

No. 657,171.

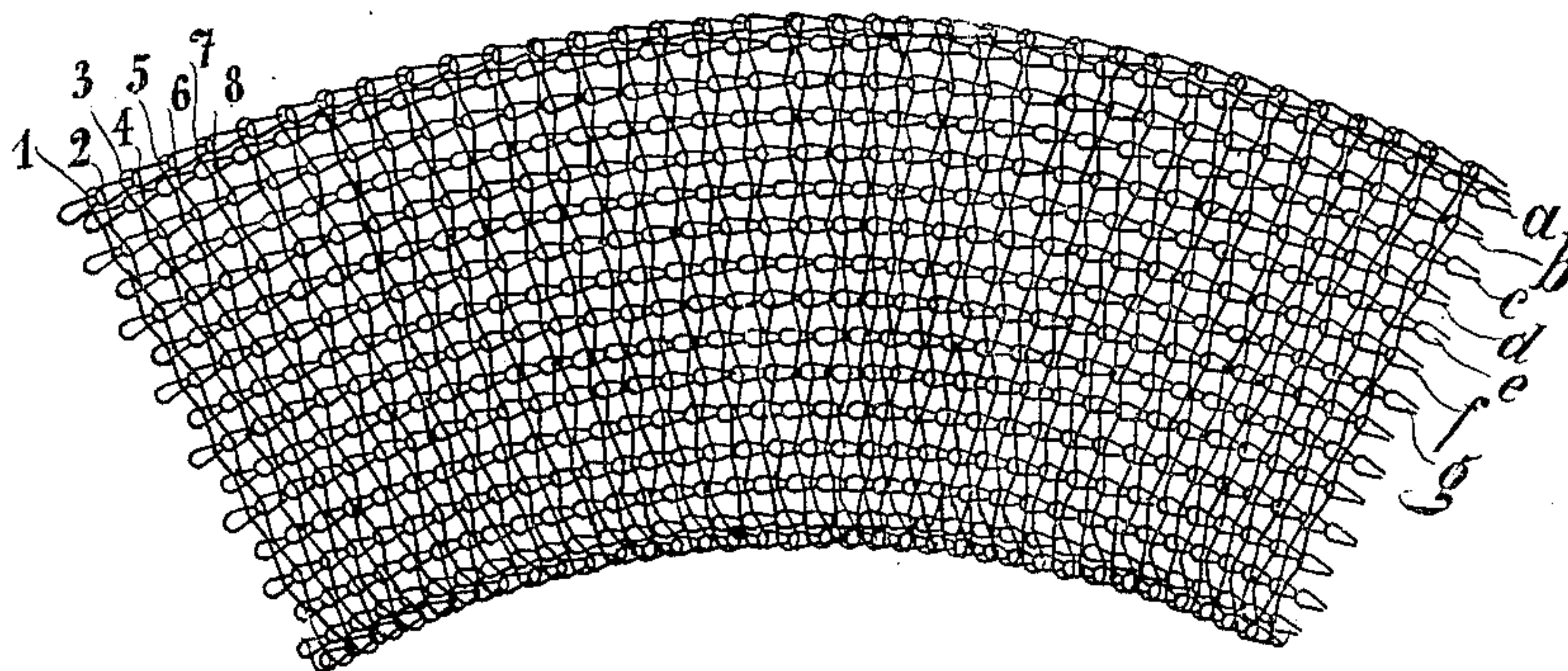
Patented Sept. 4, 1900.

