

No. 832,187.

PATENTED OCT. 2, 1906.

E. A. HALBLEIB.  
SIGNAL.

APPLICATION FILED MAY 22, 1905.

2 SHEETS—SHEET 1.

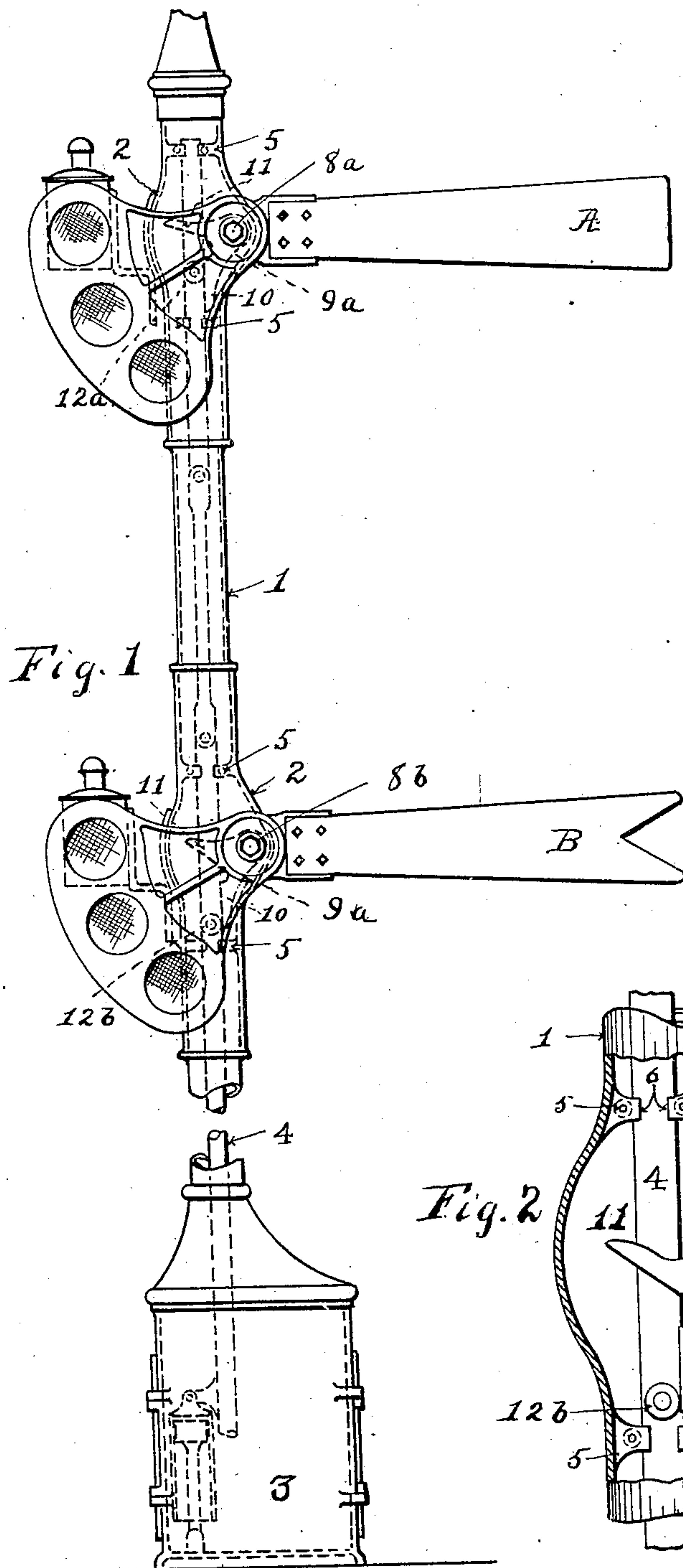


Fig. 1

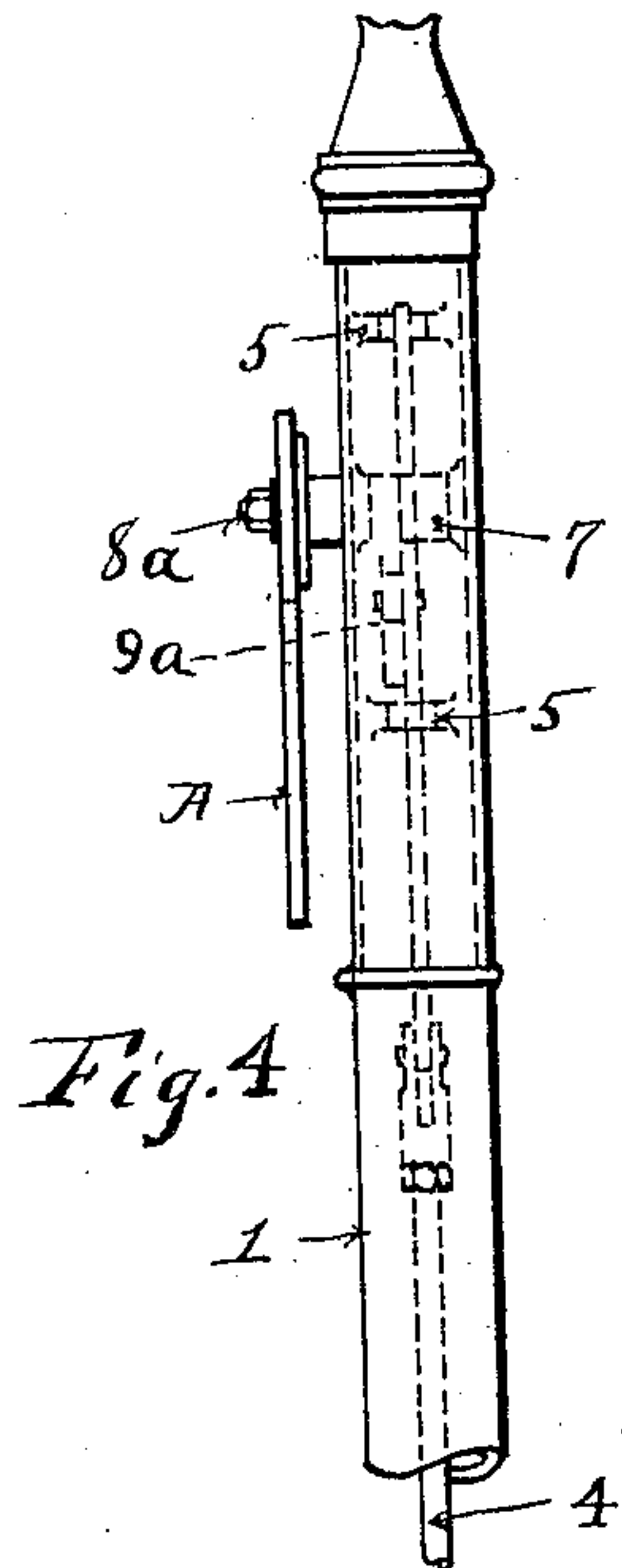


Fig. 4

