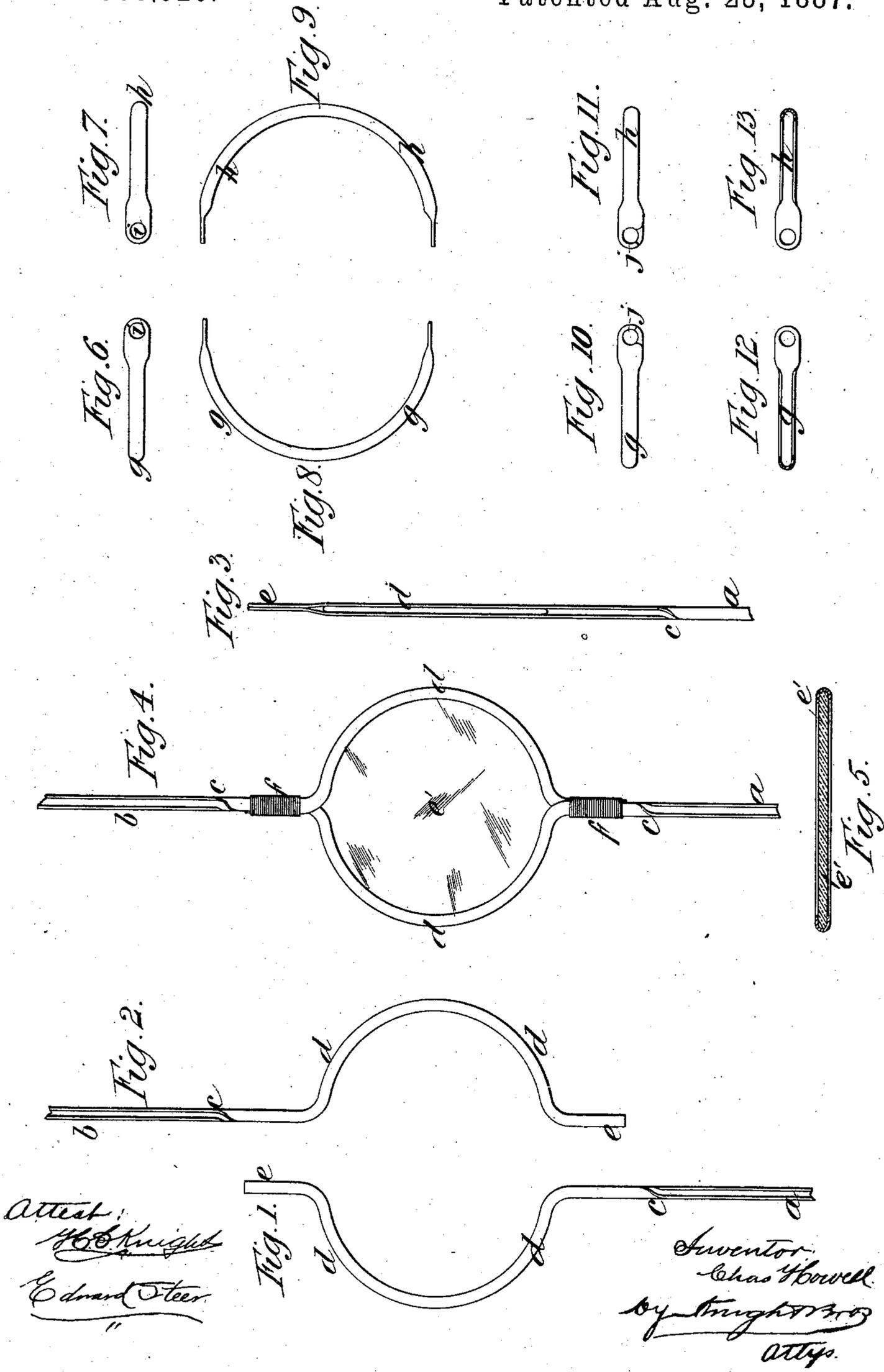


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UMBRELLA.

No. 368,920.

Patented Aug. 23, 1887.



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Fig. 15.

