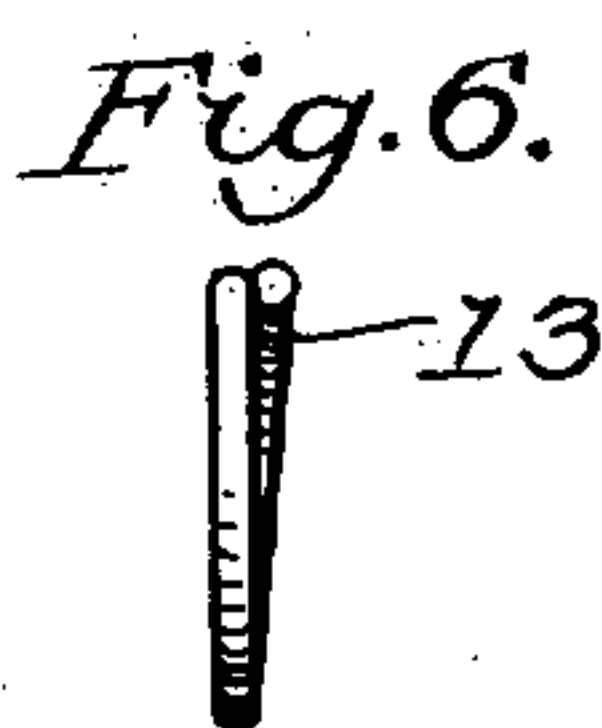
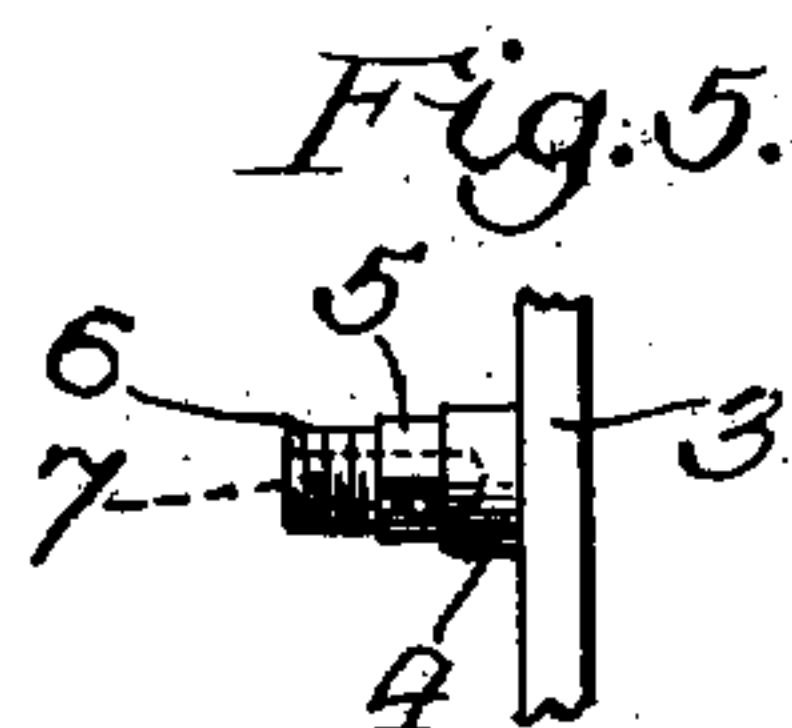
