

(No Model.)

G. W. SOUTHWICK.
BELT FASTENING.

No. 562,747.

Patented June 23, 1896.

Fig. 1.

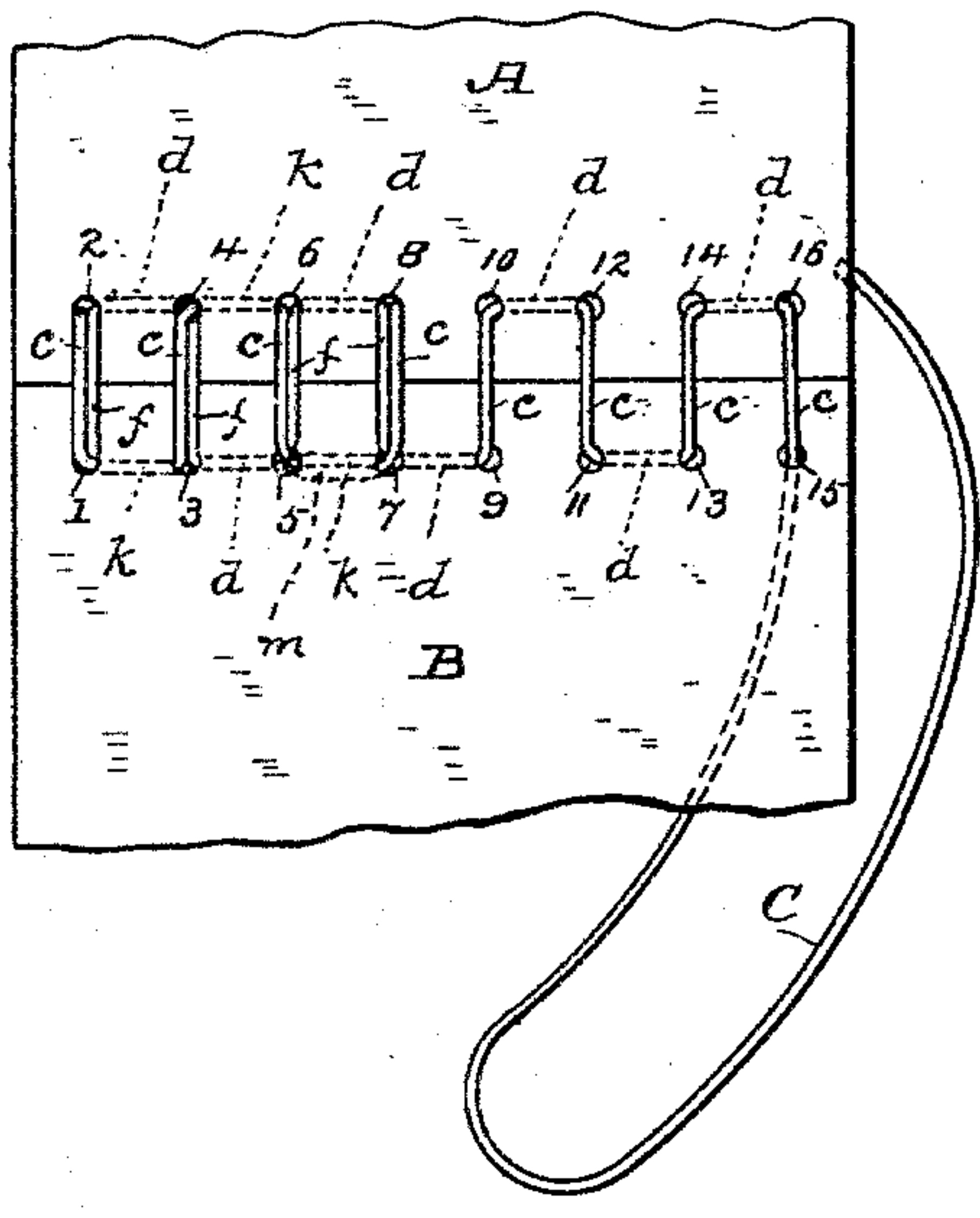


Fig. 2.