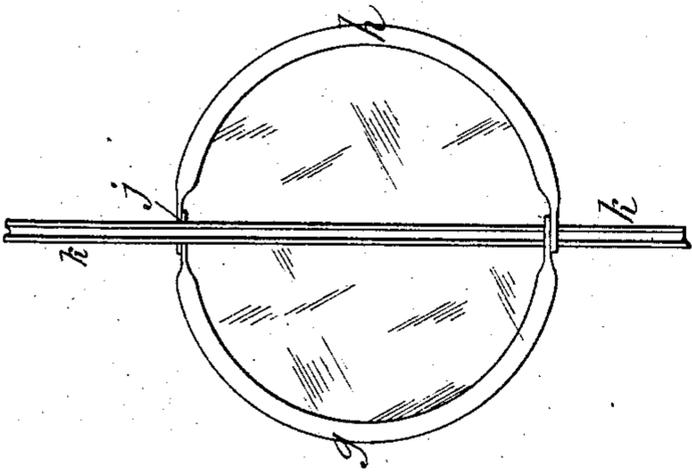


Fig. 14.

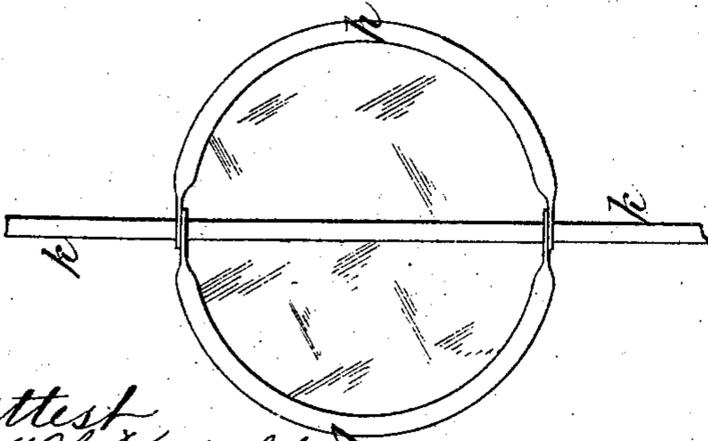


Fig. 16.



Fig. 23.



Fig. 21.

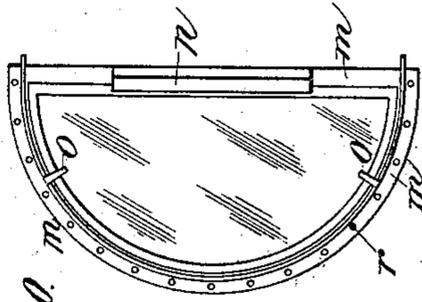


Fig. 24.

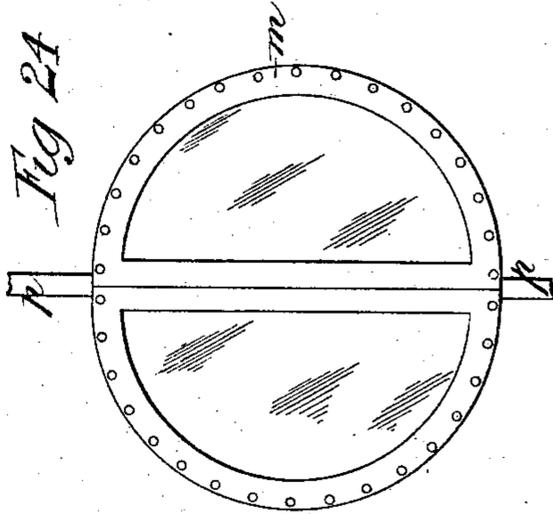


Fig. 22.

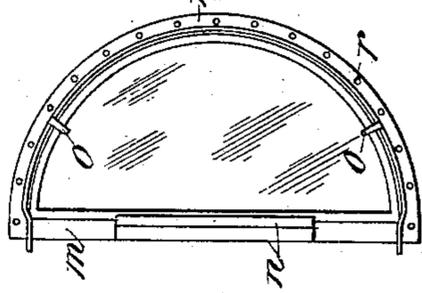


Fig. 20.