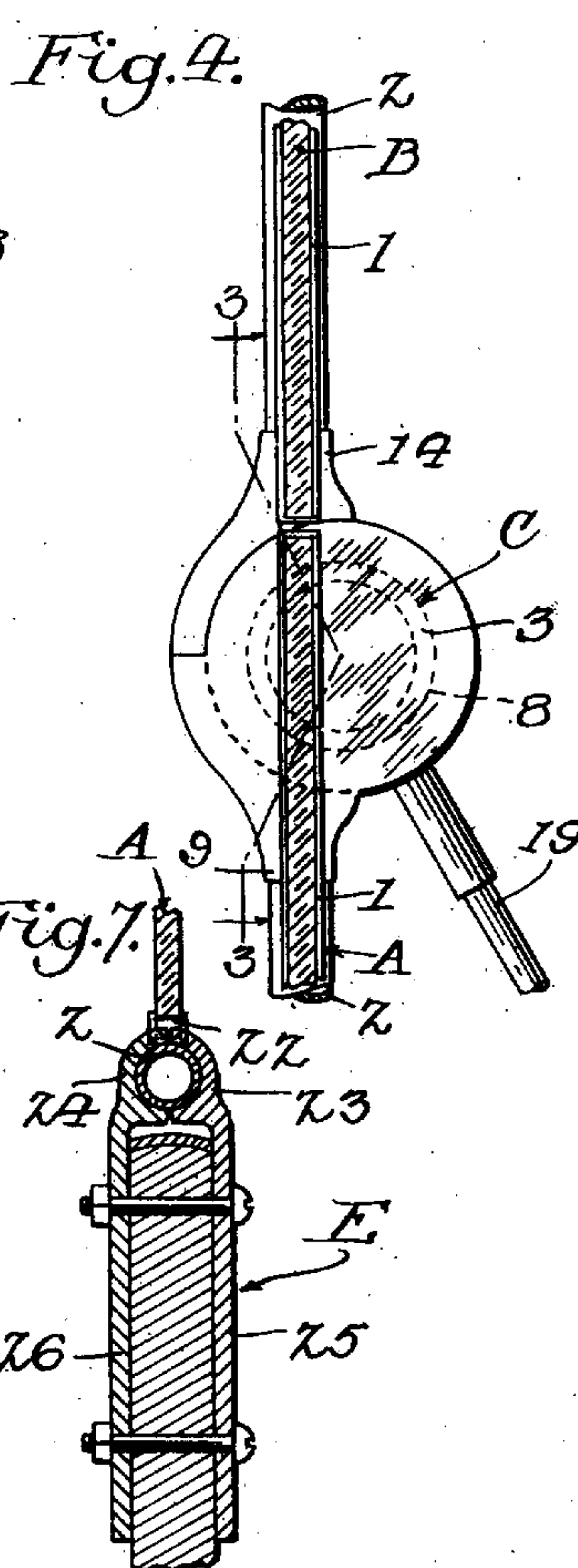
