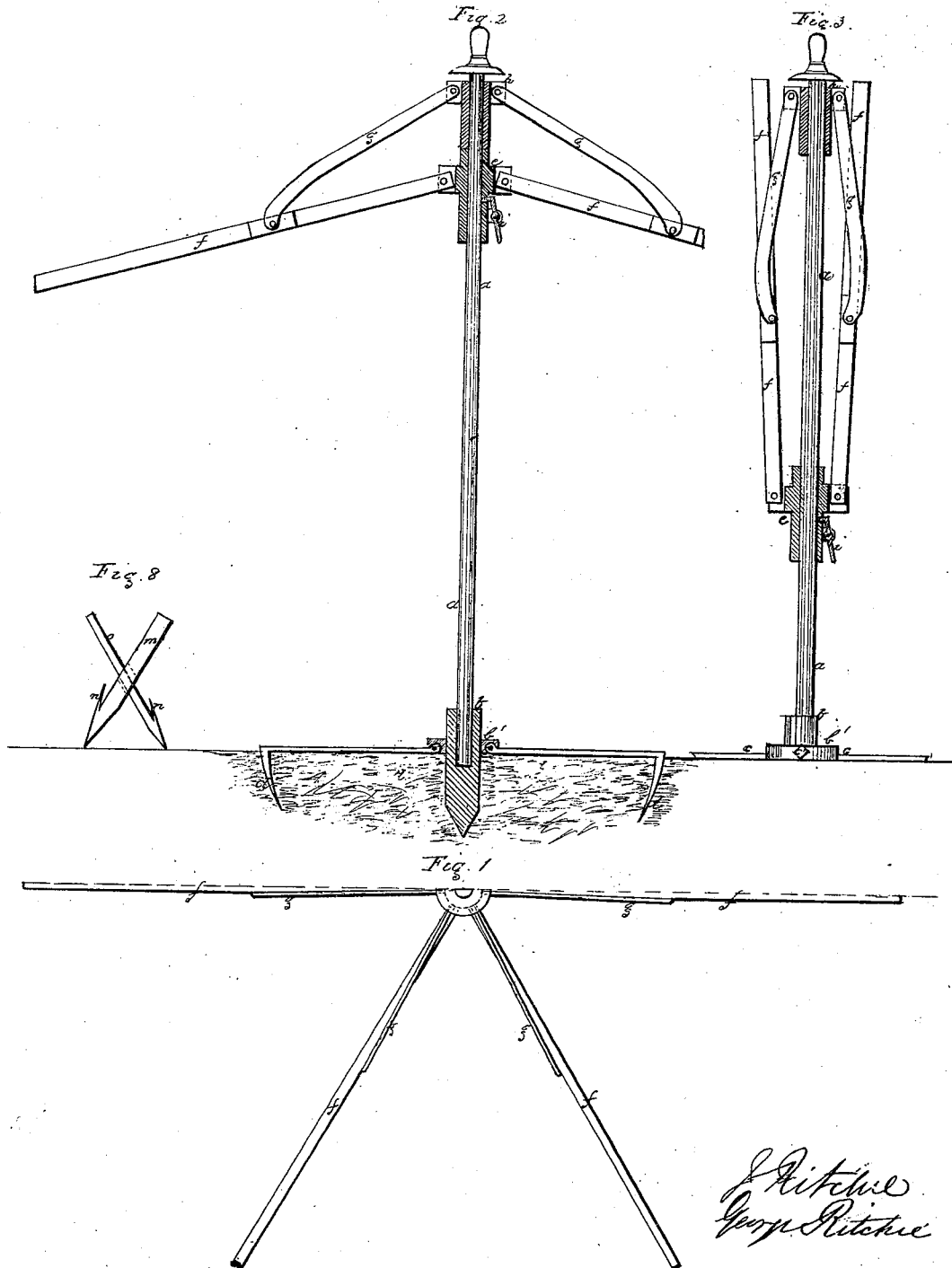


J. & G. RITCHIE.
TENT AND UMBRELLA.

No. 108,832.

Patented Nov. 1, 1870.