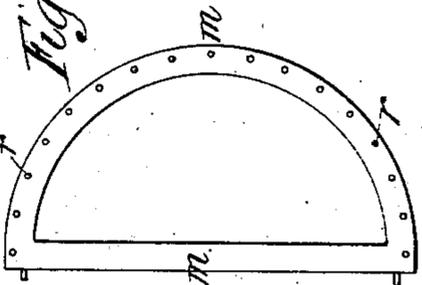
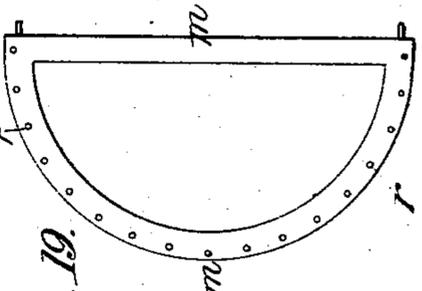


Fig. 19.



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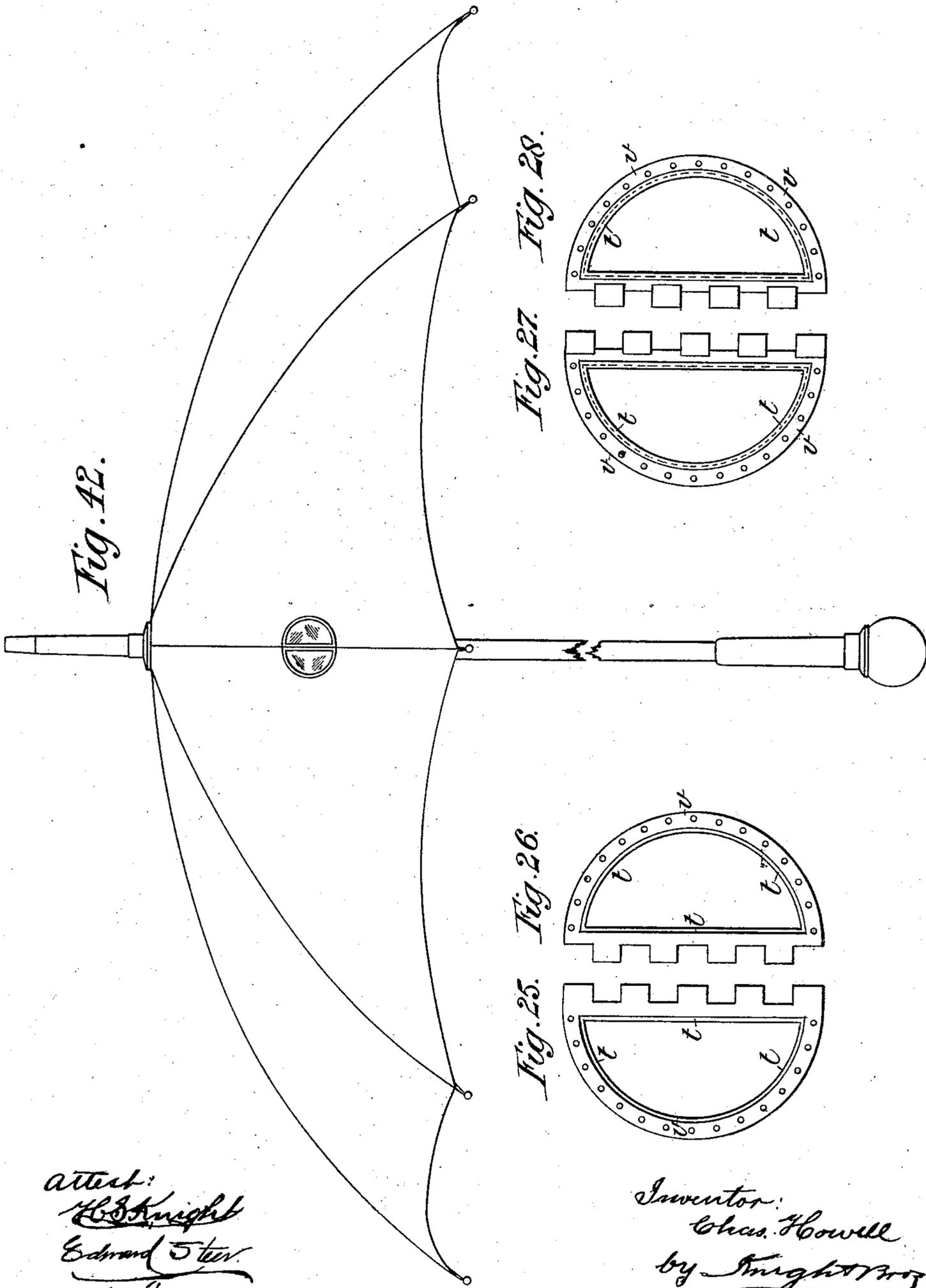
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Fig. 36. Fig. 37.