A. MANN & P. STUMPE.  
FABRIC FOR COLLAR STIFFENERS.

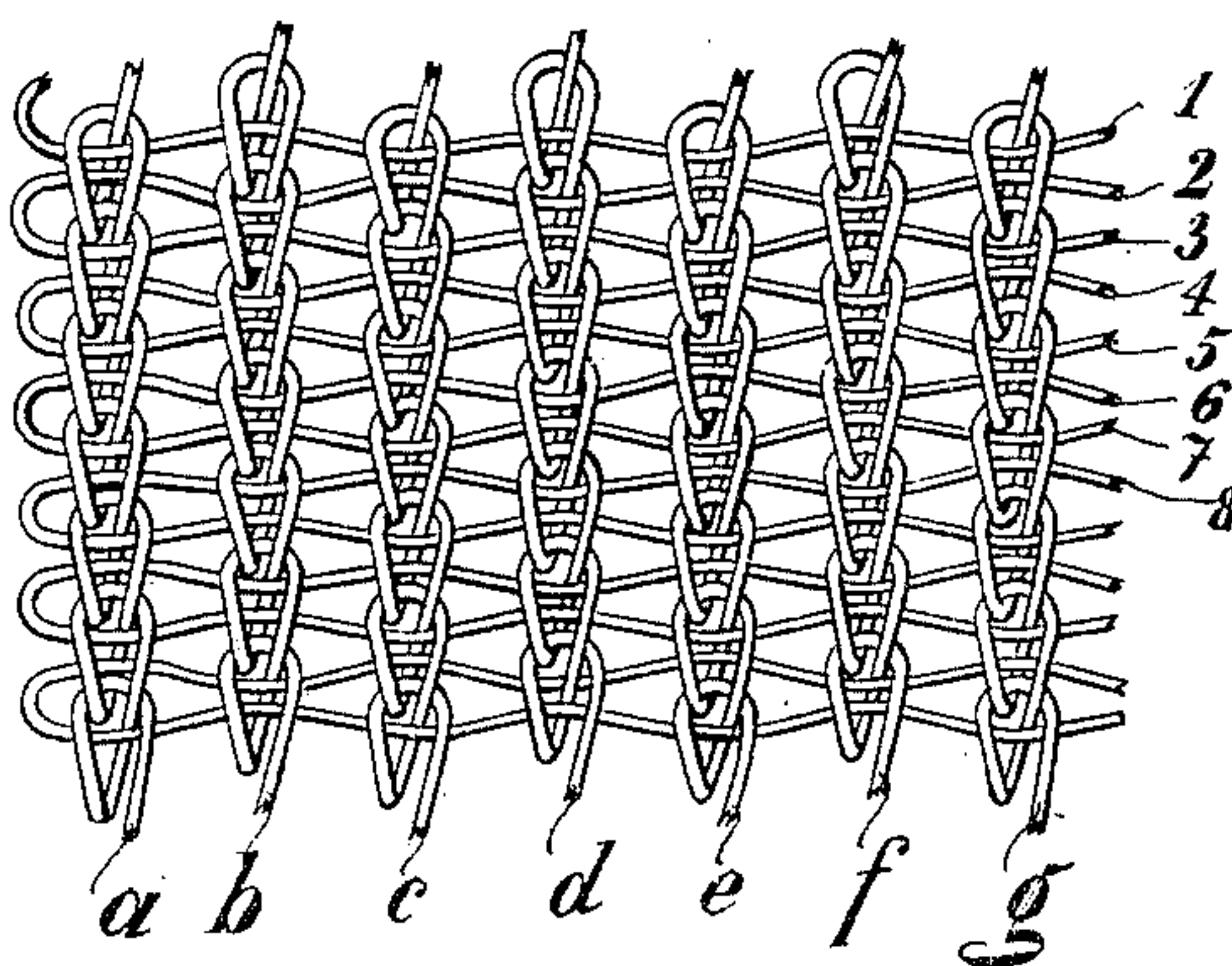
(Application filed May 2, 1900.)

(No Model.)

*Fig:1*



*Fig:2*



Witnesses;

Otto König  
Joh. Rittershaus.

Inventors;

Alfred Mann  
Paul Stumpe.



# UNITED STATES PATENT OFFICE.

ALFRED MANN AND PAUL STUMPE, OF BARMEN, GERMANY.

## FABRIC FOR COLLAR-STIFFENERS.

SPECIFICATION forming part of Letters Patent No. 657,171, dated September 4, 1900.

Application filed May 2, 1900. Serial No. 15,245. (No specimens.)

*To all whom it may concern:*

Be it known that we, ALFRED MANN and PAUL STUMPE, subjects of the Emperor of Germany, residing at Barmen, in the Province of Rhenish Prussia, Germany, have invented certain new and useful Improvements in Fabrics for Collar-Stiffeners; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates to improvements in fabrics for stiffeners for collars and other parts of wearing-apparel; and it has for its object so to construct these fabrics that they present an open cellular texture which enables easy connection with a lining or a covering by sewing and which makes the whole fabric porous, so that it will allow humidity of transpiration, for instance, and vapors to pass through freely. We attain these objects by our fabric, a part of which is shown on the accompanying drawings, and which we will proceed to describe hereinafter.

