

No. 772,478.

PATENTED OCT. 18, 1904.

E. ROGERS & C. J. SCHUYLER.

KNIT FABRIC.

APPLICATION FILED MAR. 31, 1903.

NO MODEL.

2 SHEETS—SHEET 1.

FIG. I.

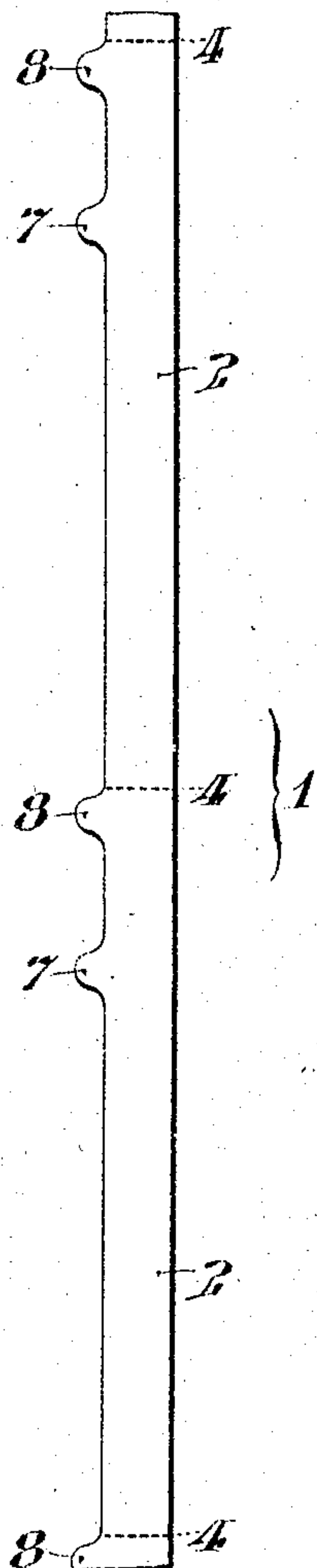
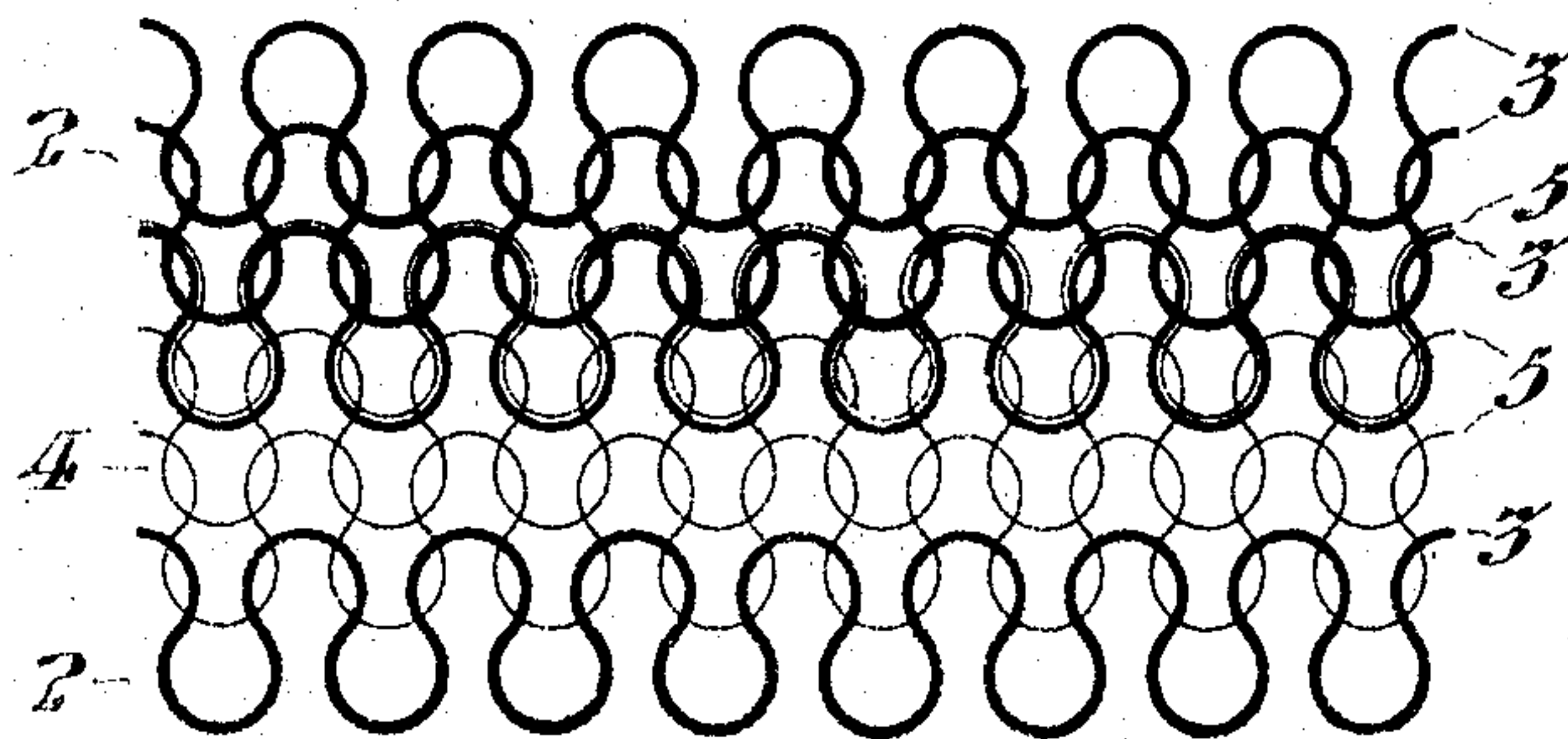


