

W. D. TUSTEN.
 SPRING JOINT.
 APPLICATION FILED SEPT. 11, 1911.

1,030,143.

Patented June 18, 1912.

Fig. 1,

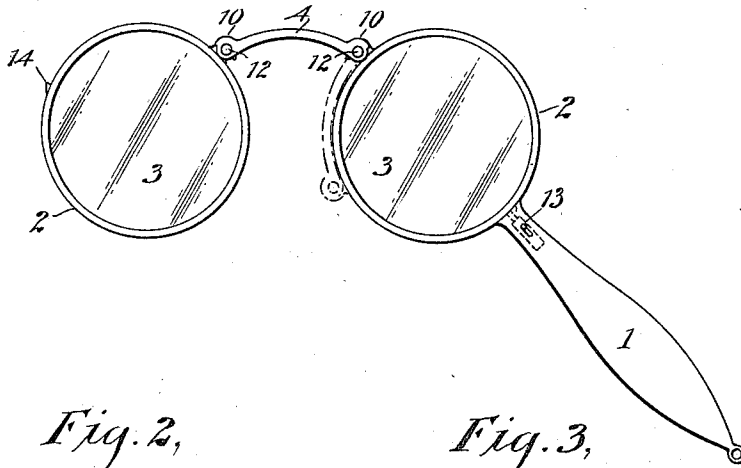


Fig. 2,

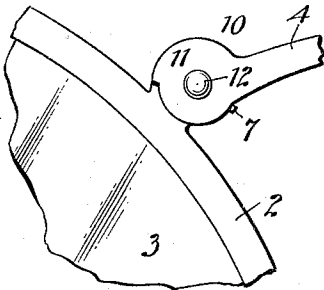


Fig. 3,

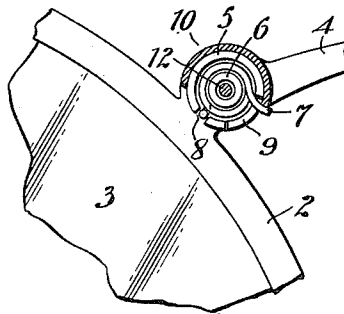


Fig. 4,

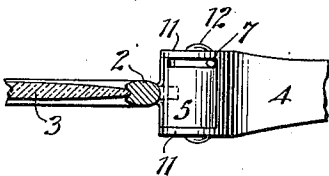


Fig. 5,

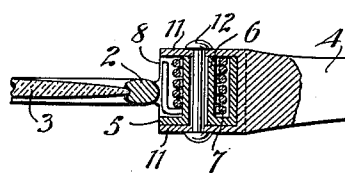


Fig. 6.



WITNESSES

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SPRING-JOINT.

1,030,143.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WALTER D. TUSTEN, a citizen of the United States, and a resident of the city of New York, borough of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Spring-Joint, of which the following is a full, clear, and exact description.

My invention relates to a form of spring joint, so constructed as to provide efficient means for housing the spring by which the joint is actuated, and my object is to produce a superior joint of this character, which can be used in almost any relation where two parts are to be folded together.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views, and in which—

Figure 1 is a front view of the frame of a lorgnon having my improved springjoint applied thereto; Fig. 2 is a fragmentary elevation, showing the joint enlarged; Fig. 3 is a sectional view taken on a plane perpendicular to the axis of the joint; Fig. 4 is a bottom plan of the casing for the joint, showing the lens frame in section; Fig. 5 is a section taken on a plane containing the axis of the joint; and Fig. 6 is an elevation of the spring which actuates the joint.

In the drawings, I show my improved spring joint applied to connect the lens frames of a lorgnon with the nose-piece, but I wish to have it understood that this application of my invention is illustrative only, and that I may use the joint on other devices in practically every relation where one part is to be foldably connected to another.

1 indicates the handle of the lorgnon, which is connected to one of the lens frames 2 in which the lenses 3 are mounted. These lens frames 2 are connected by a bridge-piece 4, having my improved spring joint formed at either end thereof, so that the bridge-piece 4 can be folded down into the dotted-line position shown in Fig. 1, and so that the lens to the left on Fig. 1 can be moved with respect to this bridge-piece 4, to make it coincide with the other lens when the device is not needed for use.

Each lens frame 2 has a cup-shaped bearing member 5 soldered to its outer edge. This bearing member has a perforated hub or cylindrical projection 6 extending up-

ward from its bottom and forming an annular space between the same and the inner wall of the cup-shaped bearing member 5. This annular space receives the actuating spring 7, which is spiral in form and has its inner end bent upward to fit into a slot 8 formed in the inner wall of the cup-shaped member 5, so that this end of the spring will be held against movement. The other end of the spring 7 projects through a circumferential recess 9 formed at the upper edge of the cup-shaped member 5, and this end of the spring is adapted to be engaged by a part of the bridge member 4, and will normally be under such tension as to keep the lens frames 2 in distended position.

Each end of the bridge-piece 4 carries a semi-cylindrical socket 10, the opposite ends of this socket having ears 11, which are substantially circular in form and receive the cup-shaped member 5 between them. These ears are perforated to receive a pivot pin 12, which secures the cup-shaped member 5 and the bridge-piece 4 together, and permits each of these parts to have pivotal movement around the pin 12 as an axis.

The handle 1 of the lorgnon has a catch 13, and 14 is a projection on the lens frame 2 shown at the left on Fig. 1, which passes by this catch which is preferably of the spring-pressed type and serves to hold the lens frames 2 together when the lorgnon is folded.