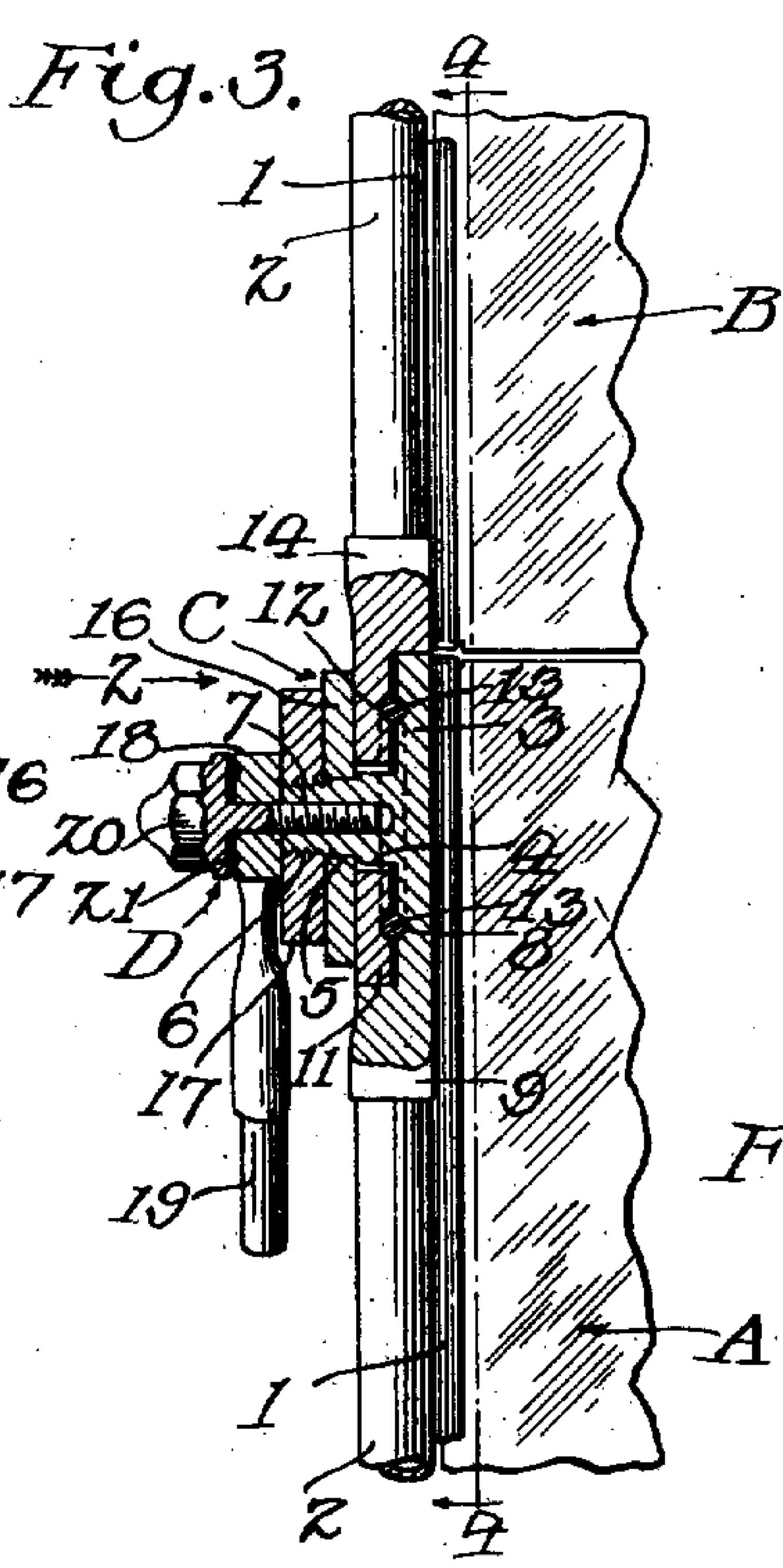
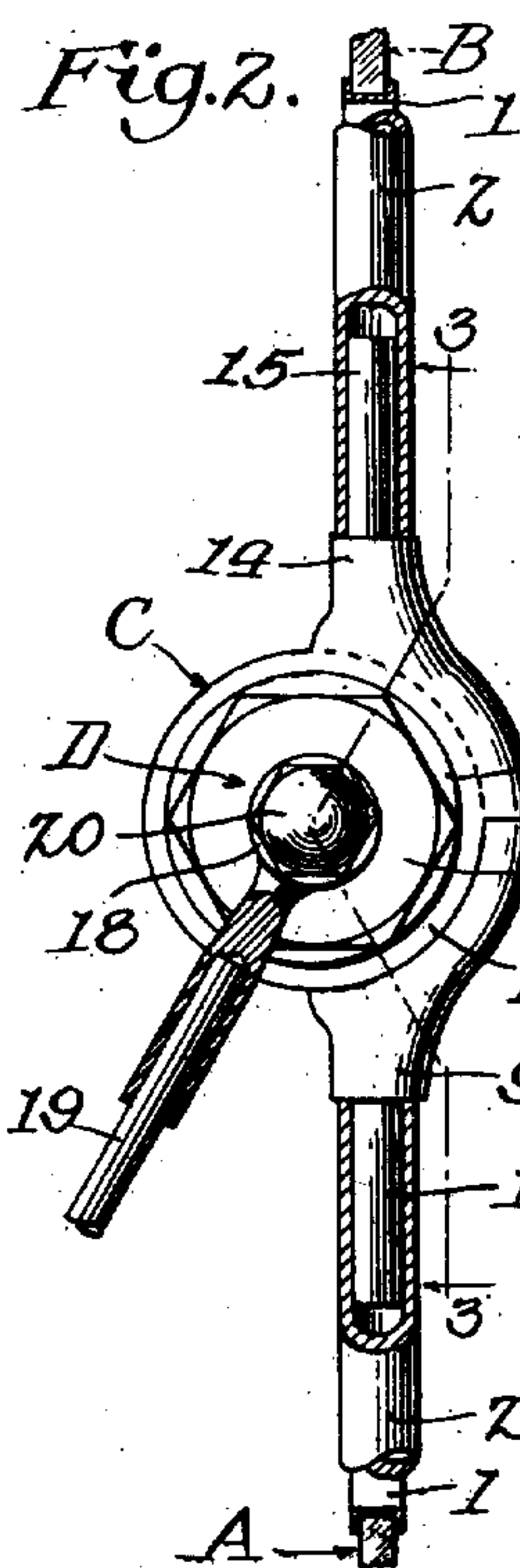