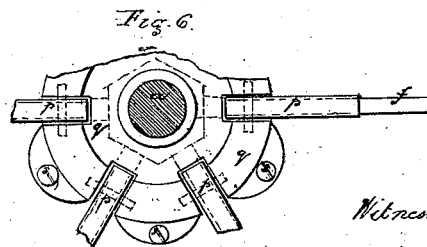
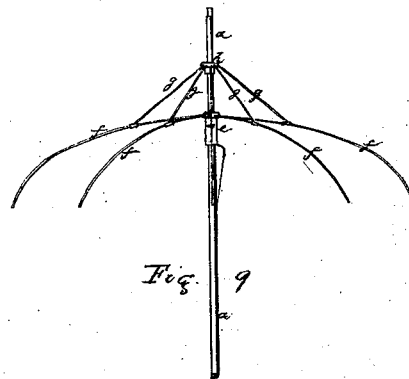
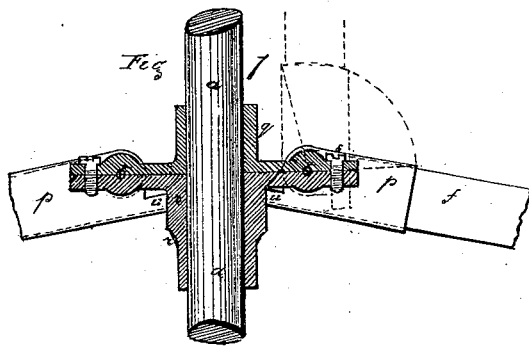
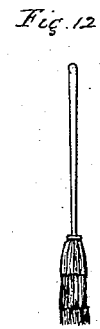
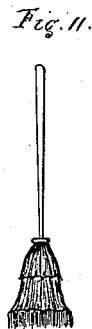
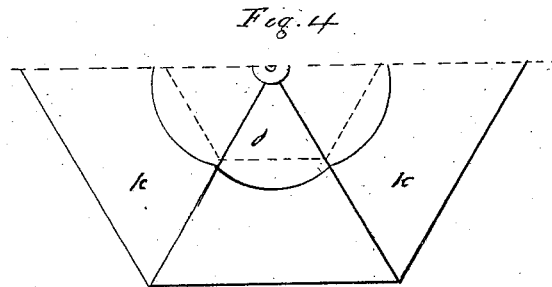
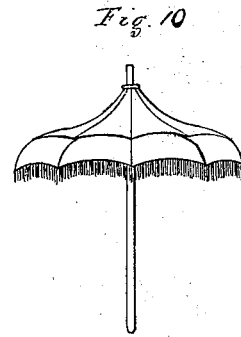
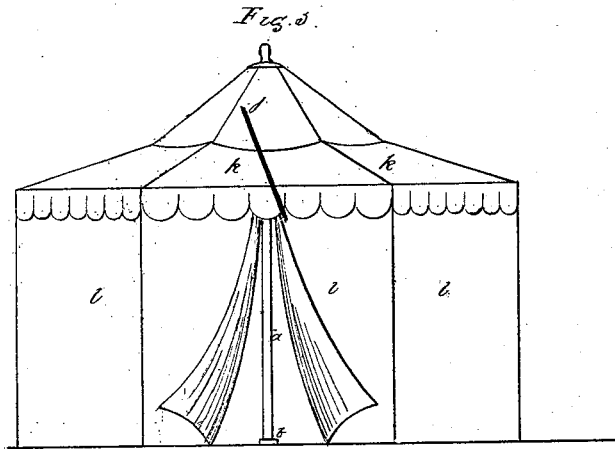
J. Ritchie
George Ritchie

Witnesses. *W. T. Gilber*
G. S. Chafforn

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United States Patent Office.

JOHN RITCHIE AND GEORGE RITCHIE, OF LONDON, ENGLAND.

Letters Patent No. 108,832, dated November 1, 1870.

IMPROVEMENT IN TENTS AND UMBRELLAS.

The Schedule referred to in these Letters Patent and making part of the same.

