

No. 667,720.

Patented Feb. 12, 1901.

W. E. MOULTON.
JOINT FOR UMBRELLA RIBS AND STRETCHERS.

(Application filed Oct. 25, 1899.)

(No Model.)

Fig. 1.

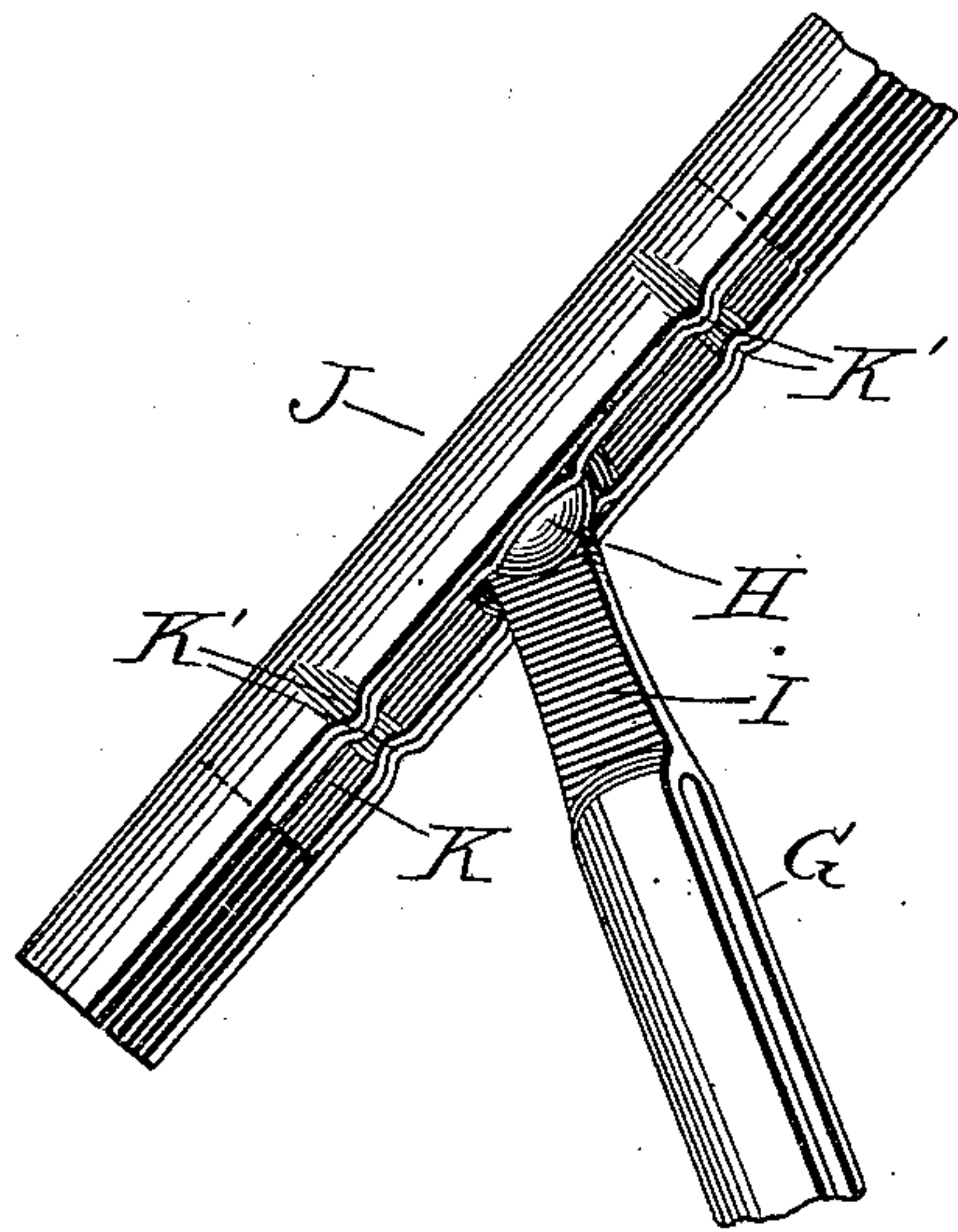


Fig. 2.