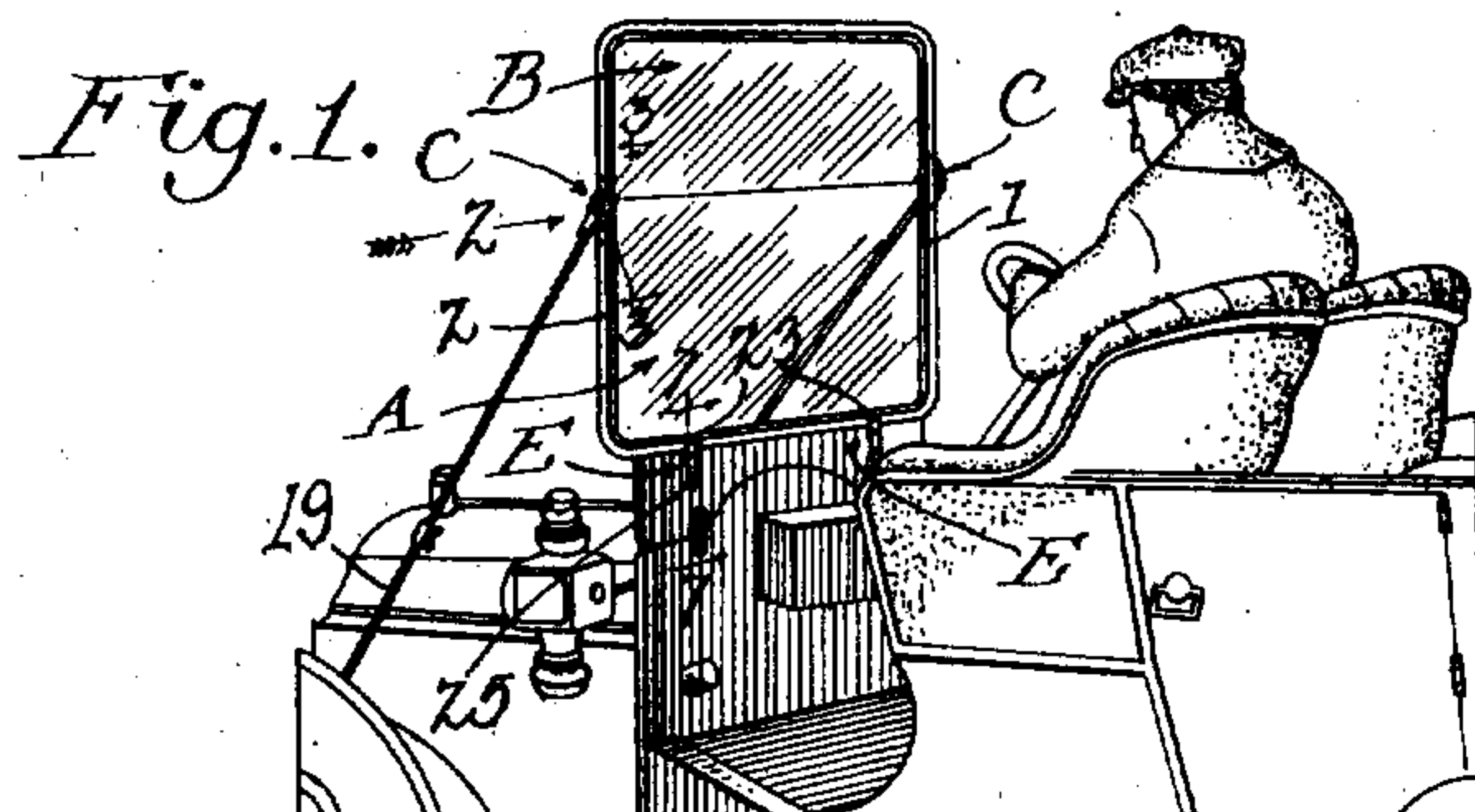