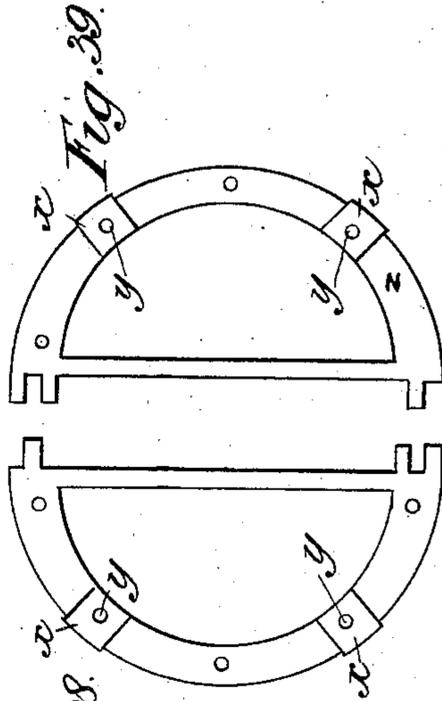
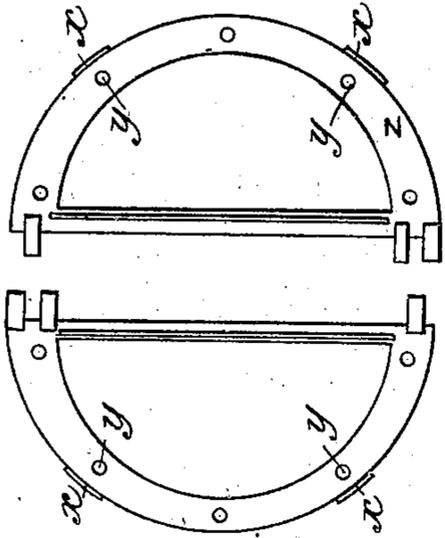


Fig. 40. Fig. 41.

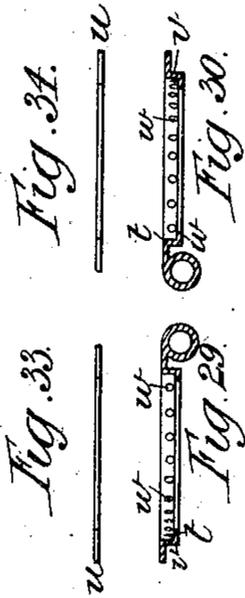


Fig. 33. Fig. 30.

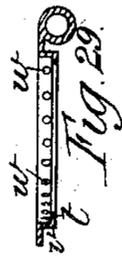


Fig. 29.

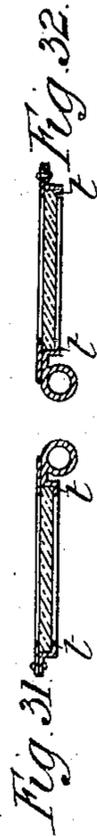


Fig. 31. Fig. 32.

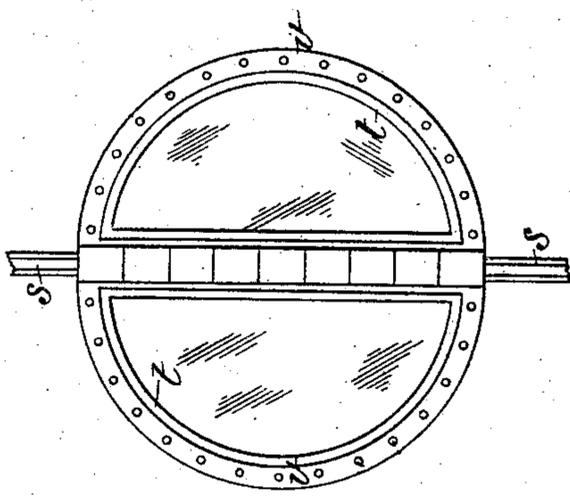


Fig. 35.