To all to whom these presents shall come:

Be it known that we, JOHN RITCHIE and GEORGE RITCHIE, both of London, in the county of Middlesex, England, have invented certain Improvements in the Construction of Tents, Umbrellas, Parasols, and other like weather-protectors, and that the following is a full, clear, and exact description of the principle or character which distinguishes it from all other things before known, and of the usual manner of making, modifying, and using the same.

Our invention consists in so arranging the radial arms or ribs of tents (constructed with arms or ribs) and of umbrellas or parasols that when the ring or runner is moved upward it moves up with it the inner ends of the arms or ribs, while their outer ends are brought outward from the top part of the central pole or stick, the suspenders or stretchers being above the arms or ribs.

By this arrangement the tents can be erected and removed with facility and expedition.

To make our invention readily understood, we will proceed to describe the same by reference to the accompanying drawing, in which—

Figure 1, sheet 1, is a half plan, and

Figure 2, sheet 1, a sectional elevation of the frame-work of a tent constructed according to our invention, and shown opened out;

Figure 3, sheet 1, sectional elevation, showing the frame-work drawn up against the pole;

Figure 4, sheet 2, half plan, and

Figure 5, sheet 2, front elevation of a tent on a smaller scale;

Figure 6, sheet 2, part plan, and

Figure 7, sheet 2, sectional elevation, showing the improved stop-joint we prefer to employ for the ribs of the said tents;

Figure 8, sheet 1, elevation of our improved stakes for fixing the ropes of tents;

Figure 9, sheet 2, elevation of the frame-work of an umbrella constructed according to our invention, and shown open;

Figure 10, sheet 2, elevation of a parasol open; and Figures 11 and 12, sheet 2, elevations of parasols shut down.

Similar letters in all the figures represent similar parts.

In figs. 1, 2, and 3, sheet 1, *a a* is the central pole supported in the socket *b*.

On this socket is a movable collar, *b'*, fixed by a set-screw, *c*; this collar may have two, three, or more arms, *c c*, hinged to it, with curved projections, *d d*, at the ends to hold the socket firm after it is driven into the ground.

e is a ring or runner, made so as to slide upon the pole *a*, and to which are jointed the radial arms or ribs *f f* for carrying the covering.

Each of these arms or ribs has one end of a link or suspender, *g*, jointed to it at a point intermediate of its length, as shown, the opposite ends of the said links being jointed to the cap *h* fixed on the pole *a*. By this arrangement, if the ring or runner *e* (the parts being in the position shown in figs. 1 and 2, sheet 1) is drawn downward, it will carry down with it the inner ends of the arms or ribs *f f*, while their outer ends will be brought inward toward the top of the pole until the arms or ribs, with the links or suspenders *g g*, lie parallel, or nearly so, with the pole, as shown in fig. 3, sheet 1. If the ring or runner *e* be pushed upward from this position the arms will be caused to move outward from the pole until they occupy the position shown at figs. 1 and 2, sheet 1, the ring or runner *e* then coming against a suitable stop on the pole; or if the improved joint shown in figs. 6 and 7, sheet 2, and hereinafter described, be employed, no stop is required.

A spring-catch, *i*, or other suitable fastening, keeps the ring or runner in this position until it is again desired to close up the tent.

The part *j* of the covering of the tent is fastened at the top to the pole, and is supported by the links *g g*, and the part *k k* of the covering is fastened to and supported by the arms or ribs *f f*. The part *j* of the covering overlaps the part *k*, as shown by the dotted lines, fig. 4, sheet 2, and is not jointed to it except at the arms or ribs. This arrangement allows of a current of air to pass through the upper part of the tent, and is very suitable for warm climates.

The curtains *l l* may be joined to the part *k* of the covering, or be separate from it, their lower parts being fastened to stakes in the ground in the usual manner. If additional strength is required, the curtains may be supported by ropes from the top of the pole, or by rods, the upper ends of which may be hooked into rings at the ends of the arms or ribs *f f*.

Fig. 8, sheet 1, shows the stakes we prefer to employ for fastening the ends of ropes of tents.

m is a large stake, with a projection, *n*, at the end like an arm of an anchor. It has a slot (shown in dotted lines) passing through it in an angular direction.

