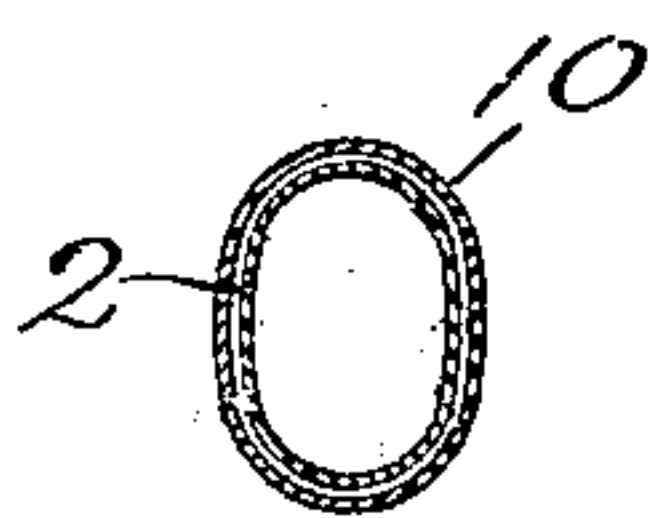
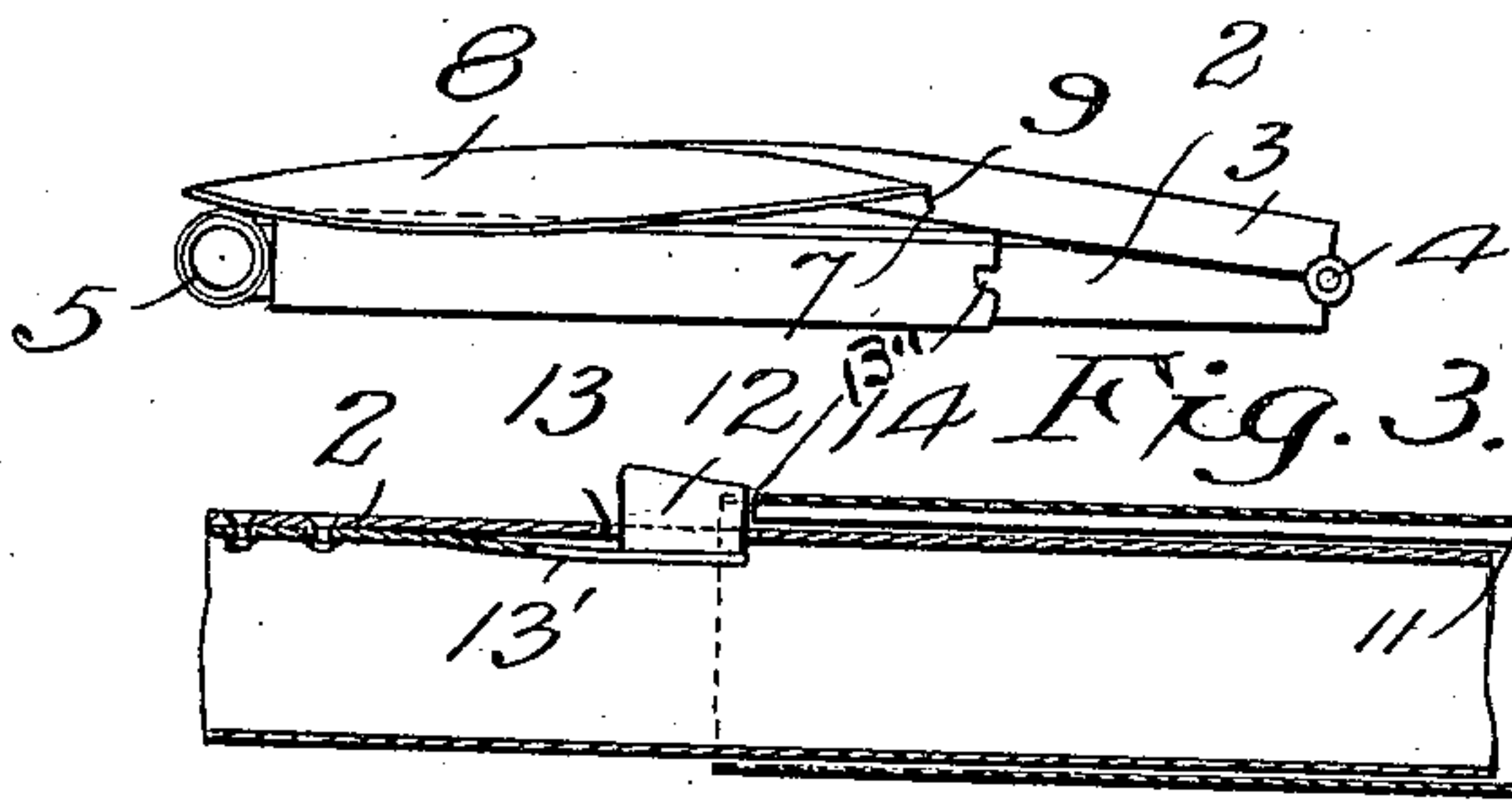
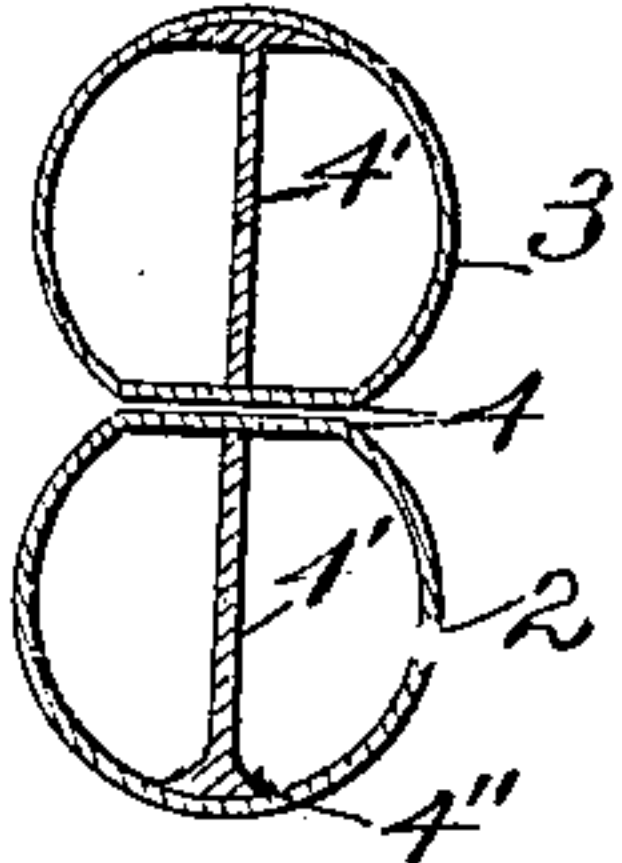
