

(Specimens.)

2 Sheets—Sheet 1.

S. TAKAKI.

FABRIC FOR COVERING UMBRELLAS.

No. 438,202.

Patented Oct. 14, 1890.

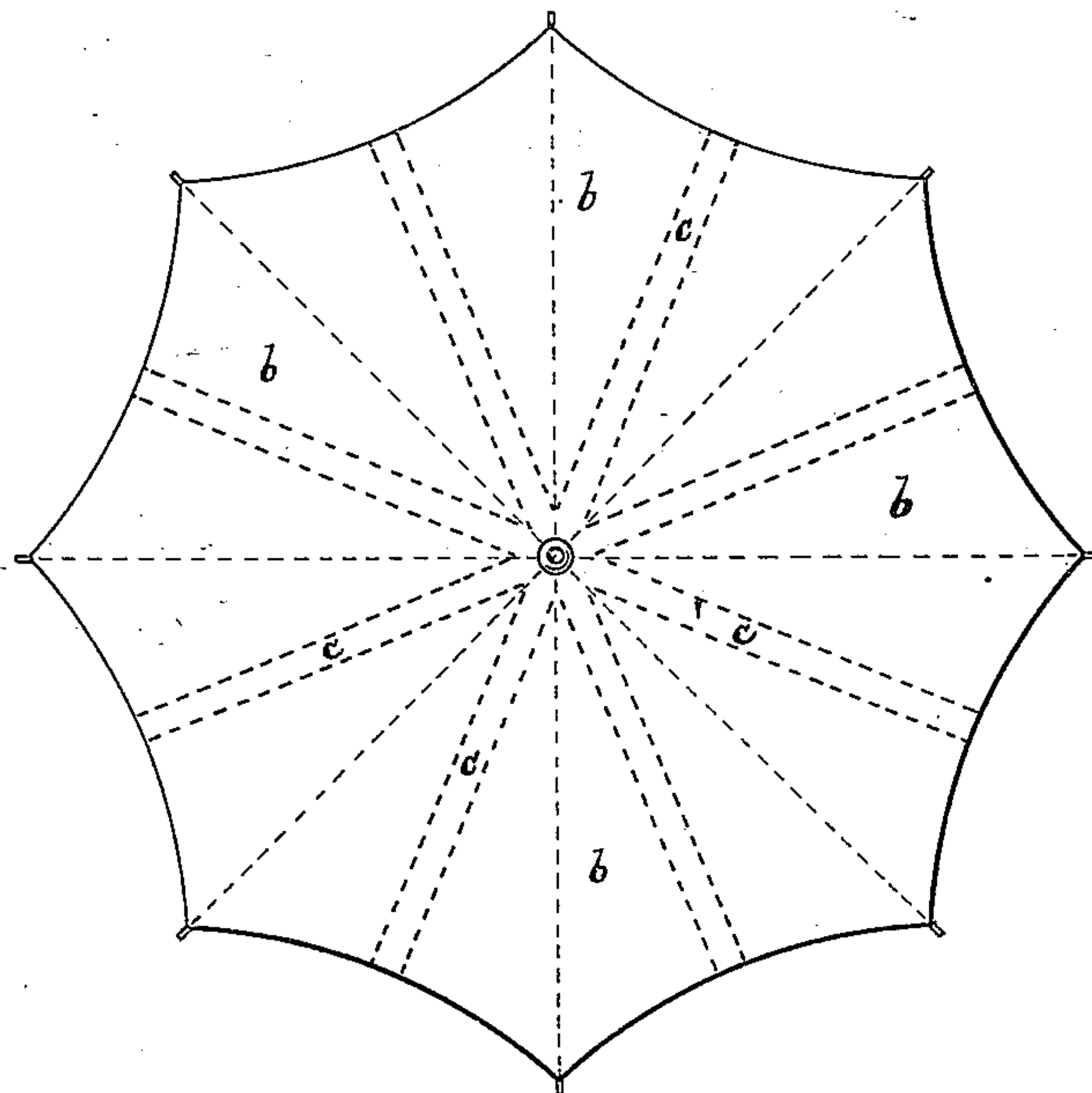