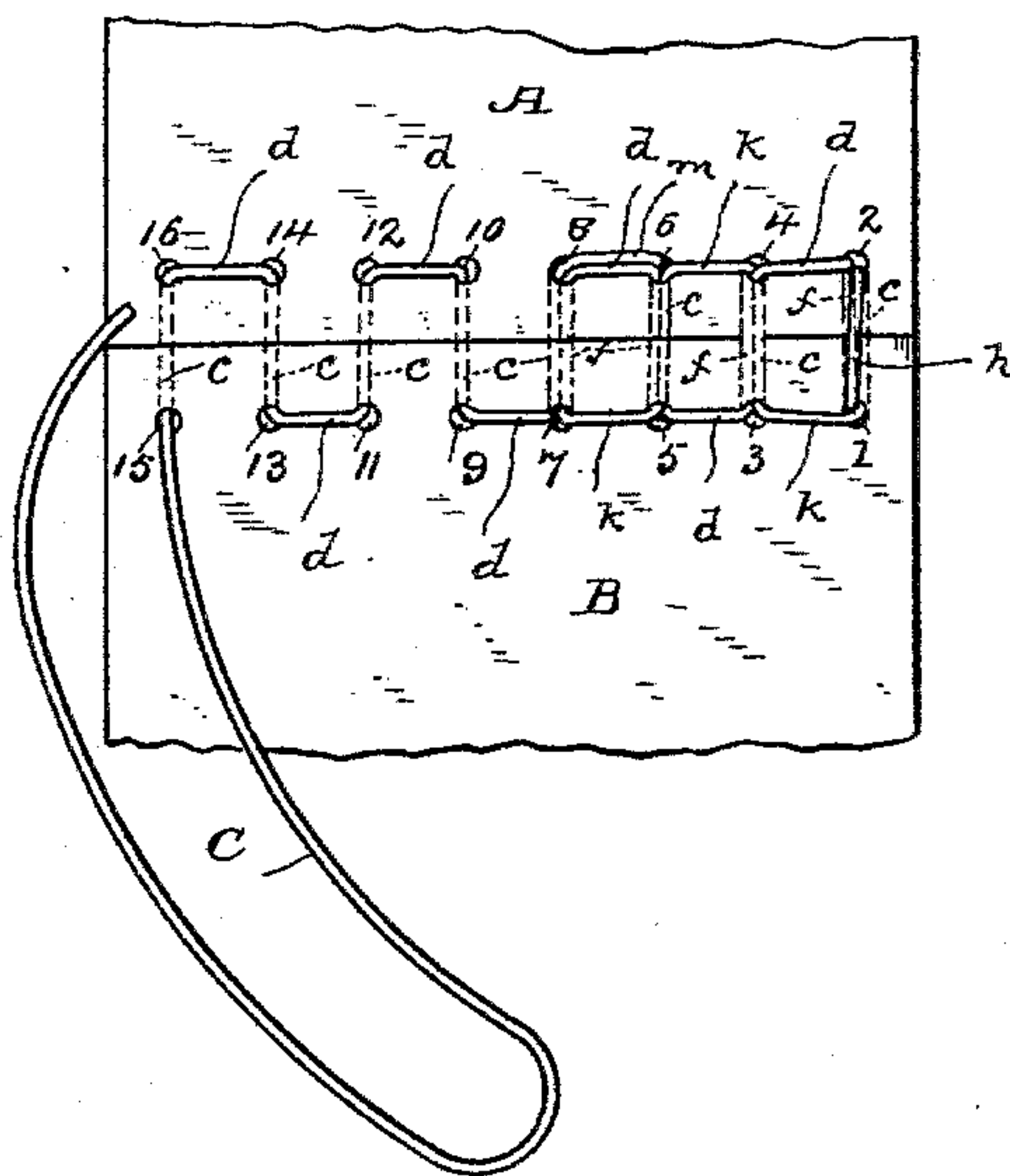
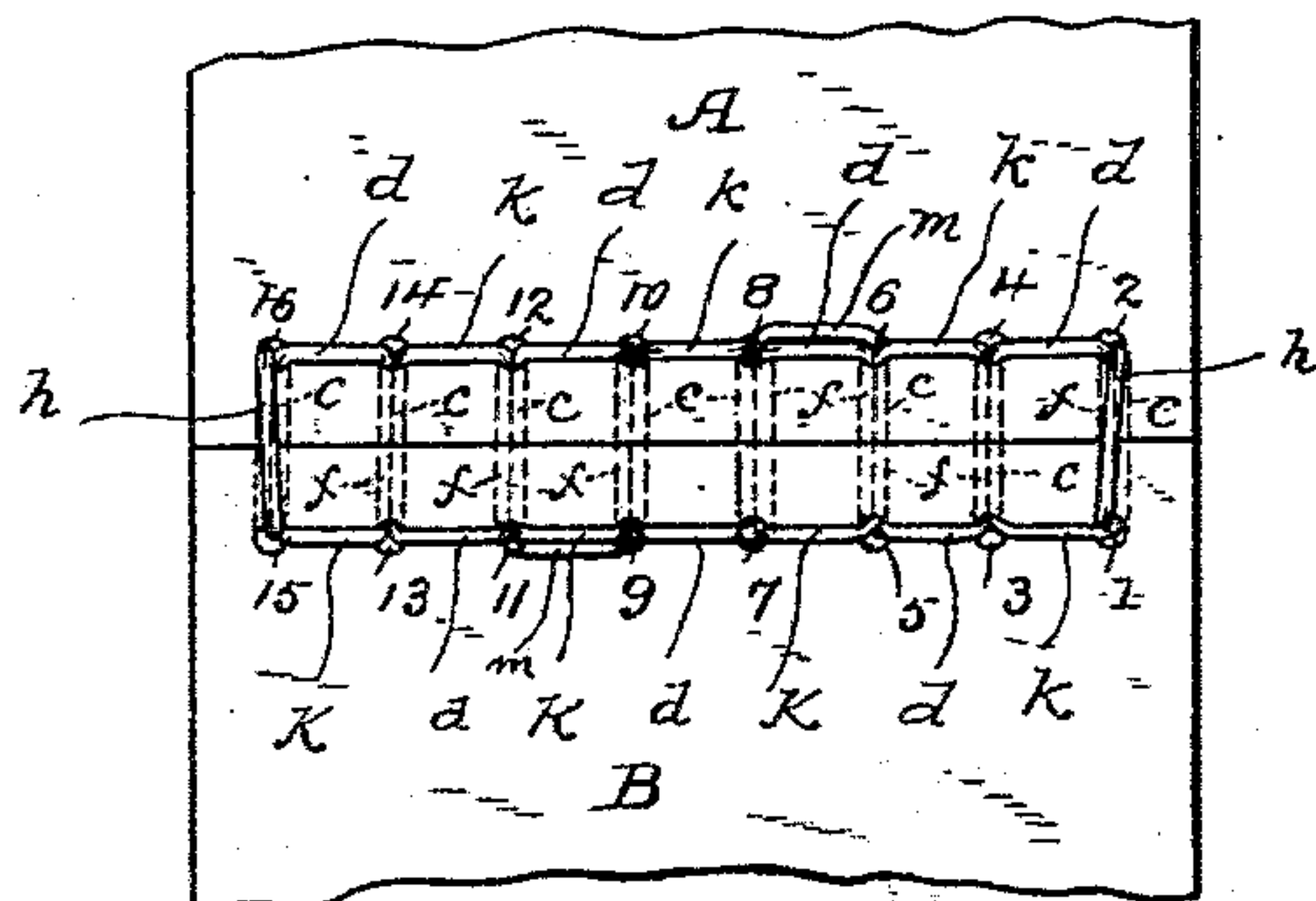