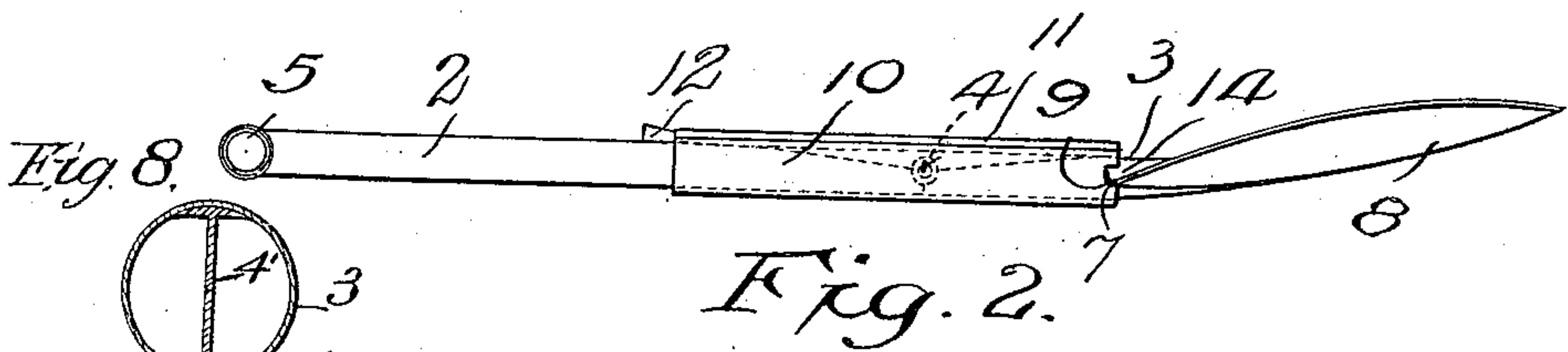
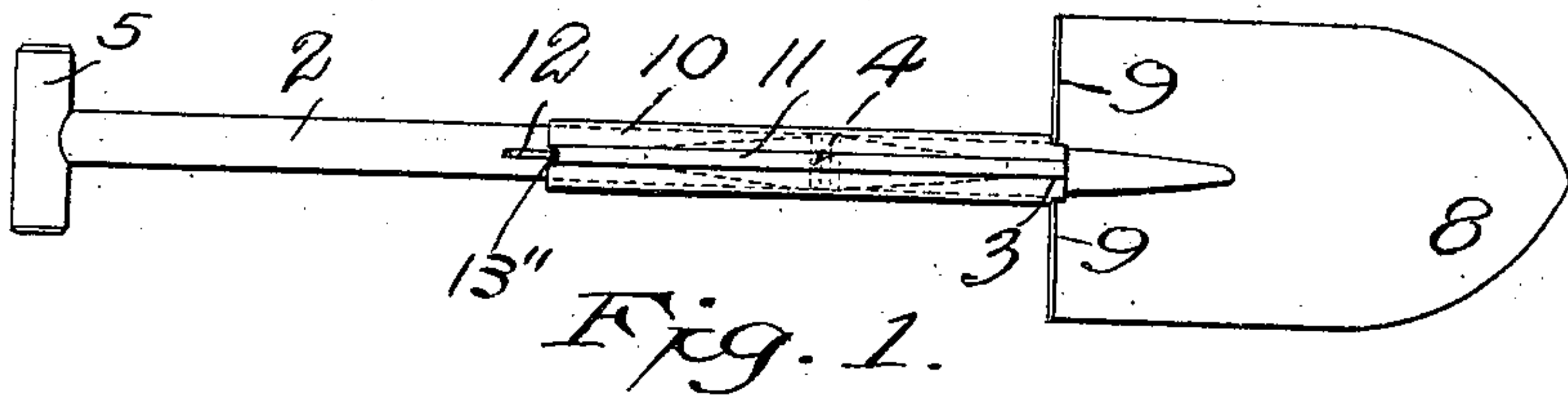
No. 641,401.