FIG. II.



WITNESSES:

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2 SHEETS—SHEET 2.

FIG. III.

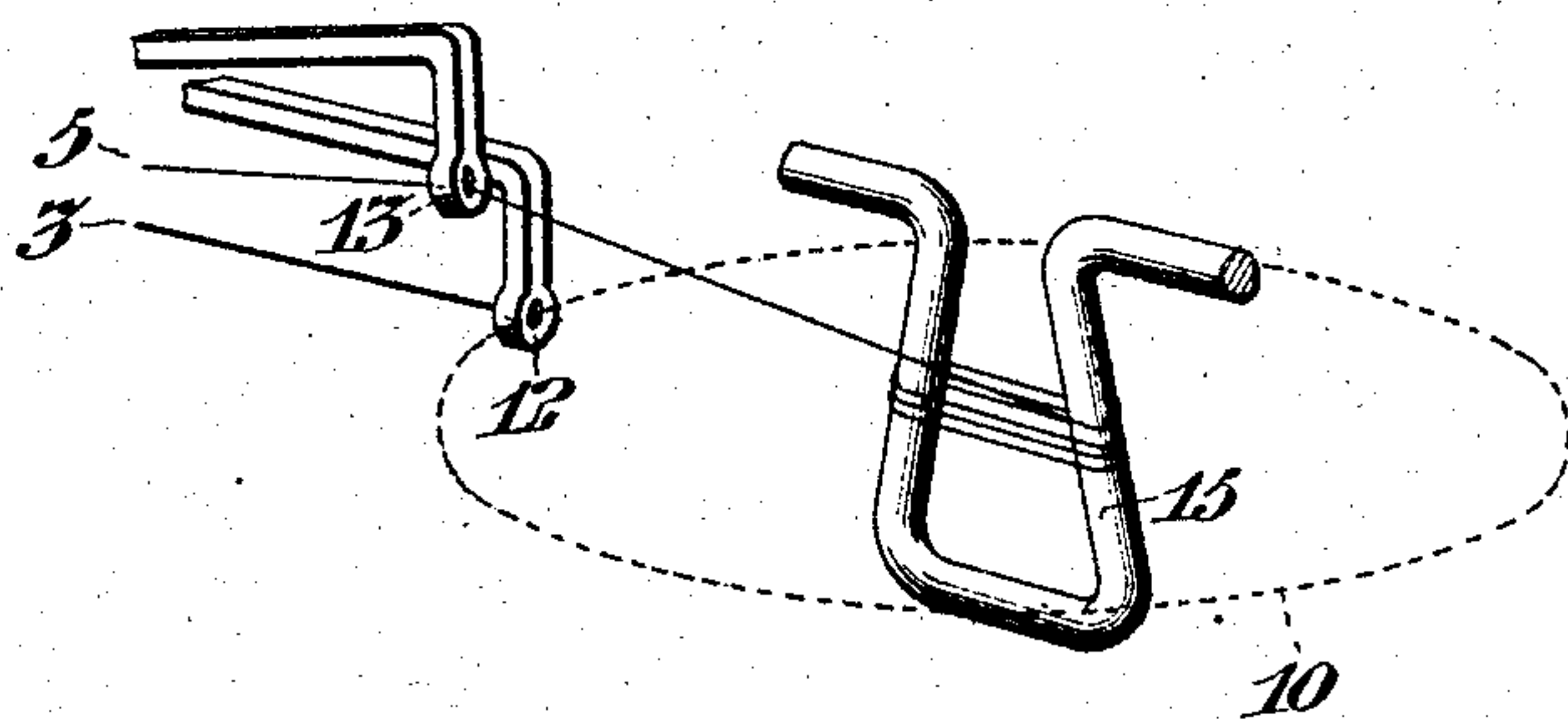


FIG. IV.