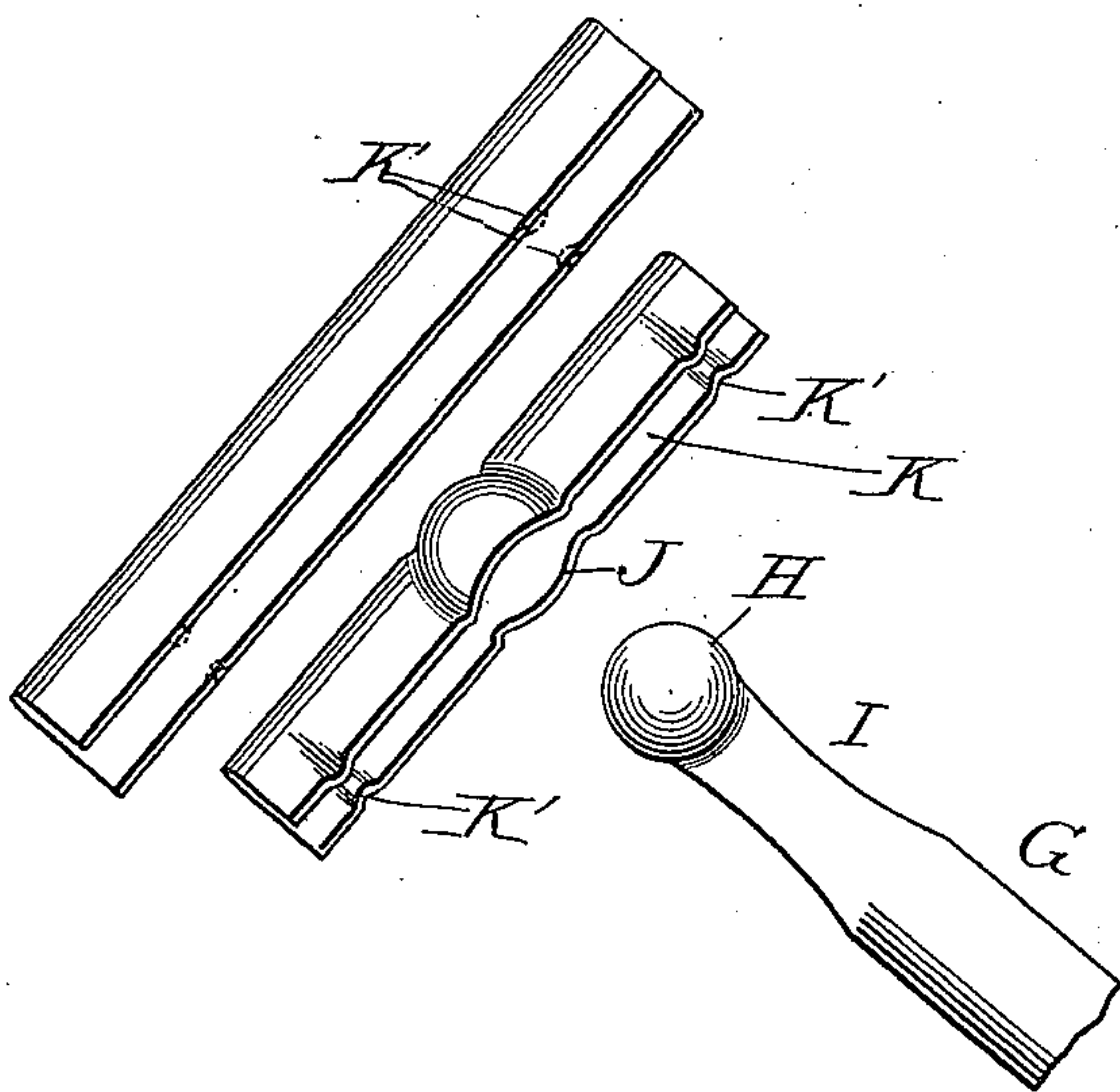