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UNITED STATES PATENT OFFICE.

CHARLES HOWELL, OF GLASGOW, COUNTY OF LANARK, SCOTLAND,
ASSIGNOR TO STEWART KERSHAW, OF SAME PLACE.

UMBRELLA.

SPECIFICATION forming part of Letters Patent No. 368,920, dated August 23, 1887.

Application filed December 9, 1886. Serial No. 221,129. (No model.) Patented in England December 22, 1885. No. 15,740; in Germany July 8, 1886, No. 37,835; in France July 20, 1886, No. 177,505, and in Belgium August 9, 1886, No. 74,157.

To all whom it may concern:

Be it known that I, CHARLES HOWELL, a subject of the Queen of Great Britain, residing at St. Enoch Station, Glasgow, in the county of Lanark, North Britain, have invented new and useful Improvements in Umbrellas, (for which I have obtained a patent in Great Britain, No. 15,740, bearing date December 22, 1885; in Germany, No. 37,835, bearing date July 8, 1886; in France, No. 177,505, bearing date July 20, 1886, and in Belgium, No. 74,157, bearing date August 9, 1886,) of which the following is a specification.

This invention, which relates to improvements in umbrellas, has for its object to enable a person when carrying an umbrella at a low angle—that is to say, more or less in front of the said person—to see through the umbrella, so as to prevent it being pushed into contact with other persons or obstructions in the street or roadway wherein persons carrying umbrellas are walking.

The invention consists in providing the umbrella with one or more windows, through which the eye of the person carrying such improved umbrella can see and direct his or her course correspondingly. The window or windows is, are, or may be composed of glass, mica, talc, a sheet of hardened gelatine, or other suitable transparent material, which is, are, or may be carried in one or more openings formed in the material with which the umbrella is covered, or such window or windows is, are, or may be hinged or otherwise attached to one or more of the ribs of the umbrella.

In the drawings, Figures 1 to 5, inclusive, are views of one arrangement of umbrella-rib whereinto a window is capable of being inserted in accordance with my present invention. Figs. 6 to 16, inclusive, Figs. 17 to 24, inclusive, Figs. 25 to 35, inclusive, and Figs. 36 to 41, inclusive, are respectively views of three other arrangements of means for securing a window in an umbrella in accordance with my present invention. Fig. 42 is a side elevation, drawn to a reduced scale, of an umbrella provided with a window in accordance with my present invention.

My invention, as hereinbefore mentioned, consists in arranging one or more windows of glass, mica, talc, or other transparent material in or upon one or more ribs of an umbrella. It is obvious that these windows may be fitted into or upon the ribs of umbrellas in many different ways, and I therefore desire it to be understood that the arrangements which, as hereinafter described, and represented upon the annexed drawings, are merely examples of such various applications.

In the arrangement represented at Figs. 1 to 5, inclusive, the rib into which the window is to be inserted is formed in two parts, *a* and *b*, each being constructed in the manner shown more particularly at Figs. 1 and 2, respectively—that is to say, each of the said parts is twisted at *c*, so as to present the grooves of such ribs sidewise. These parts *a* and *b* are bent, as at *d*, and at their ends *e* are flattened, as shown more particularly in side elevation at Fig. 3. The window *e'*, as shown in elevation at Fig. 4 and in transverse section at Fig. 5, is secured in the frame which is constituted by the groove of the rib at its hollowed part *d*, the two parts *a* and *b* of the rib being secured together by a sewing of silk, as at *f*, Fig. 4, or by other equivalent means.