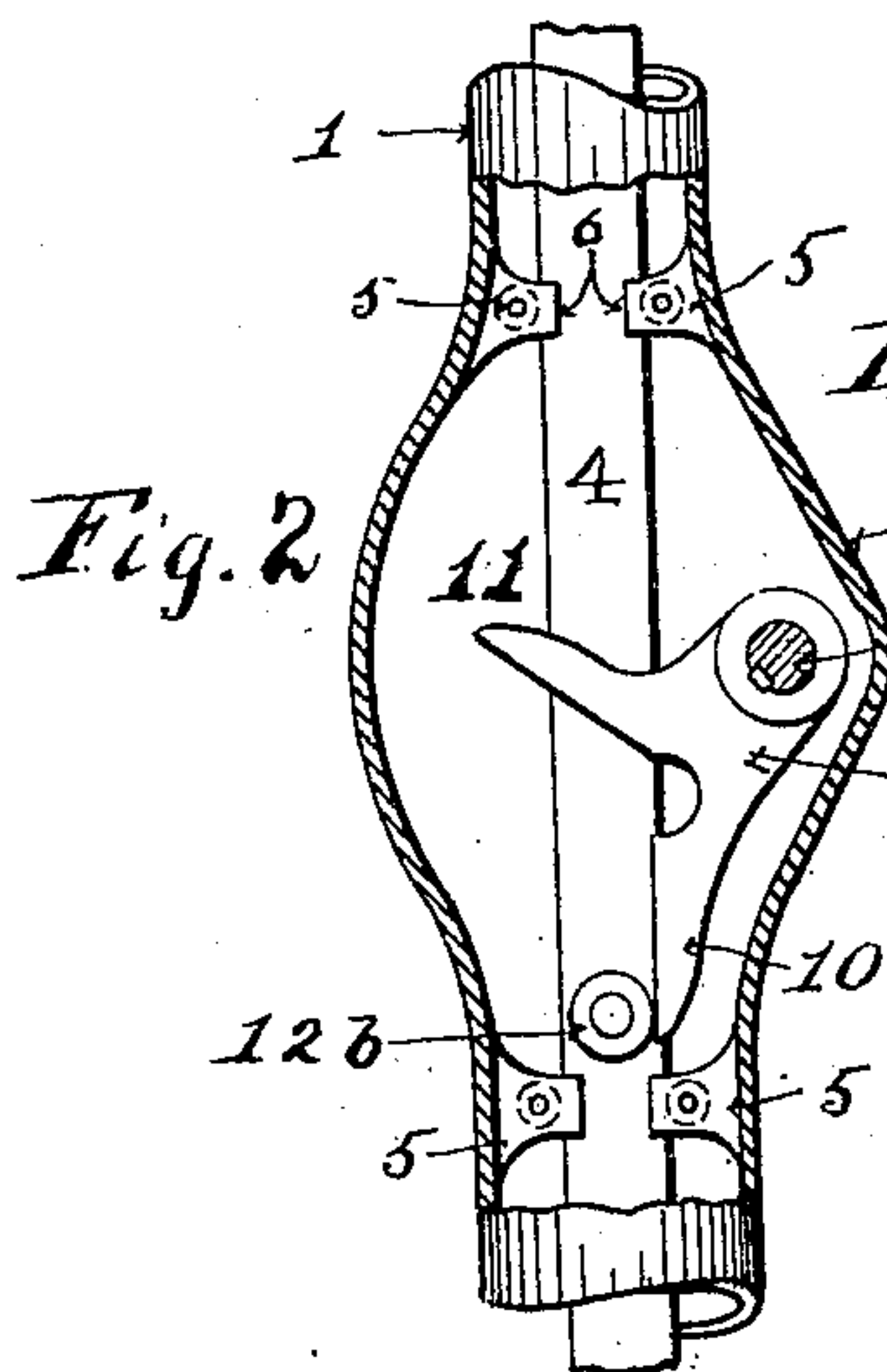


Fig. 2

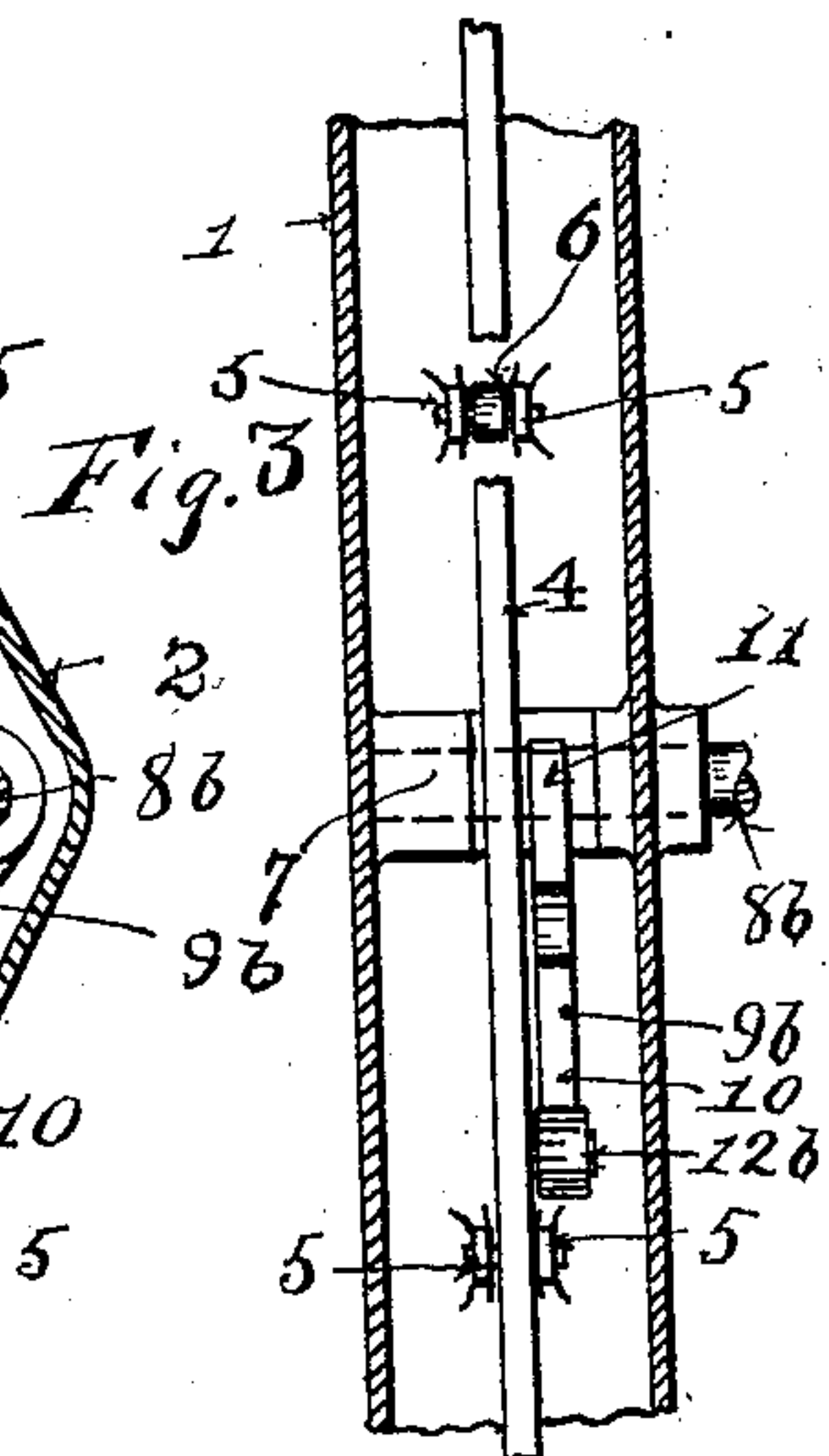


Fig. 3

Witnesses:

William G. Frye  
E. A. Kelly

Inventor:  
Edward A. Halbleib  
By: *Marion Ellis*  
Attorneys

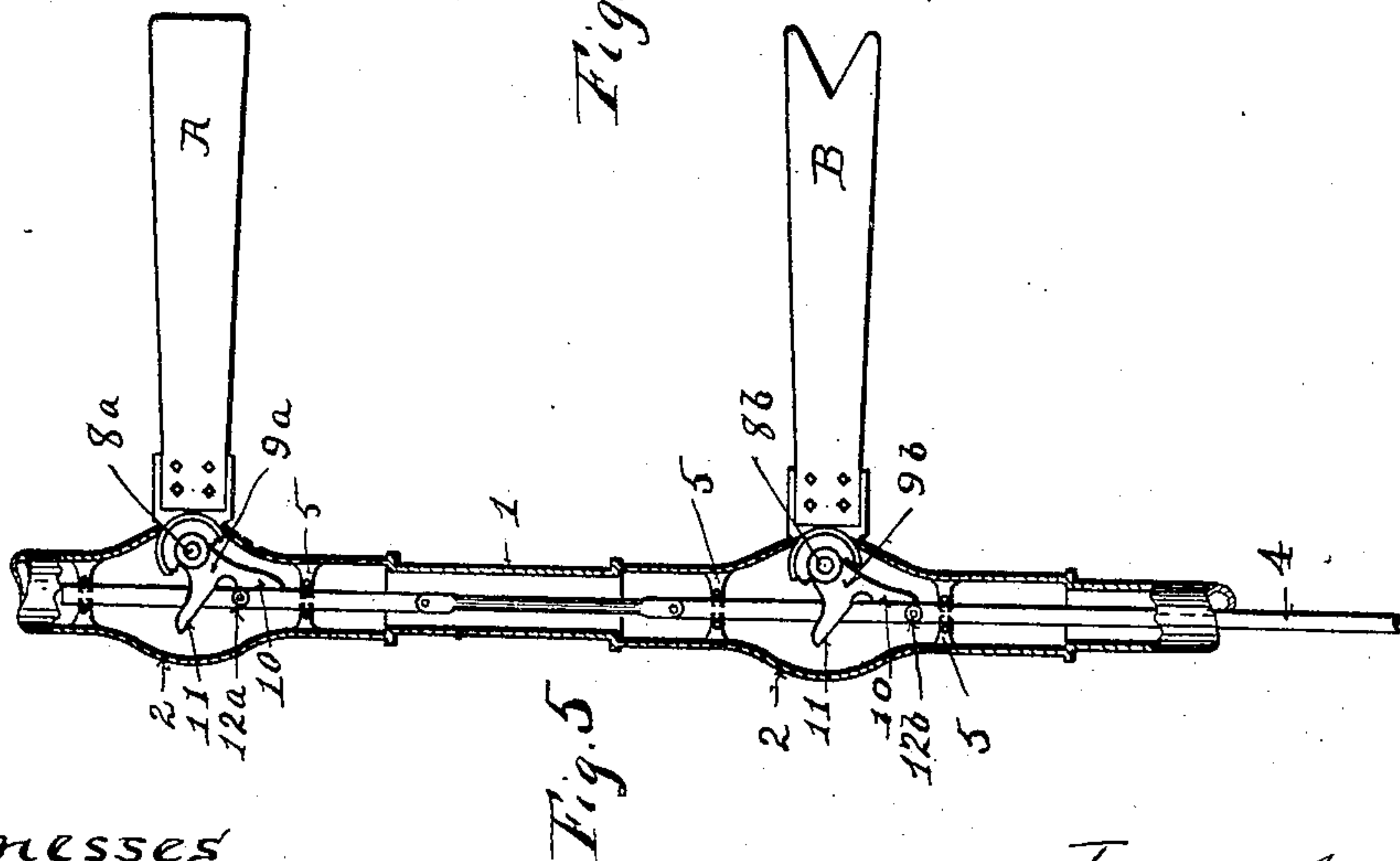