This stake being driven into the ground in a diagonal direction, a second stake, *o*, of a similar construction, but smaller, is passed through the said slot and driven into the ground in an opposite direction. Stakes thus driven into the ground will bear great strain, and cannot be drawn from the ground together.

Figs. 6 and 7, sheet 2, show the improved stop-joints or hinges we prefer to employ for jointing the arms or ribs *f f* to the ring or runner *e*. This improved stop-joint or hinge is constructed as follows:

p is a shoe which forms the movable part of the hinge, and is fixed on the end of the rib *f*. The end

of this shoe *p* fits into an opening made in the ring or runner, and is furnished with a pin at each side, (shown in dotted lines, fig. 6, sheet 2,) on which it works.

The ring or runner, which forms the fixed part of the hinge or joint, is made in two parts, *q* and *r*, held together by screws *s*.

Holes *t*, are formed in the parts *q* and *r*, for receiving the pins of the movable part of the hinge.

The projecting part *u* of the hinge is cut to an angle, which angle depends upon the dimension of the are through which the rib or arm *f* is to be moved, and abuts against the lower part *r* of the runner.

To adjust these hinges or joints the upper part *q* of the runner is raised from the lower part, and the movable parts of the joints placed in the openings made to receive them, the pins fitting in the holes *t*. The upper part *q* is then screwed down onto the lower part *r*, and the joints are complete and can move through an are of a circle a little greater than a right angle, as shown by the dotted lines, but which are would be greater or lesser according to the angle of the abutting parts *u* of the movable parts of the hinge.

Instead of the shoes *p*, plates screwed on the ribs *f f* may be employed.

When necessary, for raising or lowering the arms or ribs of the tent, a sheave may be fitted to the top part of the pole *a*, and a rope or cord passed over the same and connected to the ring or runner.

Fig. 9, sheet 2, is an elevation of the frame-work of an umbrella constructed on the same principle as the tent hereinbefore described; and fig. 10, sheet 2, elevation of a parasol shown open, and figs. 11 and 12, sheet 2, elevations of parasols shown closed.

The suspenders *g* of the umbrella and parasols are sometimes made more flexible than the ribs *f f*, so that when the umbrella or parasol is opened the suspenders will bend to allow the ribs to bend outward; or, instead of the suspenders being made flexible, the ends thereof may be made so as to slide a short distance on the ribs for the same purpose, as in fig. 9. In some cases the ribs are permanently curved, as at fig. 11, sheet 2.

The covering of the umbrella or parasol is made in two parts, like the covering of the tent, so that if the wind catches them from underneath it will pass out at the place where the two parts of the covering overlap, and thus prevent the umbrella or parasol being turned inside out.

Umbrellas or sunshades constructed according to this arrangement are very suitable for carriages or other vehicles. To erect the umbrella or sunshade the central pole or stick is inserted in a suitable socket in the carriage or vehicle, and when the umbrella or sunshade is opened the ribs will not, in opening outward, come in the way of those sitting in the carriage.

We do not mean or intend to claim as part of our invention the placing of the stretchers or suspenders outside of or above the ribs, which arrangement is not novel.

Having now described our invention,

What we claim is—

1. The combination of a single rib, *f*, with a single stretcher, *g*, and the stick *a*, the two parts *f g* being so connected with the stick *a*, as described, that when a tent or umbrella is opened the outer end of the rib expands downward, and when closed the outer end contracts upward, substantially as set forth.

2. The improved stakes *m* and *o* employed in combination, as hereinbefore described and represented in fig. 8, sheet 1, of the accompanying drawing.

3. The improved socket *b*, in combination with an adjustable collar *b'*, having arms *c c* hinged thereto, and the pole *a*, as hereinbefore described and represented in fig. 2, sheet 1, of the accompanying drawing.

In testimony whereof we, the said JOHN RITCHIE and GEORGE RITCHIE, have hereto set our hands and affixed our seals this 3d day of December, 1869.

J. RITCHIE. [L. S.]
GEO. RITCHIE. [L. S.]

Witnesses:

W. A. GILBEE,
G. F. REDFERN.