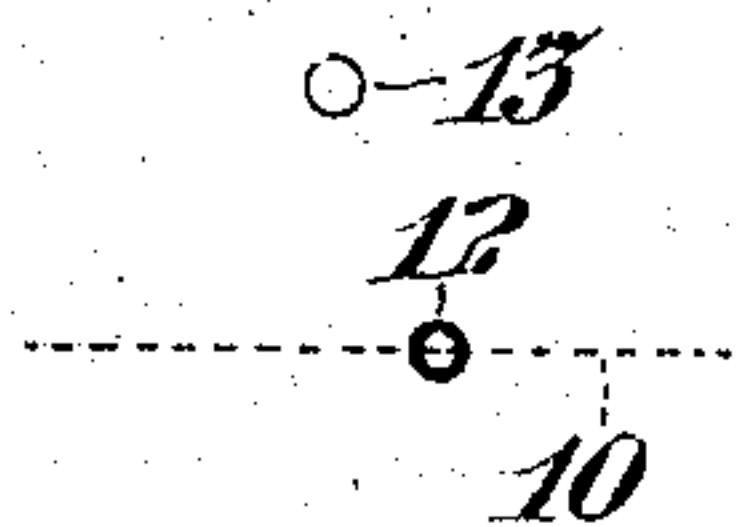


FIG. V.

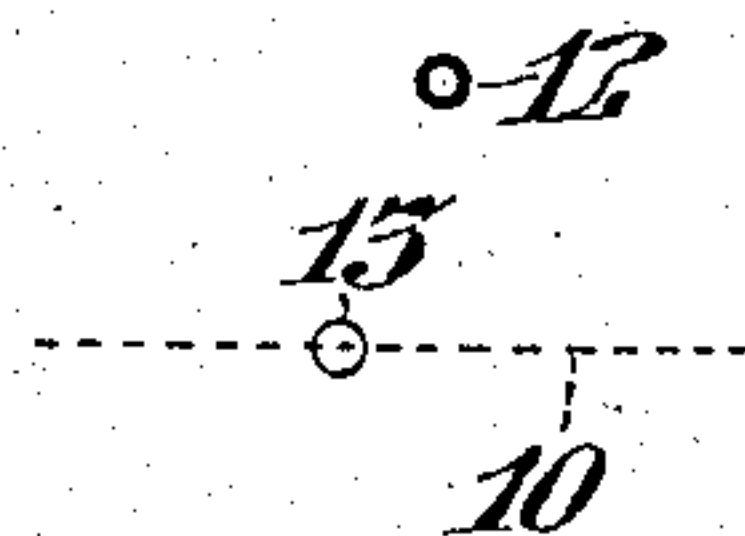
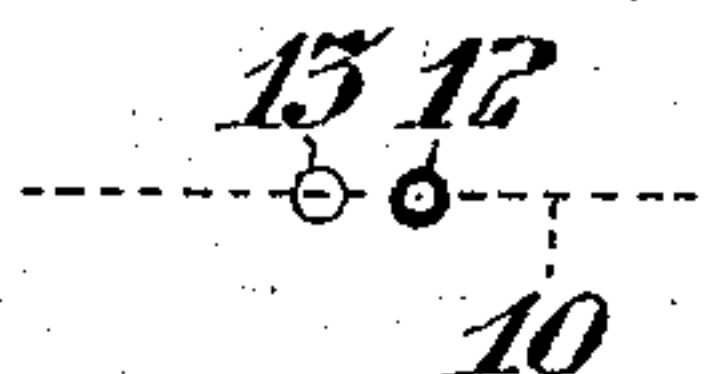


FIG. VI.



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# UNITED STATES PATENT OFFICE.

EPHRAIM ROGERS AND CHARLES J. SCHUYLER, OF PHILADELPHIA,  
PENNSYLVANIA.

## KNIT FABRIC.

SPECIFICATION forming part of Letters Patent No. 772,478, dated October 18, 1904.

Application filed March 31, 1903. Serial No. 150,348. (No specimens.)

*To all whom it may concern:*

Be it known that we, EPHRAIM ROGERS and CHARLES J. SCHUYLER, of Philadelphia, in the State of Pennsylvania, have invented certain  
5 new and useful Improvements in Knit Fabrics, whereof the following is a specification, reference being had to the accompanying drawings.

Our improvements relate particularly to what is known as "stringwork"—to wit, continuous knit tubes designed to be severed  
10 transversely to form separate articles, such as hose, shirt-bodies, sleeves, &c.

It is the object of our improvements to provide a knit tube which at predetermined uniform intervals in its length comprises zones  
15 of frangible thread, so that although the tube is continuously knit it may be subsequently divided into proper lengths for hose, sleeves, &c., without any measurements whatever by simply rupturing said frangible threads.