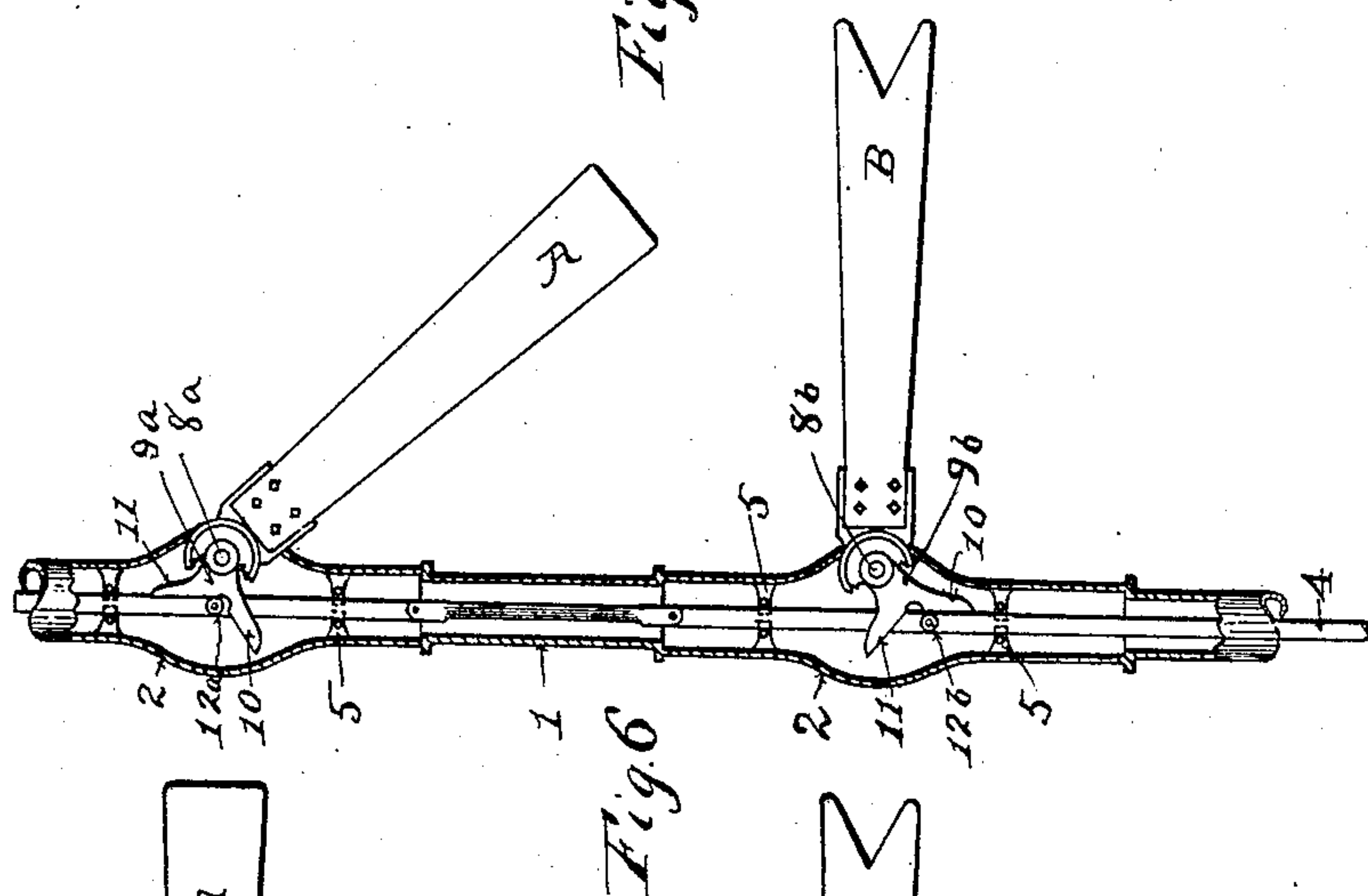
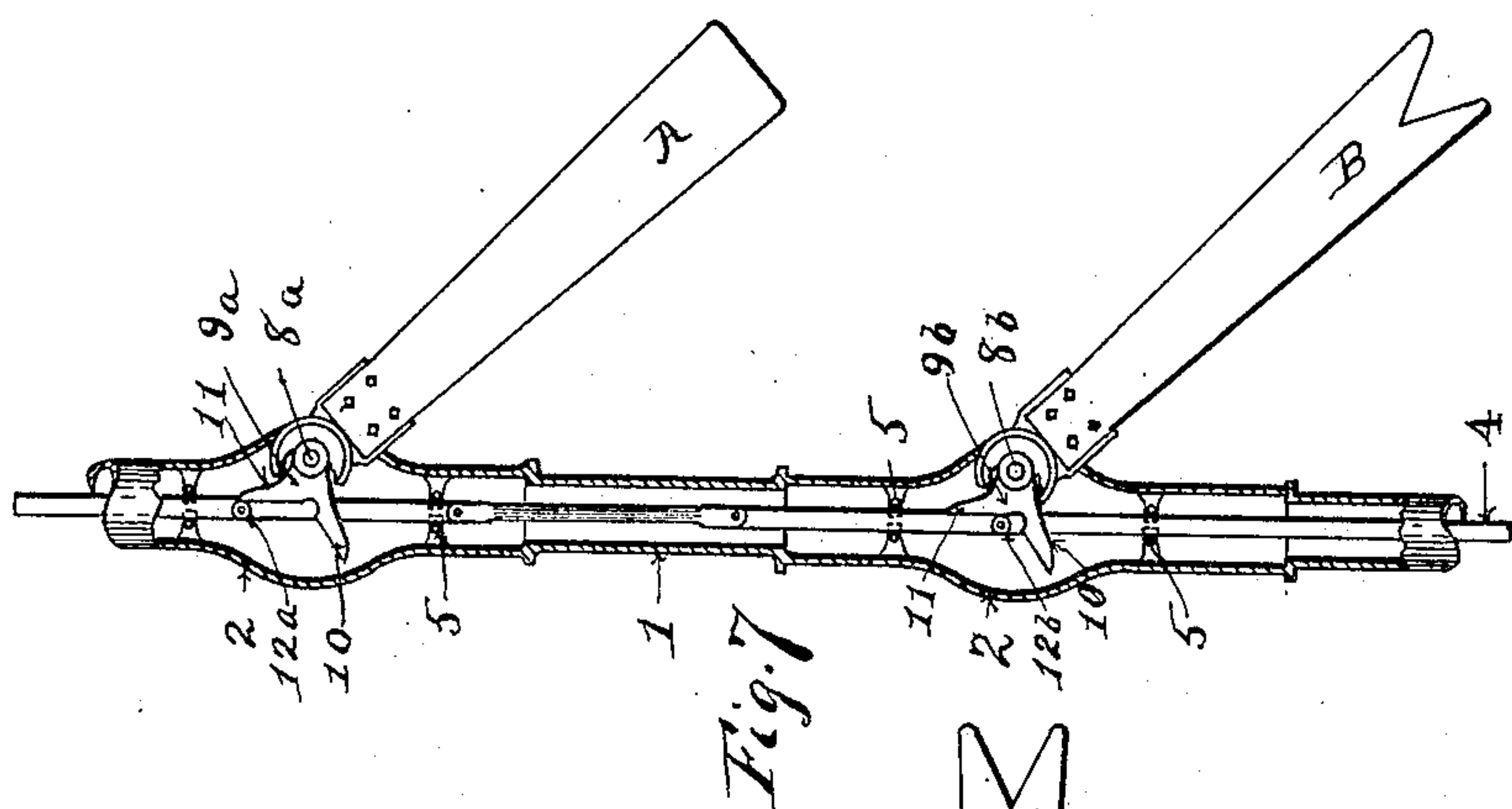
No. 832,187.