There are two principal sorts of collar-stiffeners known. One sort is made of a woven band or ribbon which is stiffened by a certain finishing and sizing process. Another form of this class is cut to suitable shape and size out of a piece of woven stuff, which is also stiffened by a similar finishing process. The other sort consists of a broad braided lace made of suitable yarn and stiffened in the same manner as the woven articles. Now these fabrics have the drawback that they are too close and too tight in their texture. We therefore make our improved fabric for collar-stiffeners in the manner shown on the accompanying drawings, in which—

Figure 1 shows a piece of such a fabric in its general arrangement, and Fig. 2 shows, on an enlarged scale, the manner of "binding" the cross-threads and the longitudinal threads; or, if we may use the corresponding terms of the weaving operation, the "weft-threads" and the "warp-threads."

The weft-threads, as may be seen in Fig. 1, run side by side transversely from one selvage of the fabric to the other, and the warp-threads are looped around them in the manner of crocheting or netting work, so that each loop includes or surrounds two adjacent weft-

threads, the next two adjacent weft-threads being surrounded by the next loop in said warp-thread, and so on. This forms one feature of the construction from which our invention derives its peculiar advantages, and a second feature, dependent on the first, is that each warp-thread includes or binds together in each loop two adjacent weft-threads which were not bound together in a loop of the preceding warp-thread, and thus the alternate warp-threads bind together the same two weft-threads in each of their corresponding loops. Thus in Fig. 2 weft-threads 1 and 2 are included together in the uppermost loops of warp-threads *a*, *c*, *e*, and *g*, while weft-threads 2 and 3 are included together in the second loops of warp-threads *b*, *d*, and *f*, and so on down in like manner. Vice versa, warp-thread *a* binds together in pairs weft-threads 1 and 2, 3 and 4, 5 and 6, and 7 and 8, and warp-thread *b* binds together weft-threads 2 and 3, 4 and 5, 6 and 7, &c. It follows from this manner of binding that the weft-threads take a wave-like course, and since the warping is not very closely arranged and each warp-thread forms, as it were, a row of loops like chain-links, the whole fabric has an open cellular texture and allows easy stitching through with the needle and fixing thereto by sewing any other piece of covering or lining, notwithstanding the hardness and stiffness of the finished fabric.

It will be obvious that an important advantage of our construction is that on account of the binding together of weft-threads by the peculiar arrangement as set forth in Fig. 2 and the description relating thereto they will prevent the warp-threads from slipping and becoming crowded together or unduly separated in any portion of the fabric, thus adding very materially to its stability and stiffness.

We are aware that collar-stiffeners are not new in themselves, and we therefore do not claim, broadly, the same as our invention; but

What we do claim is—

1. As a new article of manufacture, a stiff fabric of open texture, in which adjacent weft-threads are bound together in pairs by the succeeding loops of each warp-thread, and each warp-thread binds together in each

loop two weft-threads which are not bound together in the loops of the preceding or succeeding warp-thread, substantially as and for the purpose set forth.

- 5 2. As a new article of manufacture, a stiff fabric of open texture, consisting of weft-threads 1, 2, 3, 4, 5, 6, 7 and 8, and warp-threads, *a*, *b*, *c*, *d*, *e*, *f* and *g*, said warp and weft threads lying respectively side by side  
10 and said warp-threads being provided with successive loops so arranged that warp-threads *a*, *c*, *e* and *g* bind together in pairs in their corresponding loops, weft-threads 1

and 2; 3 and 4; 5 and 6; and 7 and 8, and warp-threads *b*, *d* and *f* similarly bind together weft-threads 2 and 3; 4 and 5, and 6 and 7, substantially as and for the purpose set forth. 15

In testimony whereof we have affixed our signatures in presence of two witnesses.

ALFRED MANN.  
PAUL STUMPE.

Witnesses:

OTTO KÖNIG,  
J. A. RITTERSHAUS.