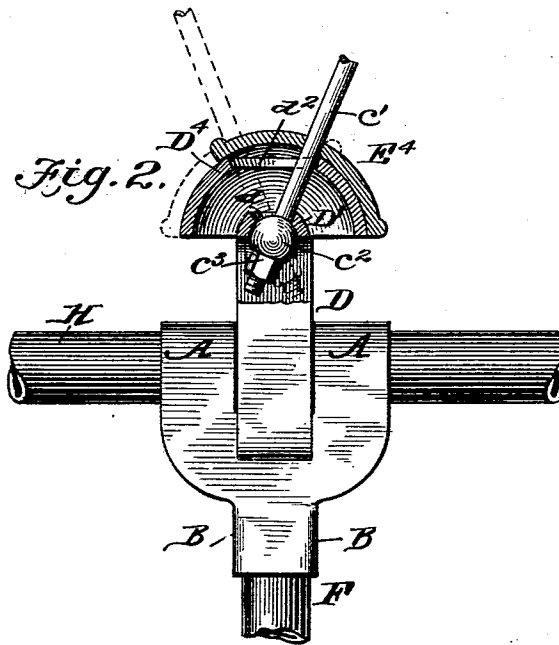
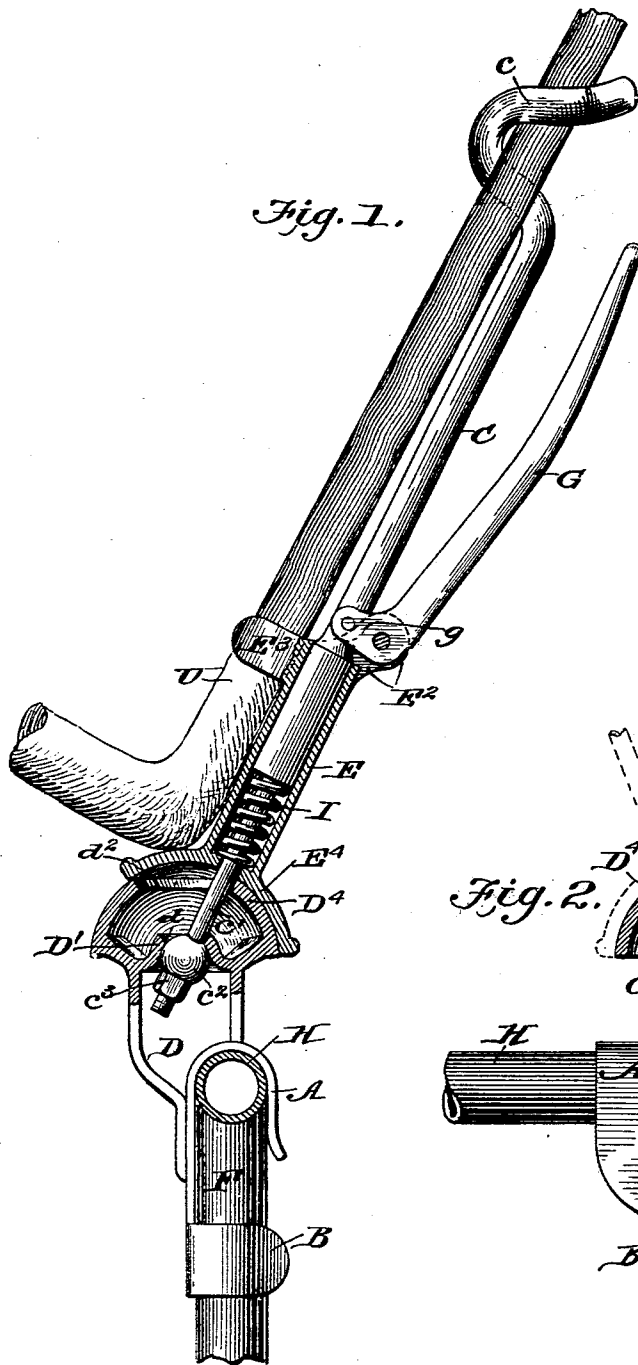


(No Model.)

E. M. BATTENBERG.
UMBRELLA ATTACHMENT FOR BICYCLES.

No. 560,077.

Patented May 12, 1896.



WITNESSES:
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EFFIE M. BATTENBERG, OF DECATUR, INDIANA.

UMBRELLA ATTACHMENT FOR BICYCLES.

SPECIFICATION forming part of Letters Patent No. 560,077, dated May 12, 1896.

Application filed February 27, 1896. Serial No. 581,016. (No model.)

To all whom it may concern:

Be it known that I, EFFIE M. BATTENBERG, of Decatur, in the county of Adams and State of Indiana, have invented a new and useful Improvement in Umbrella Attachments for Bicycles, &c., of which the following is a specification.

The object of my invention is to provide a means for conveniently attaching an umbrella to a bicycle in a hoisted position, so as to afford protection to the rider against the rain or sun and still leave the hands of the rider free for guiding the bicycle or for other use.

It consists in the peculiar construction and arrangement of an attachment which, while holding the umbrella firmly, permits its angle to be quickly and conveniently changed in a direction to the front or rear or to either side, as will be hereinafter more fully described with reference to the drawings, in which—

Figure 1 is a side view, partly in section, showing the attachment connecting the staff of an umbrella to the handle-bar of a bicycle; and Fig. 2 is a front view of a part of the attachment.