Patented Jan. 16, 1900.

P. NICOLAY.  
SHOVEL.

(Application filed Oct. 17, 1898.)

(No Model.)



WITNESSES:  
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# UNITED STATES PATENT OFFICE.

PETER NICOLAY, OF MINNEAPOLIS, MINNESOTA.

## SHOVEL.

SPECIFICATION forming part of Letters Patent No. 641,401, dated January 16, 1900.

Application filed October 17, 1898. Serial No. 693,706. (No model.)

*To all whom it may concern:*

Be it known that I, PETER NICOLAY, of Minneapolis, Hennepin county, State of Minnesota, have invented certain new and useful Improvements in Shovels, of which the following is a specification.

My invention relates to shovels or spades that are adapted to be folded into a compact package or bundle to facilitate the transportation of the same; and the particular object of my invention is to provide a folding shovel that will be light in weight, though strong and durable in construction, and especially adapted for army use, as a soldier can easily carry it with his other luggage on a march and readily put it into condition for use when it is desired to dig an intrenchment.

The invention consists in various constructions and combinations, all as hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings, forming part of this specification, Figure 1 is a plan view of a shovel embodying my invention. Fig. 2 is a side view of the same. Fig. 3 is a side view showing a shovel folded. Fig. 4 is a detail of the mechanism for locking the sleeve in position. Fig. 5 is a longitudinal sectional view of a shovel-handle with the blade removed. Fig. 6 is a sectional view showing the spring-catch and the bead in the slidable sleeve. Fig. 7 is a cross-section of the handle and sliding sleeve. Fig. 8 is a transverse section through the hinge and handle when the shovel is folded.

In the drawings, 2 and 3 represent sections of the handle or shank of the shovel, said sections being composed, preferably, of steel tubing connected by a strap-hinge 4, the rounded surface of the steel tubing composing the sections being cut away to receive the hinge-straps, which will be below the surface of the tubing, thus permitting one section to be folded over upon the other and the shovel packed into a neat compact bundle. The edges of the hinge-straps are preferably brazed to the edges of the tubing, and I also prefer to provide a reinforcing-strip 4' beneath each hinge inside the tubes 2 and 3, each of said reinforcing-plates having one edge secured to a hinge-strap and its opposite edge provided with a flange 4'', which is preferably brazed

to the inside of the tubing, and thus holds the reinforcing-plates firmly in position. The abutting ends of the tubes 2 and 3 are preferably closed by disks 4''', said disks being preferably brazed to the ends of the tubing and to the ends of the reinforcing-plates, and said disks greatly strengthen the ends of the tubing to which the hinge is connected and also present broad bearing-surfaces for the abutting ends of the sections 2 and 3, preventing undue strain upon the hinge and increasing the strength and rigidity of the handle. A similar disk may be provided, if preferred, at the inner end of each reinforcing-plate. The upper section 2 has a hand-grip 5, and the lower section 3 is slightly tapered at its free end and provided with a longitudinal slot having a right-angle offset 7 at its inner end. A blade 8 is provided fitting within said slot 6 and having a turned-up edge 9 to enter the offset 7 to aid in holding the blade firmly in position and to strengthen its inner edge, said blade being also riveted in the ordinary manner to the tapering end of the section of tubing.