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WIND SHIELD.
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973,706.

Patented Oct. 25, 1910.



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UNITED STATES PATENT OFFICE.

LEONARD J. SANKER, OF LOS ANGELES, CALIFORNIA.

WIND-SHIELD.

973,706.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, LEONARD J. SANKER, a citizen of the United States, residing at Los Angeles, California, have invented a new and useful Wind-Shield, of which the following is a specification.

My invention relates to wind shields for automobiles; my object being to produce and mount a wind-shield which will not rattle, and to hold the upper part of the wind shield to swing upon its pivots under tension so that it is readily adjustable without the use of rods.

A wind-shield embodying the principles of my invention comprises: A, a lower glass plate having a metallic-rim on three sides. B, an upper-glass plate having a metallic-rim on three sides. C, tension-hinges connecting the metallic-rims of the two glass plates together. D, tension-pivots connecting the hinges to the brace-rods. E, hinges connecting the rim of the lower glass plate to the dash-board.

In the drawings: Figure 1 is a perspective showing a wind-shield embodying the principles of my invention in use upon an automobile. Fig. 2, is an enlarged fragmental edge view of the wind-shield, as indicated by the arrows 2 in Figs. 1 and 3, drawn for the purpose of showing one of the tension-hinges, parts being in section. Fig. 3 is a sectional detail on the lines 3—3 in Figs. 1, 2 and 4. Fig. 4 is a sectional detail on the line 4—4 in Fig. 3. Fig. 5 is a fragmental detail of one of the hinge-pins. Fig. 6 is a detail of one of the tension-springs. Fig. 7 is a sectional detail on the line 7—7 of Fig. 1 and showing the hinge connection between the wind-shield and the dash-board.

The lower glass plate A has a metallic-rim comprising the channel-bar 1 to receive the glass on its lower and two end edges and the tube 2 soldered to the back of the channel-bar, the upper corners of the glass being slightly notched and the sides of the channel-bar being bent across the notches to hold the glass in place. The upper glass plate B has a similar metallic-rim on its upper and two end edges.

One of the tension-hinges C is shown in detail in Figs. 2, 3, 4, 5 and 6. The hinge-plate 3 is circular in plan, and the hinge-pin projects from its center, said hinge-pin comprising the circular pivot portion 4, the squared washer-lock 5 and the screw-threaded

nut-seat 6, there being a screw-threaded bore 7 from the outer end of the nut-seat. A spring-seat groove 8 is formed in the bearing face of the hinge-plate 3 concentric to the hinge-pin. A boss 9 extends downwardly from the hinge-plate 3 and a pin 10 extends downwardly into the end of the rim-tube 2. The channel-bar 1 extends across the inner face of the hinge-plate 3.