FIG. 1

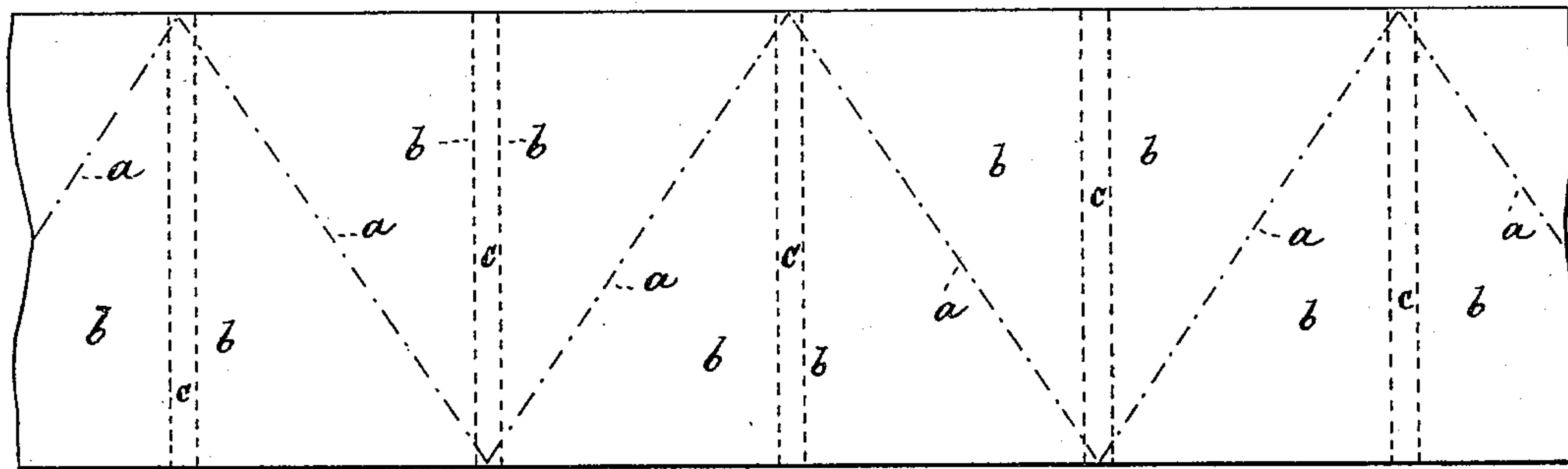


FIG. 2

WITNESSES

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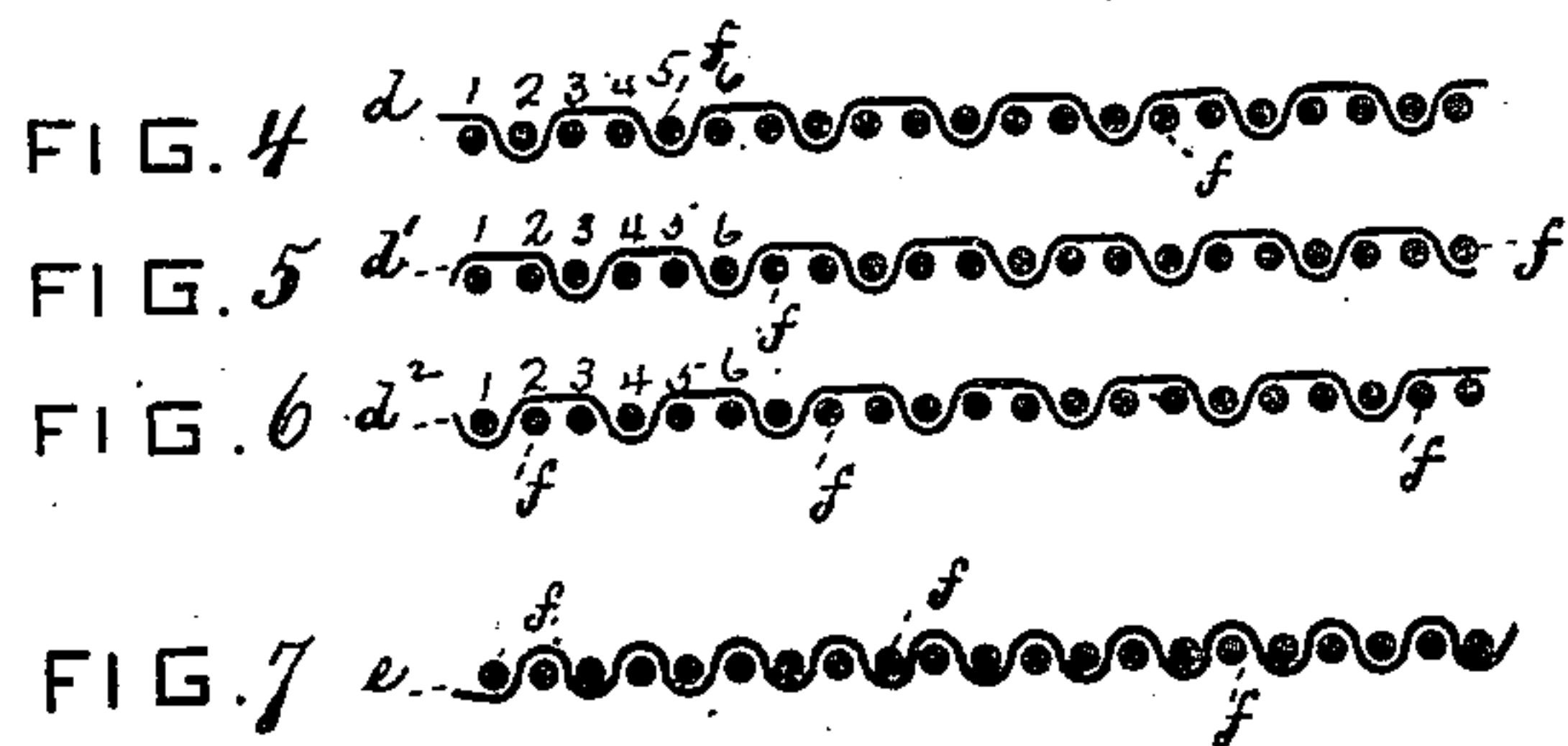