In the drawings, H is the handle-bar, and F the vertical standard of the bicycle-fork, and U is the umbrella staff or handle, which is to be connected to and adjustably held upon the bicycle by my attachment.

D is the main frame of my attachment, which has attached to or formed with it two hook-shaped clasps A A, which point downwardly and are adapted to embrace the handle-bar H, one on each side of the vertical standard. At the lower end of the main frame are also two rearwardly-projecting clasps B, which together embrace the vertical standard below the handle-bar. The upper end of the frame D is fastened into a small spherical bearing D' and a large spherical bearing D⁴ just above it, both being concentric and having, respectively, the circular cut-away portions *d* and *d*² in the top of the same extending over an arc of about fifty degrees in all directions. These two spherical bearings form the stationary members of a double ball-and-socket joint, which is constructed as follows:

E¹ is a concave spherical plate corresponding in curvature to the outer surface of the bearing D⁴ and lying in contact therewith and

turning on the same in all directions. This plate E¹ is rigidly connected to an upwardly-projecting tube E, which at its upper end carries two forwardly-projecting clasps E³, that embrace with an elastic pressure the umbrella-staff. This tube E also has rigidly attached to its upper end a pair of rearwardly-projecting lugs E², between which is fulcrumed an upwardly-projecting lever-handle G.

C is the umbrella-holder proper. This consists of a stem some six inches, more or less, in length having at its upper end a spirally-curved hook *c*, forming a receiver into which the staff of the umbrella may be inserted laterally by a gyratory movement. This stem extends downwardly through the tube E and within this tube is reduced in size, as at *c'*, and around this reduced end there is disposed a helical spring I, bearing at its upper end against the shoulder or stem C and at the lower end against the concave plate E¹. The reduced end *c'* passes on through the plate E¹ and the hole *d*² in bearing D⁴, and also through the hole *d* in the lower bearing D', and is screw-threaded at its lower end and bears a spherical washer *c*³ and a retaining-nut *c*³. This spherical washer by the upward pull of the spring I bears against the lower concave side of the spherical bearing D' and forms one ball-and-socket joint, while the concave plate E¹, forced downwardly by the spring I, bears upon the upper surface of the spherical bearing D⁴ and forms the other ball-and-socket joint, the tension of the spring I serving to cause the two members of the two ball-and-socket joints to adhere with greater or less friction, which may be regulated and adjusted by the nut *c*³, so as to cause the parts of the ball-and-socket joints to maintain any position to which they may be adjusted by the hand of the rider. To effect this adjustment, the lever G is formed with two short forwardly-projecting elbows *g*, pivoted or otherwise connected to the stem or holder C, and when the adjustment of the umbrella as to its angle is to be changed the rider grasps in his or her hand the lever G, the stem C, and the umbrella-handle, and compressing them moves them to the desired position with one hand. This act of compress-

sion, it will be seen, causes the elbows *g* to force downwardly the stem *C* against the spring *I*, compressing the latter and taking its tension off the ball-and-socket joints and forcing the stem *c'* and ball *c²* downwardly, so that the friction of the ball-and-socket joints affords no opposition to the easy deflection of the umbrella-staff to any desired inclination, which is only limited by the size of the openings *d* and *d²*.

My invention is not confined in its application to bicycles, but may be used for tricycles or other similar vehicles.

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

1. An umbrella attachment for bicycles, &c., comprising a main frame having a relatively large ball-and-socket joint a smaller ball-and-socket joint arranged concentrically to the first and forming therewith double spherical bearings, means for attaching it to the bicycle, and means for holding the umbrella-staff substantially as shown and described.

2. An umbrella attachment for bicycles, &c., comprising a main frame having a relatively large ball-and-socket joint a smaller ball-and-socket joint arranged concentrically to the first and forming therewith double spherical bearings, means for simultaneously adjusting the friction of both sets of bearings, means for attaching the same to the bicycle,

and means for holding the umbrella substantially as shown and described.

3. An umbrella attachment for bicycles, &c., comprising a main frame, and means for attaching it to the bicycle, said main frame having a large ball-and-socket joint, a smaller ball-and-socket joint arranged concentrically to the first named, a stem passing through both the said joints and provided with a spring for creating a friction between the two members of each joint, and a holder for the umbrella substantially as shown and described.

4. In an umbrella attachment for bicycles, &c., the holder for the umbrella comprising a stem with a hook-shaped receiver at its upper end and a reduced lower end, a tubular support for said stem having clamp-springs for the umbrella-staff, and an elbow-lever connected to the stem in combination with a helical spring arranged within the tube and around the stem and a ball-and-socket joint substantially as shown and described.

5. The combination of main frame *D* with hooks *A* and *B* and the double spherical bearings *D'* *D¹* perforated as described, the stem *C c'* with spring *I*, spherical washer *c²* and nut *c³*, concave plate *E¹* with rigid tube *E*, clasps *E³* and lever *G g* substantially as shown and described.

EFFIE M. BATTENBERG.

Witnesses:

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