Fig. 3.



WITNESSES

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BELT-FASTENING.

SPECIFICATION forming part of Letters Patent No. 562,747, dated June 23, 1896.

Application filed December 13, 1895. Serial No. 571,994. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. SOUTHWICK, a citizen of the United States, residing at Stamford, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Belt-Fastening; and I 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.

My invention has for its object to provide a novel belt-fastening which shall be equally adapted for leather, rubber, or textile belts, which shall be simple and inexpensive, flexible, fully as strong as the belt itself, and which shall render dragging out or stripping of the warps in textile belts practically an impossibility.

With these ends in view I have devised the novel belt-fastening of which the following description, in connection with the accompanying drawings, is a specification, letters and numbers being used to indicate the parts and the mode of lacing.

Figure 1 is a view of the pulley side of the ends of a belt partly laced to illustrate my novel fastening; Fig. 2, a corresponding view of the outer side of the ends of a belt; and Fig. 3 is a view of the outer side of the ends of a belt, the lacing being complete.

A and B denote the respective abutting ends of a belt, and C a lacing, which may be of wire, leather, or a textile material. I preferably, however, use a wire lacing which is made from an alloy of my own composition. The lacing-holes in end A of the belt are denoted by the even numerals 2, 4, &c., to 16, in the present instance, and the lacing-holes in end B by the odd numerals 1, 3, &c., to 15.

The mode of fastening the ends of the belt is as follows: The lacing may commence at any point in either end of the belt, but preferably at or near the center. In the present instance I have shown the lacing as commencing at holes 7 and 9 in end B, both ends of the lacing being passed through from the outer side, leaving a transverse strand, which I have indicated by *d* on the outer side of end B. Both ends of the lacing are then passed straight across and through holes 8