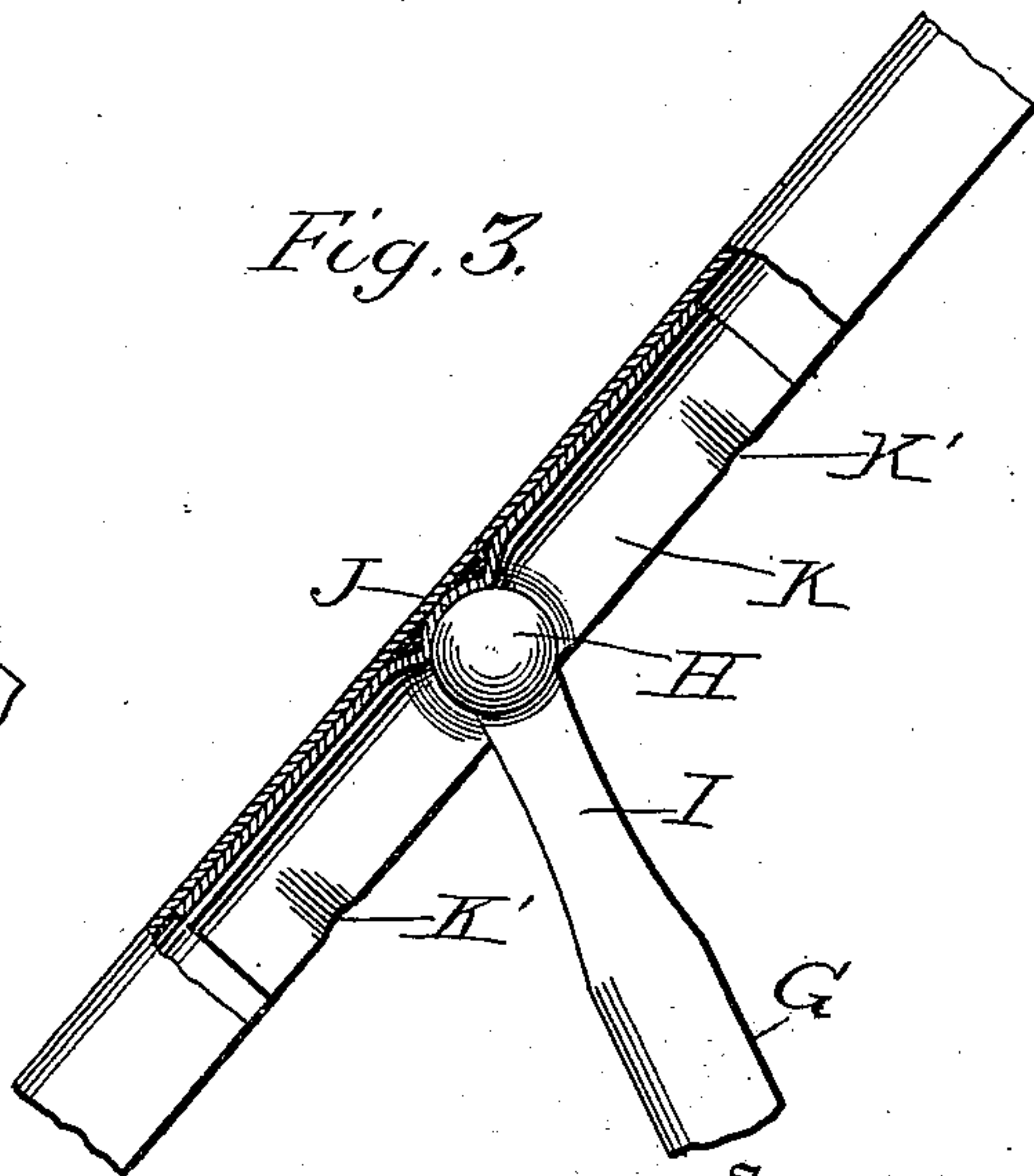