PATENTED OCT. 2, 1906.

E. A. HALBLEIB.  
SIGNAL.

APPLICATION FILED MAY 22, 1905.

2 SHEETS—SHEET 2.



Witnesses  
William B. Frye  
E. A. Kelly

Inventor:  
Edward A. Halbleib  
By  
Macomber & Ellis  
Attorneys,



# UNITED STATES PATENT OFFICE.

EDWARD A. HALBLEIB, OF BUFFALO, NEW YORK.

## SIGNAL.

No. 832,187.

Specification of Letters Patent.

Patented Oct. 2, 1906.

Application filed May 22, 1905. Serial No. 261,534.

*To all whom it may concern:*

Be it known that I, EDWARD A. HALBLEIB, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented a new and useful Improvement in Signals, of which the following is a specification.

My invention relates to railway-signals, and more particularly to signals of the semaphore type.

The object of my invention is to provide means for operating two signal-blades mounted upon a single mast or signal-post by a single mechanism and to impose an established sequence of action upon one of the two signal-blades. To that end I employ the mechanism shown in the drawings herewith, in which—

Figure 1 is an elevation of a signal equipped with my invention. Fig. 2 is a vertical central segmental section in parallel plane with the signal-blade of the mechanism for operating the signal-blade B and the adjacent portion of the mast. Fig. 3 is a similar section, but at right angles to the section of Fig. 2. Fig. 4 is a vertical central section at right angles to the plane of the signal-blade A. Figs. 5, 6, and 7 are vertical sectional views in parallel plane with the blades A and B, showing clearly the sequence of movement hereinafter fully described.

I will first indicate the parts of my apparatus; secondly, describe the operation of my invention, and, thirdly, point out and claim the essential and novel combinations thereof.

1 is a signal post or mast, metallic, tubular, and having distended sections 2 2 to make room for the mechanism for operating the signal-blades. The post or mast is mounted upon a base 3, which contains the signal-driving mechanism and which in turn is rigidly secured to a proper ground foundation. Within this base, as just stated, is the mechanism for imparting movement to the signal-blades, which may be actuated by any desired form of energy. The rod 4 extends up through the mast and is supported laterally in guides consisting of brackets 5, engaging over the opposite faces of the rod 4, and rollers 6, which receive the side thrust of the rod 4 and reduce the friction. It will be noted that the rod 4 is made up of round rods pivoted to flat bars adjacent to the signals, which bars move in said brackets 5 and bear against the rollers 6.