and 10 in end A, forming longitudinal strands on the pulley side, which I have indicated by *c*. Each end of the lacing is then passed laterally through the next hole in end A toward the edge of the belt, forming transverse strands *d* on the outer side of end A. In this instance these strands extend, respectively, from holes 8 and 10 to holes 6 and 12. It will be seen that I lock the two abutting ends of the belt firmly together at the commencement of the lacing operation and thus render practically impossible any lateral movement of either end of the belt relatively to the other, as the lacing operation proceeds. As both ends of the lacing are threaded in the same manner I will simply follow out the threading of the end of the lacing toward the right in Figs. 2 and 3 and toward the left in Fig. 1. From hole 6 in end A the lacing is passed across and through hole 5 in end B, forming another longitudinal strand *c* on the pulley side, then laterally through hole 3, forming another transverse strand *d* on the outer side of end B, then through hole 4 in end A, forming another longitudinal strand *c* on the pulley side, then laterally through hole 2, forming another transverse strand *d* on the outer side of end A, then through hole 1 in end B, forming another longitudinal strand *c* on the pulley side, then across and through hole 2 again, forming a longitudinal strand on the outer side of the belt, which I have indicated by *h*, then across and through hole 1 again, forming the first of a second series of longitudinal strands on the pulley side, which I have indicated by *f*, these strands *f* lying parallel with the strands *c*, which extend between the same holes. From hole 1 the lacing is then passed laterally toward the center and through hole 3, forming the first of a second series of transverse strands on the outer side, which I have indicated by *k*. The lacing is then passed across and through hole 4 in end A, forming another longitudinal strand *f*, then laterally through hole 6 in end A, forming another transverse strand *k*, then across and through hole 5, forming another longitudinal strand *f*, then laterally through hole 7 in end B, forming another transverse strand *k*, which in the present instance completes the lacing. The other end of the la-

cing is threaded in precisely the same manner, the completed lacing being shown in Fig. 3. I ordinarily complete the lacing without a transverse strand between holes 8 and 10 in end A. This, however, is wholly immaterial, as a strand may easily be placed between these holes, if preferred. The ends of the lacing may be fastened in any suitable manner, as by passing them through one or more contiguous holes, the fastening-strands in the present instance being indicated by *m*.

It should be understood that the first and second series of longitudinal strands on the pulley side of the belt lie parallel, that is to say, they extend straight across from end to end between the same pair of holes, and that the second series of transverse strands alternates with the first series of transverse strands, so that in the completed lacing there is on each end of the belt a continuous series of transverse strands, the complete series of transverse strands on each end of the belt consisting of the transverse strands *d*, formed by the first threading, and alternating with them the transverse strands *k*, formed by the second threading. The pull, of course, in any lacing is upon the longitudinal strands, which must be taken up by the material of the belt itself.

The special object in my present lacing is to remove the strain from the holes in the ends of the belt, which are of course the weakest places, and transfer the strain to the material of the belt itself between the holes. This result, which I accomplish perfectly by the transverse strands *d* and *k*, is of great value in any belt and is especially valuable in textile belts, as it wholly prevents pulling out at the ends, that is, stripping of the warps.

Another advantage which results from the doing away with longitudinal strands on the outer side of the belt is that a much greater flexibility is produced at the joint than would be possible if there were longitudinal strands on the outer side of the belt. The single outer longitudinal strands *h* at the edges of the belt are of course a necessity. They do not, however, affect the principle of my invention, which is, as already stated, to transfer the strain from the holes to the material of the belt lying between the holes, nor do they materially lessen the flexibility of the joint.

The double longitudinal strands *c* and *f* increase the strength of the fastening and the continuous lines of transverse strands *d* and *k* prevent lateral movement or contraction of the ends of the belt.

Having thus described my invention, I claim—

1. A belt-fastening consisting of a metallic lacing passing from the outer side through contiguous holes in one end of the belt, both ends of the lacing then passing across on the pulley side and through opposite holes in the other end of the belt, then laterally through the next holes toward the edges in the same end of the belt, then across again then laterally again and so on to the edges of the belt, the lacing passing across on the outer side between the last holes and back again in the pulley side and then alternately laterally and across again to the holes from which the threading started, thus providing double strands between each pair of opposite holes and single strands between practically all of the holes on each side of the meeting lines of the belt ends.

2. A belt-fastening consisting of a metallic lacing passing through contiguous holes in one end of the belt, leaving a transverse strand on the outer side, both ends then passing across on the pulley side forming longitudinal strands, each end of the lacing then passing through the next hole toward the edge of the belt, forming a transverse strand on the outer side of the other end of the belt, then across again forming another longitudinal strand on the pulley side, then toward the edge again forming another transverse strand on the outer side and so on to the last hole, the lacing then passing across on the outer side and back again on the pulley side forming a second longitudinal strand on the pulley side between the last holes, then toward the center forming a transverse strand and so on, the first threading forming a series of longitudinal strands on the pulley side between opposite holes and of alternate transverse strands on the outer side of the ends of the belt and the second threading forming parallel longitudinal strands between opposite holes and transverse strands alternating with those formed by the first threading, thus providing double strands between each pair of opposite holes and single strands between practically all of the holes on each side of the meeting lines of the belt ends.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE W. SOUTHWICK.

Witnesses:

HARRY BELL,
WM. N. TRAVIS.