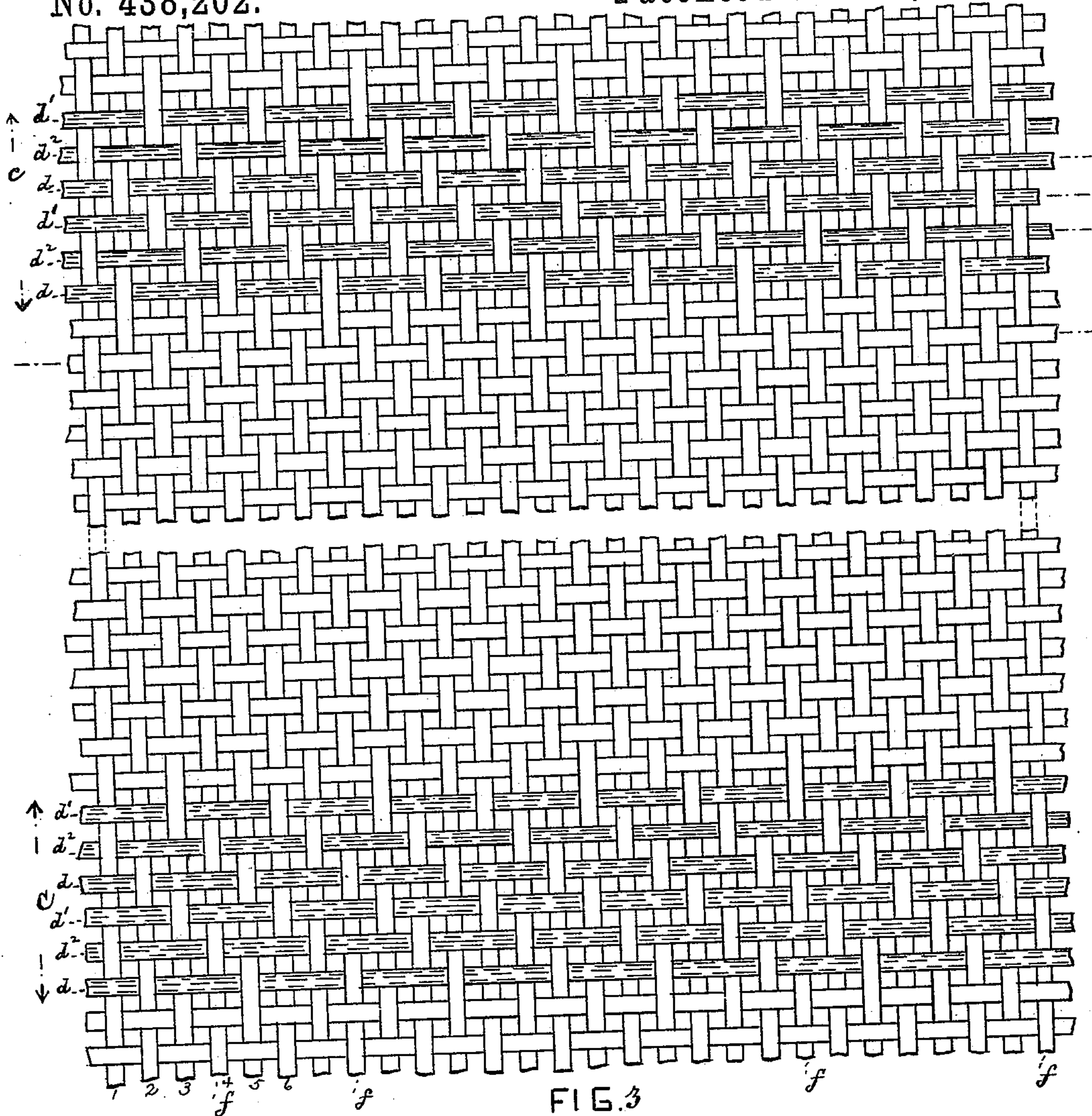
INVENTOR

Samuro Takaki
by his attorneys
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2 Sheets—Sheet 2.