When the blade is secured in position on the end of the part 3, the lower section of the shovel is substantially the same length as the upper section, so that the parts when folded over together form a neat compact bundle, the section 2 of the handle resting within the curved blade 8, as shown in Fig. 3. In this position the shovel can be packed into a very small compass and be easily shipped from place to place or packed into a bundle and transported by a soldier upon his back.

Upon the section 2 I provide a closely-fitting slidable sleeve 10, having a longitudinal bead or rib 11, forming a guide for a spring-catch 12, said catch projecting through a slot 13 in the section 2, being supported by a spring 13', secured to the inner surface of said section 2. The lower end of the sleeve 10 is provided with slots or notches 14 to receive the end of the blade 8, thereby strengthening the blade and preventing a twisting strain upon the hinge while the shovel is in use. When the sleeve has been moved down into engagement with the edge of the blade, the spring-catch snaps up through the slot 13, above the end of the sleeve, and locks the same in position against longitudinal movement, while



the end of the catch lying in a notch 13" at the end of the bead 11 prevents the sleeve from turning until such time as it is desired to fold up the shovel, when the catch may be pressed down and the sleeve moved to the upper end of the handle to permit the blade portion of the shovel to be folded over the upper section, as described.

As shown in Fig. 7, I may prefer to provide tubing for the handle-sections and sleeve that is oval in cross-section, in which case it will not be necessary to provide a guide for the spring-catch, as the sleeve will have no movement other than a longitudinal one on the hinged sections.

Obviously the various details of construction may be modified by any one skilled in the art, and I therefore do not confine myself to the exact construction herein shown and described.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A shovel, comprising a blade, and a handle composed of folding tubular sections or parts, a single hinge connecting said sections, the leaves or straps of said hinge lying within the circumference of the respective sections to which they are secured these being cut away to permit the shovel to be compactly folded, a sleeve slidable on said handle, and means for locking said sleeve over said hinge against both longitudinal and rotary movement, substantially as described.

2. In a folding shovel having its handle composed of tubular sections, a hinge having its leaves or straps secured respectively to said sections within recesses provided in their abutting ends, to permit compact folding of the shovel, and reinforcing means provided within said sections, substantially as described.

3. A shovel having its handle composed of folding sections, a blade secured to one of said sections, a slidable sleeve arranged upon said handle and provided with a longitudinal bead and a spring-catch adapted to enter said bead and permit the longitudinal movement of said sleeve and to engage the upper end of said sleeve and lock the same securely in position while the shovel is in use, substantially as described.

4. The combination, with a shovel having its handle composed of sections hinged together and provided with a suitable blade, of a sleeve slidable over the sections composing said handle said sleeve being provided at its lower end with notches to engage the edge of said blade, and a spring-catch to engage the upper end of said sleeve to lock the same in position, substantially as described.

5. A shovel comprising folding sections, the lower section having a slot 6 provided with an offset 7, a sleeve slidable upon said sections, means for locking said sleeve over the joint between said sections, a blade 8 fitting within said slot and provided with a turned-up edge to enter said offset 7 and means securing said blade in said slot, substantially as described.

6. A folding shovel having a handle composed of hollow steel sections 2 and 3 hinged together, a sleeve slidable upon said sections, means locking said sleeve against longitudinal movement over the joint connecting said sections, a blade, and means securing the same to one of said sections, said sleeve having notches in its lower end to receive the edge of said blade whereby said blade is strengthened and a twisting strain upon the hinge connection between said sections is prevented, substantially as described.

7. In a folding shovel, having its handle composed of tubular sections, a hinge having its leaves or straps included within the circumference of the sections to which they are respectively secured these being cut away to permit one section to be folded over upon the other into a close compact bundle, substantially as described.

8. A shovel having its handle composed of folding sections, a blade secured to one of said sections, a sleeve provided on said handle and slidable over said sections, means for locking said sleeve over the joint between said sections and means for preventing a twisting strain upon said joint when the shovel is in use, substantially as described.

In witness whereof I have hereunto set my hand this 12th day of October, 1898.

PETER NICOLAY.

In presence of—

RICHARD PAUL,  
M. C. NOONAN.