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

WALTER E. MOULTON, OF SHELBY, OHIO, ASSIGNOR TO THE BALL-BEARING UMBRELLA COMPANY, OF SAME PLACE.

JOINT FOR UMBRELLA RIBS AND STRETCHERS.

SPECIFICATION forming part of Letters Patent No. 667,720, dated February 12, 1901.

Original application filed July 17, 1899, Serial No. 724,134. Divided and this application filed October 25, 1899. Serial No. 734,743. (No model.)

To all whom it may concern:

Be it known that I, WALTER E. MOULTON, a citizen of the United States, residing at Shelby, in the county of Richland and State of Ohio, have invented certain new and useful Improvements in Umbrellas, of which the following is a specification.

My present invention pertains to improvements in umbrellas, and relates more particularly to the form of connection between the rib and stretcher.

The invention is illustrated in the accompanying drawings, wherein—

Figure 1 is a perspective view of a portion of the umbrella rib and stretcher; Fig. 2, a similar view showing the parts in a separated relation; and Fig. 3, a longitudinal sectional view of a portion of a rib, showing the relation of the stretcher and the stretcher-retaining socket thereto.

The object of my invention is to provide an improved form of ball-and-socket connection between the rib and stretcher.

In a previous patent granted to me and numbered 599,623, dated February 22, 1898, I have shown and described a construction wherein the socket for the spherical end of the stretcher is made integral with the rib. In the present device, however, while employing a rounded socket or seat for the outer spherical end of the stretcher, I make it in a somewhat different manner. The stretcher G is, as will be noted upon reference to Figs. 2 and 3, provided with a spherical end H and a flattened portion I adjacent thereto. The rounded seat or socket J for the spherical end is struck up or formed in a U-shaped piece of metal K, which is of such dimension as to fit within the rib, which is, as shown in the drawings, U-shaped or channeled. After said member K is in place and the head H in its position in the socket the rib and bearing-plate are indented, as is clearly indicated in the drawings at K'. Thus it will be seen that said bearing member is held positively in the rib and cannot move longitudinally with reference thereto or be thrown out of its position unless the parts be forced or broken.

The flattened portion I of the stretcher permits the stretcher to be folded down into the rib when the umbrella is closed and there is no projection of the parts beyond the inner face of the rib. The bearing member K also serves to strengthen the rib at the bearing-

point of the stretcher, while not increasing the dimensions or thickness of the rib at this point. The ball-and-socket joint between the rib and stretcher affords a connection between the parts which is not liable to become broken and which prevents all longitudinal movement of the stretcher relatively to the rib.

This application is a division of my application, Serial No. 724,134, filed on or about July 17, 1899.

Having thus described my invention, what I claim is—

1. In an umbrella, the combination of a channeled rib; a channeled member formed of a single piece complementary to said rib, seated within and secured thereto, said member having a complete socket formed therein, and a stretcher provided with a head fitting said socket, said head being seated and held within the socket, substantially as described.

2. In an umbrella, the combination of a U-shaped rib; a U-shaped member K seated within and secured to said rib; a socket formed in said member; and a stretcher provided with a spherical head, and a flattened portion adjacent to said head, said head being seated and held within the socket and the parts being so arranged that the stretcher will fit within the rib when the umbrella is closed, substantially as described.

3. In an umbrella, the combination of a U-shaped rib; a U-shaped member K seated within the rib and flush with the outer edges thereof; a socket formed in said member; and a stretcher provided with a spherical head, said head being seated and held in the socket, substantially as described.

4. In an umbrella, the combination of a U-shaped rib; a U-shaped bearing member K seated within said rib; a socket formed in the bearing member; a stretcher provided with a spherical head seated and held within said socket, and indentations formed in the rib and bearing member after the parts are assembled, for holding them in their proper relative positions.

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

WALTER E. MOULTON.

Witnesses:

GRANT R. BROWN,
MAUDE MCGAW.