Our improvements aforesaid are advantageous, first, in saving the time heretofore expended in measuring the fabric to determine the proper intervals at which to sever it; second, in that the series of loops at the ends of  
20 the severed sections of our improved product are in a single complete course, and consequently adapted for immediate use in transfer-work, without the waste of time and material in the unraveling operation heretofore necessary, and, third, that the divisions of the knit tube being of predetermined uniform length the ultimate manufacture of hose,  
25 sleeves, &c., from such tubes is facilitated in that the time and labor necessary to match the pairs is materially reduced.

Our improvements comprehend the various novel features of construction herein set forth.

In the accompanying drawings, Figure I is  
40 a side view of a continuous knit tube comprising a series of detachable hose-sections, each including a heel and a toe pocket. Fig. II is an enlarged diagram showing a fragment of fabric from the region including the frangible-thread zone. Fig. III is a diagram showing elements of apparatus conveniently employed in the process of making our improved fabric. Fig. IV shows the position of the  
45 thread-changing devices during the knitting

of the body portion of the tube. Fig. V shows the position of the thread-changing devices during the knitting of the frangible-thread zone. Fig. VI shows the position of the thread-changing devices during the simultaneous  
50 knitting of both the body-thread of the fabric and the frangible thread.

Referring to Fig. I, the continuous tube of stringwork 1 comprises distinct sections 2 of predetermined uniform length knit of ordinary body-thread 3 and detachably connected  
60 by zones 4 of frangible thread 5. In the particular work shown each of said divisions 2 comprises a complete hose-blank provided with a heel-pocket 7 and a toe-pocket 8.

Referring to Fig. II, we have shown a form  
65 of our invention wherein the body-thread 3 is thrown out of operation and the frangible thread 5 thrown into operation at the same instant upon the lower side of the frangible-thread zone 4, and said threads are respectively thrown into and out of operation at  
70 different times upon the opposite side of said zone, so as to be knit simultaneously in coincident loops during one course or portion of a course. It is to be understood, however,  
75 that we do not desire to limit ourselves to the particular arrangement of the threads shown and that the threads may be changed in any convenient manner, the essential feature of our improved product being the provision  
80 therein of a definite zone of thread which is so frangible as compared with the body-thread employed that the sections of the tube may be conveniently severed by tearing said zone without tearing the adjoining body-threads.  
85

Referring to Fig. III, the dotted line 10 indicates a circle in which the needles exist and the plane in which the thread must be presented to the needles to enable them to knit. The body-thread 3 and frangible thread  
90 5 are conveniently delivered to the needles through respective thread-guides 12 and 13, which may be raised and lowered (by hand or by any suitable mechanism) to interchange said threads at the proper times, it being understood that only the thread delivered to the  
95 needles in the plane indicated by the dotted lines 10 is then embodied in the fabric to form



part of its continuous tube. In order that both the body-thread, which is floated during the knitting of the frangible thread, and the frangible thread, which is floated during the knitting of the body-thread, may be automatically detached from the fabric, we find it convenient to employ the bracket 15, which being mounted in stationary position above the needle-cylinder extends below the top edge thereof, as indicated in Fig. III, so that when either of the thread-guides 12 or 13 is uplifted from operative position the end of the thread extending through it to the fabric being drawn across the cylinder is wrapped around said bracket, and thus broken from the fabric. However, it is obvious that other means may be employed for accomplishing the purpose described.

Figs. IV, V, and VI respectively show the several positions of the two guides 12 and 13 in the several positions successively assumed in knitting the fabric indicated in Fig. II, as follows: first, during the knitting of the lower division 2 with the body-thread 3; second, during the knitting of the connecting-zone 4 with the frangible thread 5, and, third, during the simultaneous knitting of the frangible thread 5 and the body-thread 3, the first position being then resumed to knit the succeeding upper division 2.

It is to be understood that we do not desire to limit ourselves to the precise construction and arrangement herein set forth, as it is obvious that various modifications may be made therein without departing from the essential features of our invention.

We claim—

1. A knit stringwork product, consisting of a continuous tube of plain courses, comprising a series of distinct sections, knit of body-thread; and, zones of frangible thread connecting said body-thread sections, substantially as set forth.

2. A knit stringwork product, consisting of a continuous tube comprising a series of distinct sections, knit of body-thread, each having a heel and a toe pocket and terminating at its opposite ends with plain courses; and, zones of frangible thread, consisting of plain courses connecting the adjacent plain courses of said sections, substantially as set forth.

In testimony whereof we have hereunto signed our names, at Philadelphia, Pennsylvania, this 28th day of March, 1903.

EPHRAIM ROGERS.

CHARLES J. SCHUYLER.

Witnesses:

ALAN SWOPE,

WILLIAM BUCKLEY.