No. 438,202.

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UNITED STATES PATENT OFFICE.

SAMRO TAKAKI, OF NEW YORK, N. Y.

FABRIC FOR COVERING UMBRELLAS.

SPECIFICATION forming part of Letters Patent No. 438,202, dated October 14, 1890.

Application filed May 2, 1890. Serial No. 350,285. (Specimens.)

To all whom it may concern:

Be it known that I, SAMRO TAKAKI, of New York city, New York, have invented an Improved Fabric for Covering Umbrellas, of which the following is a specification.

This invention relates to an improved fabric for covering umbrellas, so constructed that the warp-threads are afforded increased protection where they are subjected to the greatest wear. The warp-threads run around the umbrella, and at the folds midway between the ribs they are apt to be quickly worn or abraded owing to their exposed position when the umbrella is closed.

It is the object of my invention to cover and protect the warp-threads at the folds, so that the umbrella may wear uniformly.

The invention consists in the various features of improvements more fully pointed out in the claim.

In the accompanying drawings, Figure 1 is a top view of my improved umbrella-covering. Fig. 2 represents a length of textile fabric before it is cut up to form the sections of the covering. Fig. 3 is a diagram representing the threads in the covering. Figs. 4, 5, and 6 represent three weft-threads within one of the re-enforced strips of the covering. Fig. 7 represents one of the plain weft-threads.

In making an umbrella-covering an ordinary length of textile fabric, Fig. 2, is cut by a series of slanting incisions *a a a* into a number of triangular pieces *b*. These pieces are subsequently placed with their apices inward and are connected, as in Fig. 1, to form the covering. The central part *c* of each triangular piece *b* will be placed midway between the ribs of the completed umbrella and is that part of the covering which is subjected to the greatest wear. The parts *c* occur in the length of fabric, Fig. 2, at regular intervals in the form of parallel strips, and it is the object of the invention to re-enforce these strips. The warp-threads, it will be observed, are those threads that are bent and abraded at the part *c* when the umbrella folds, as these threads run around the umbrella. Moreover, the warp-threads give the proper shape to the umbrella when opened, and if torn destroy the utility of the umbrella. The weft-threads,

running from the apex down, are not bent at the folds.

By my invention I protect the warp-threads of the parts *c* by weaving the fabric differently at such parts from the remainder of the fabric—that is to say, while the main body of the fabric is woven in any ordinary or plain manner the sections *c* are formed by causing the weft-threads to pass alternately under one warp-thread *f*, and then over two or more warp-threads. Thus a twilled fabric is formed in which the warp-threads are overshoot and are thus protected by the weft-threads.

In Figs. 4 and 6 three adjoining weft-threads *d d' d²* are shown. The thread *d* passes over warp-thread 1, under thread 2, and over thread 3 4, &c. The thread *d'* passes over threads 1 2, under thread 3, and over threads 4 5, &c. The thread *d²* passes under thread 1, over threads 2 3, and under thread 4, &c.

Fig. 7 shows a weft-thread *e* of the main body of the fabric. This weft-thread crosses alternate warp-threads in regular order to form plain weaving.

Of course in the sections *c* in place of overshooting two warp-threads, three or more of such threads may be overshoot.

It will be seen that by my invention the warp-threads are protected by the weft-threads at the folds, and that the covering is thus made of different construction at its different parts in conformity to the difference in wear to which such parts are subjected. Thus the entire covering will wear evenly and the umbrella will last longer.

In order to thoroughly cover the warp-threads at the folds I use a thinner but stronger quality of weft-threads for the sections *c* than for the remainder of the fabric, as the thinner the weft the more closely will it embrace and protect the warp. With silk umbrella-coverings, tussah-silk should be used for the weft-threads within section *c*, while ordinary silk is used for the other weft-threads. With cotton or mohair umbrellas, I prefer to use silk for the weft-threads in sections *c*.

Some umbrellas are made entirely of a twilled fabric; but in those umbrellas the

warp-thread overshoots one or more of the weft-threads, which is the reverse of my construction. In these umbrellas I form the sections *c* exactly the same as already described
5 in relation to plain umbrellas.

Of course this invention relates also to parasol-coverings.

What I claim is—

A fabric for covering umbrellas formed of

alternate sections of suitable weaving and of 10
a weft-twill weaving, the weft-thread in the twilled section being thinner and stronger than the weft-thread in the intervening section, substantially as specified.

SAMRO TAKAKI.

Witnesses:

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