The hinge-plate 11 fits loosely upon the pivot portion 4 of the hinge-pin and has a spring-seat groove 12 in opposition to the spring-seat groove 8, there being a spring 13 in said spring-seat grooves between the hinge-plates, and the hinge-plates being mates. The spring seat grooves 8 and 12 are each semi-circular in cross section and of course are narrower at their bottoms than at their tops, and the wire from which the springs are formed is larger in cross section than the widest part of the spring seat grooves, so that the springs will wedge in the grooves when the nut is tightened upon the pivot, and so that by adjusting the nut the wear or lost motion may be taken up. A boss 14 extends upwardly from the hinge-plate 11 and a pin 15 extends upwardly from the boss into the tube of the upper rim. A washer 16 has a square hole to fit upon the washer-lock 5, and a nut 17 fits upon the nut-seat 6 so that when the hinge-plate 11 turns upon the hinge-pin the washer 16 is held from turning thereby preventing the loosening of the nut by the movement of the hinge-plate, and so that the tension of the spring 13 may be adjusted by manipulating the nut 17. When the points have been properly adjusted the spring 13 is substantially flat and serves as a bearing between the hinge plates 3 and 11, and takes the sheering strain or thrust.

The tension-pivots D are shown along with the hinges. The eye 18 upon the brace-rod 19 fits against the end of the hinge-pin and has a spring-seat groove in its outer face. The cap-screw 20 is inserted through the eye 18 into the bore 7 and has a spring-seat groove in its inner face, there being a tension-spring 21 in said spring-seat grooves, so that by adjusting the cap-screw 20 the tension of the spring 21 may be regulated to hold the eye 18 from rattling. The tension springs 13 and 21 are similar and are made by taking a single turn from a coiled wire spring. These springs receive the end-thrust

of the parts as well as the side thrust and serve effectually to prevent rattling, and the springs 13 provide sufficient tension to hold the upper glass plate in its adjusted upright position without brace-rods.

The details of one of the hinges E are shown in Fig. 7. A notch 22 is formed in the glass and channel-bar. The half-bearings 23 and 24 encircle the tube 2 and straps 25 and 26 embrace the dash-board and are bolted thereto. The bosses 9 and 14 butt together to limit the movement of the hinges C in a backward direction.

I claim:

1. In a wind-shield, a circular hinge plate, a hinge pin projecting from the center of the hinge plate and comprising a circular portion, a squared washer lock and a screw threaded nut seat, there being a spring seat groove in the flat face of the hinge plate concentric with the hinge pin, a second hinge plate fitting loosely upon the circular portion of the hinge pin and having a spring seat groove in opposition to the first spring seat groove, a spring fitting in said grooves between the hinge plates, said spring being a section of an expansive coil, a washer having a square hole fitting upon the washer lock and a nut fitting upon the nut seat for tightening the hinge plates against the tension of the spring.

2. In a wind-shield, two hinge-plates having spring seat grooves in their inner faces, said spring seat grooves being narrower in cross section at their bottoms than at their tops, a circle of a coil spring in said spring

seat grooves; said spring being larger in cross section than the widest part of the spring seat grooves so as to wedge into said spring seat grooves and hold the hinge-plates apart, and a pivot and nut adjustably connecting said hinge-plates together against the tension of the spring, said spring serving as a bearing upon which one hinge-plate turns relative to the other, and said spring serving as a friction means for holding the hinge stiff in an adjustable position.

3. In a wind shield, a circular hinge plate, a hinge pin projecting from the center of the hinge plate and comprising a circular portion, a squared washer lock and a screw threaded nut seat, there being a spring seat groove in the flat face of the hinge plate concentric with the hinge pin, a second hinge plate fitting loosely upon the circular portion of the hinge pin and having a spring seat groove in opposition to the first spring seat groove, a spring fitting in said grooves between the hinge plates, said spring being a section of an expansive coil, the spring seat grooves being narrower in cross section at their bottoms than at their tops, and the coil spring being larger in cross section than the widest part of the spring seat grooves, a washer having a square hole fitting upon the washer lock and a nut fitting upon the nut seat for tightening the hinge plates against the tension of the spring.

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