It will be seen from inspection of Fig. 3 that the outer end of the spring 7 will be engaged by one edge of the semi-cylindrical socket 10 in the bridge-piece 4, in each of the spring joints at the two ends of this bridge-piece. The other end of this spring will be securely anchored against movement by being bent up to be received within the slot 8. The spring is normally tensioned to such a degree that the force which it will exert will be sufficient to keep the lens in distended relation, as shown in Fig. 1, and when it is desired to fold up the lorgnon, the bridge-piece is merely forced down to the dotted line shown in Fig. 1, and the lens to the left is then moved over to such an extent as to carry the projection 14 into position to be engaged by the catch 13 in the handle. When the lenses are folded up in this way, the cup-shaped member 5 will rotate in the semicylindrical socket 10 as far as will be permitted by the length of the re-

cess in the upper edge of the cup-shaped member 5, shown at 9, and this recess will, of course, be made of such a length as to allow the two lens frames to be folded properly together.

In the above construction, the joint is made accessible at any time for repairs, and can be taken apart merely by removing the pivot pin 12. When the cup-shaped member is withdrawn from the socket in the end of the bridge-piece 4, the spring 7 can be taken out at once for inspection or replacement, for this spring is not fastened in any way to the member 5, but is merely fitted snugly therein around the cylindrical projection 6, and is kept in by the ears or ends 11 of the socket on the bridge-piece 4.

I wish to have it understood that I may make certain changes in the shape, size, and arrangement of the parts, such as fairly fall within the scope and spirit of my invention. As above stated, the joint is by no means restricted to lorgnon frames, but may be used on a great variety of devices.

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

1. A spring joint comprising a cup-shaped bearing member having a projection extending from the bottom thereof and forming a space between said projection and the inner surface of the bearing, a spring surrounding said projection and received within the space between the projection and the interior lateral surface of the cup, said cup and said spring having means for providing interfitting engagement between the inner end of the spring and the cup when the spring is inserted into the space between the projection and the inner wall of the cup, whereby the inner end of the spring will be secured against movement, and means pivotally secured to the cup-shaped member in position to be engaged by the other end of the spring and actuated by the same.

2. A spring joint, comprising a cup-shaped member having a projection extending upward from its bottom, a spring surrounding said projection, having its inner end secured to a recess in the side of said cup, and having its outer end projecting laterally beyond the rim of said cup, and means pivotally connected to said cup-shaped member in position to be engaged by the projecting end of said spring and actuated by the same.

3. A spring joint, comprising a cup-shaped member having a projection extending upward from its bottom, a spiral spring surrounding said projection and located within the space between said projection and the interior lateral surface of said cup, the inner end of said spring being engaged, to be held against movement with respect to the cup, and the outer end of said spring pro-

jecting through an elongated circumferential notch formed in the rim of said cup, and means pivotally connected to said cup-shaped member in position to be engaged by the projecting end of said spring, to be actuated thereby.

4. A spring joint, comprising a cup-shaped bearing member having a perforated projection extending upward from its bottom, a spiral spring surrounding said projection and located within the annular space between said projection and the interior lateral surface of the cup, the inner end of the spring being held fast with respect to the cup, and the outer end of said spring projecting beyond the rim of said cup, a pivot pin passing through the perforation in said projection, and means mounted on said pivot pin and engaged by the projecting end of said spring, to be actuated by the same.

5. A spring joint, comprising a cup-shaped bearing member having a projection extending upward from its bottom, a spring surrounding said projection and located within the annular space between said projection and the interior lateral surface of the cup, the inner end of said spring being secured against movement with respect to said cup, and the outer end of said spring projecting beyond the rim of said cup, said projection having a longitudinal bore there-through, a pivot pin mounted in said bore, and a movable member having a socket which receives the cup-shaped member, the ends of said socket being perforated to receive said pivot pin, and the outer end of said spring engaging one of the edges of said socket, whereby said socket-bearing member will be pivotally connected to the cup-shaped member, and will be actuated by said spring.

6. A spring joint comprising a cup-shaped member having a projection extending upward from its bottom, a spring surrounding said projection, the said cup having a recess shaped to receive one end of said spring when the same is slipped upon the projection to occupy the space between the same and the inner surface of the cup, and means pivotally connected to said cup-shaped member in position to be engaged by the other end of the spring and be actuated by the same.

7. A spring joint comprising a cup-shaped member having a projection extending upward from its bottom, a spring surrounding said projection, the said cup having a longitudinal slot formed in its side, and the said spring having its inner end bent upward to fit into said slot when the spring is slipped into position upon the projection to be located within the space between said projection and the interior surface of the cup, and means pivotally con-

ected to said cup-shaped member in position to be engaged by the opposite end of said spring and be actuated by the same.

8. A spring joint comprising a cup-shaped member and a movable member having a socket which receives the cup-shaped member, the ends of said socket being pivotally connected to the cup, and a spring housed within said cup and connected to said cup at one end and to said socket at the other end to actuate the said socket.

9. A spring joint comprising a cup-shaped bearing, a movable member having a socket which receives the cup-shaped

member, the ends of said socket being pivotally connected to said cup-shaped member, a spring within said cup connected thereto at one end and to the socket at the other to actuate the same, and a projection formed on the bottom of the cup and serving as a support for the spring.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WALTER D. TUSTEN.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."