In the arrangement shown at Figs. 6 to 41, inclusive, the windows are formed in two portions, each carried in a frame which is pivoted loosely upon the umbrella-rib, and which arrangements are therefore specially applicable to existing umbrellas. With reference more particularly to Figs. 6 to 16, inclusive, the last-mentioned frames *g* and *h*, as there represented, are constructed of portions of grooved umbrella-ribs and are flattened at their ends, where the holes *i* are formed at both ends, or, if desired, at one end only, under which construction the other end of each such frame is made in the form of a hook, as shown more particularly at *j*, Figs. 10 and 11. The holes *i* are slipped over and upon the umbrella-rib *k*, Figs. 14 and 15, and when the frame is in its proper position the edge of the hole formed in the silk or other covering material of the umbrella is turned over the said frame. The pieces of glass, *l*, Fig. 16, are then laid in position and

the two parts of the frame drawn toward each other, at which time the covering material is forced into the groove of the said frame, the parts of the frame being secured in the position so arrived at by slipping the hooks *j* over the rib *k* down, upon which the frame may be secured by stitching or by other equivalent means, the glass *l* being held in position, as indicated at Figs. 14, 15, and 16, respectively, in plan of upper side, plan of under side, and transverse section. If desired, a portion of india-rubber or equivalent elastic tubing may be placed upon the rib *k*, so that the inner edges of the two portions of the window may bear elastically thereon and thereby prevent the leaking in of rain-water.

In the arrangement represented at Figs. 17 to 24, inclusive, the glass is secured in the under side of each part of the frame *m* by the brackets *n* and the strips *o*, the latter of which are bent under the glass after it has been placed in position, as shown more particularly in plan of under side at Figs. 21 and 22. As shown at Fig. 23 in side elevation and at Fig. 24 in plan, the two parts of the frame *m* are held together by the umbrella-rib *p*, which is slipped through the holes *q*, Figs. 17 and 18, and the silk or other covering material is sewed to the frame *m* by means of the holes *r*.

The frame, which is represented at Figs. 25 to 35, inclusive, is constructed with an ordinary hinge-joint, through which the umbrella-rib *s* passes, as indicated at Fig. 35. Each part of the frame is formed with a ledge, *t*, upon which the glass or equivalent window material rests, and upon which the said window is secured in position by the light metal frames *u*, Figs. 33 and 34, which are riveted or otherwise secured to the lower parts, *v*, of the frames. The edge of the silk or other covering material may be secured to the last-described arrangement by being riveted between the frames *u* and *v*, and it may be further secured thereto by stitching passed through the holes *w* in the vertical edge of the frame *v*.

The frame which I have shown at Figs. 36 to 41, inclusive, is one form of sheet metal, (preferably brass,) and the glass is secured to the under side thereof by means of the clips *x*, which are formed independently of such frame, but which are afterward secured thereto by the rivets *y*—that is to say, when the frame is being fixed in an umbrella. The covering material of the umbrella is laid between the frames *z* and *a'*, Figs. 40 and 41, the rivets passing through both these and the said material, which may otherwise be secured by stitching, india-rubber, cement, or in any other

convenient manner. This last-described arrangement is pivoted upon the umbrella-rib in a manner the same as that described with reference to Figs. 6 to 35, inclusive.

It is to be understood, as will be obvious to a practical mechanic, that the modes of connecting the glass with the cloth of the umbrella may be modified so as to produce the essential results constituting this invention.

I desire it further to be understood that in place of using a window constructed of two parts, one of which parts is arranged at each side of an umbrella-rib, one such part only may be employed—that is to say, arranged at one side of such rib.

I claim—

1. In an umbrella having an opening, the combination, with one of the ribs bearing a frame provided with recesses, of suitable transparent material secured in said recesses, substantially as and for the purpose set forth.

2. In an umbrella having an opening, the combination, with one of the ribs, of a frame hinged thereto and a suitable transparent material secured in said frame, substantially as set forth.

3. In an umbrella having one or more openings, the combination, with one or more ribs, of semicircular frames hinged thereto and provided with recesses, and transparent material secured within said recesses, substantially as set forth.

4. In an umbrella having an opening, the combination, with one of the ribs, of a semicircular frame hinged to said rib and provided with a recess and perforations, by means of which latter the covering material of the umbrella surrounding the opening is secured to the frame, and transparent material situated in the recess of said frame, substantially as set forth.

5. In an umbrella having an opening, the combination, with one of the ribs and a frame hinged thereto provided with a recess, of transparent material within the frame, an additional frame secured to the frame proper, for retaining the transparent material in place, and suitable means for securing the covering material of the umbrella to said frames, substantially as set forth.

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

CHARLES HOWELL.

Witnesses:

JOHN LIDDLE,

JOSEPH H. PEARSON,

Both of 115 St. Vincent Street, Glasgow.