Mounted within the distended sections 2 of the mast in bearings 7 therein are shafts 8<sup>a</sup> and 8<sup>b</sup>, which carry the signal-blades A and B. Mounted rigidly upon the shaft 8<sup>a</sup> is an escapement-jaw 9<sup>a</sup>, and mounted upon the shaft 8<sup>b</sup> in like manner is a similar escapement-jaw 9<sup>b</sup>. The two jaws 9<sup>a</sup> and 9<sup>b</sup> are positioned alike with reference to each other and with reference to the signal-blades. They are, furthermore, so positioned that when the signal-blade is at "normal" the face of the arm 10 will lie in vertical plane, and when the blade is at "reverse" the face of the arm 11 will lie in vertical plane.

Pivoted to the rod 4 are rollers 12<sup>a</sup> and 12<sup>b</sup>. The roller 12<sup>a</sup> engages the escapement-jaw 9<sup>a</sup>, and the roller 12<sup>b</sup> engages the jaw 9<sup>b</sup>. The rollers 12<sup>a</sup> and 12<sup>b</sup> are so positioned that when both blades A and B are at "normal" the roller 12<sup>a</sup> will engage the arm 10 of the escapement-jaw 9<sup>a</sup> at a point near the union of the two jaws, and the roller 12<sup>b</sup> will engage the arm 10 of the jaw 9<sup>b</sup> near its extremity.

I will now describe a movement of the signals: Referring to Figs. 1 and 5, the blades are there shown at "normal." Suppose now power is applied to mechanism which will raise the rod 4. The first movement will raise the rollers 12<sup>b</sup> to the point occupied by the roller 12<sup>a</sup> in the normal position, and at the same time the roller 12<sup>a</sup> will engage the arm 11. At this time the blades will be in the position shown in Fig. 6—that is, the blade A will be cleared and the blade B will remain at "danger." With the next movement the roller 12<sup>a</sup> will move to the end of the arm 10 of jaw 9<sup>a</sup>, and the roller 12<sup>b</sup> will move past the center of the escapement 9<sup>b</sup> and force the arm 10 to vertical. This will result in holding the blade A at "clear" and at the same time clearing B. The situation at the end of this movement is shown in Fig. 7. Now it will be seen that the sequence of movement has been to clear A, hold B at "danger," hold A at "clear" and move B to "clear." Now on going back to "normal" it will be evident that I hold A at "clear," put B at "danger," and put A at "danger." In other words, I reverse sequence of movement in going to "clear" and in going to "normal."

The advantages of my invention are self-evident. Moving both blades by a single rod and rendering it impossible for the operator to clear his signals or set them at "danger" out of the proper sequence. Again, the sig-



nal-blades are locked at all times and could not be moved by a person with felonious intent. Again, the mechanism is most simple, possessing a minimum of parts and the minimum of pivoted points.

Having thus described my invention, what I claim is—

1. In combination with a signal-rod and means for moving the same, a plurality of signal-blades, an escapement-jaw to each blade, said jaws being identical in form of construction, a roller to each jaw pivoted to said rod to engage its respective jaw, said jaws being so positioned upon their respective signals and with reference to each other that, while identical in form and operation, movement of said signal-blades will occur in proper sequence, and all of said jaws engaging all of said rollers to hold all signals locked

except as said signals are successively unlocked to be moved successively.

2. A rod, a plurality of signal-blades operated thereby, an escapement-jaw to each blade, said jaws being identical in form of construction, rollers on said rod engaging the arms of said escapement-jaws, said jaws being so positioned upon said signals and with reference to each other as to lock all signal-blades when no movement of the rod is had and locking all signal-blades but one when the said rod is moving.

In testimony whereof I have hereunto set my hand in the presence of two witnesses.

EDWARD A. HALBLEIB.

Witnesses:

F. L. DODGSON,  
W. T. MEAD.