

M. K. BORTREE.
LACING STRIP.

APPLICATION FILED APR. 18, 1901.

NO MODEL.

Fig. 1.

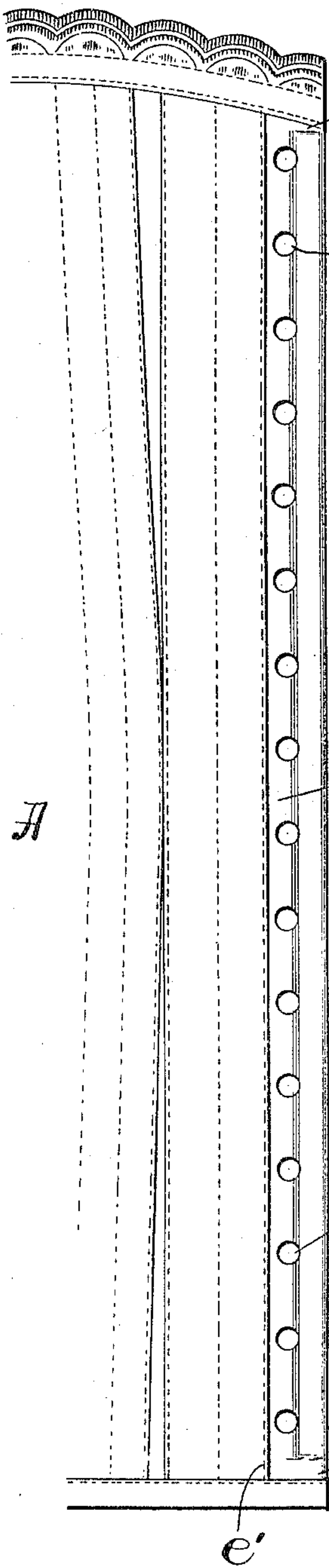


Fig. 2.

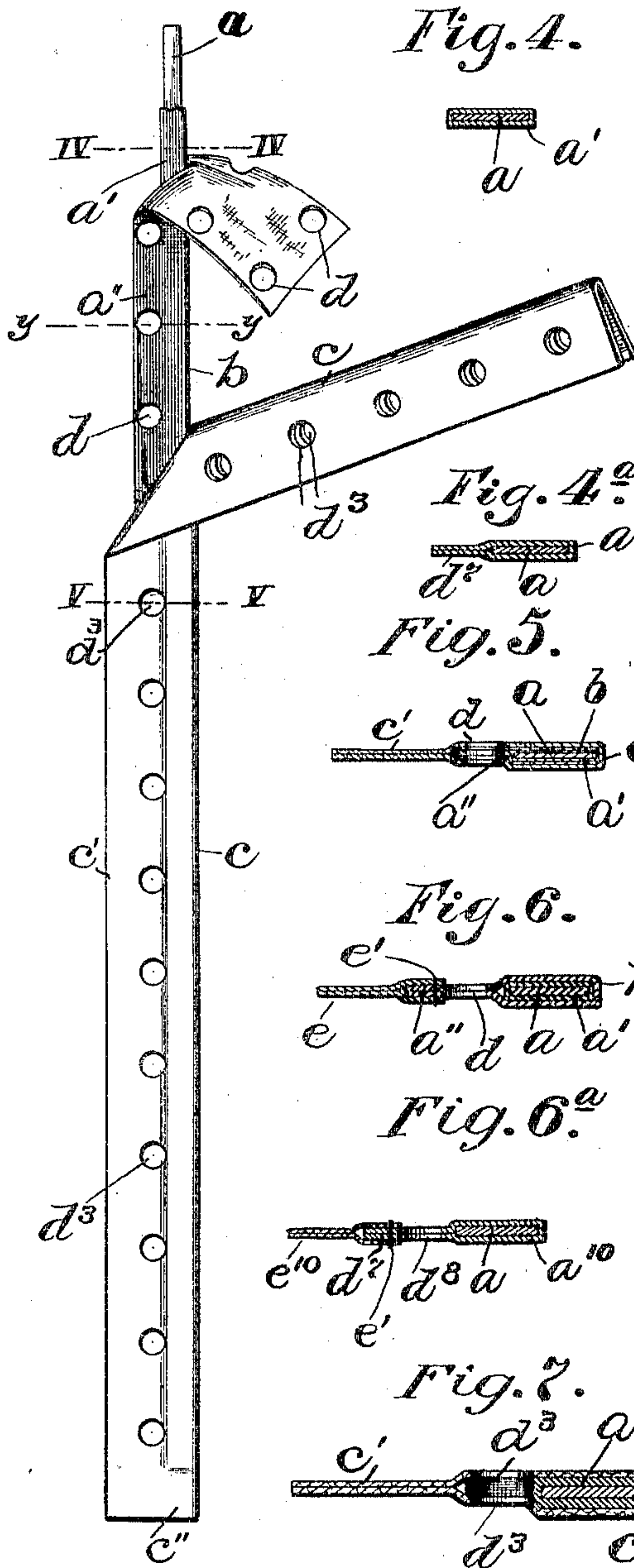


Fig. 3.

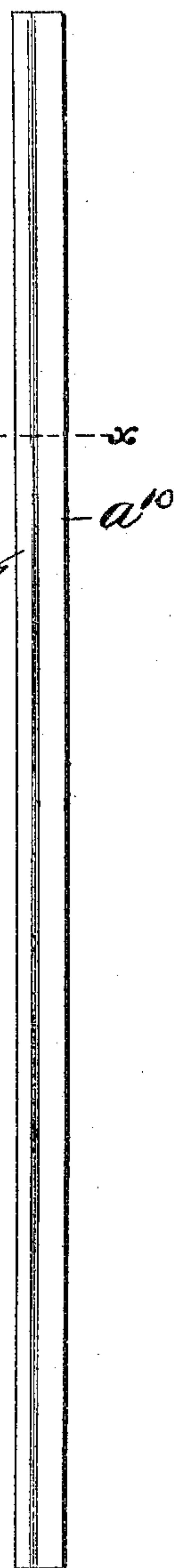


Fig. 4.



Fig. 4^a.

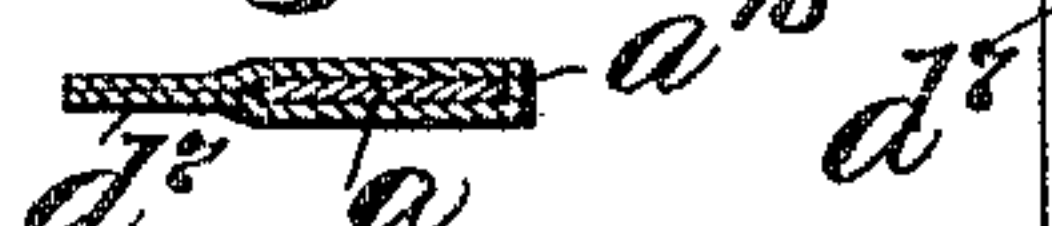


Fig. 5.

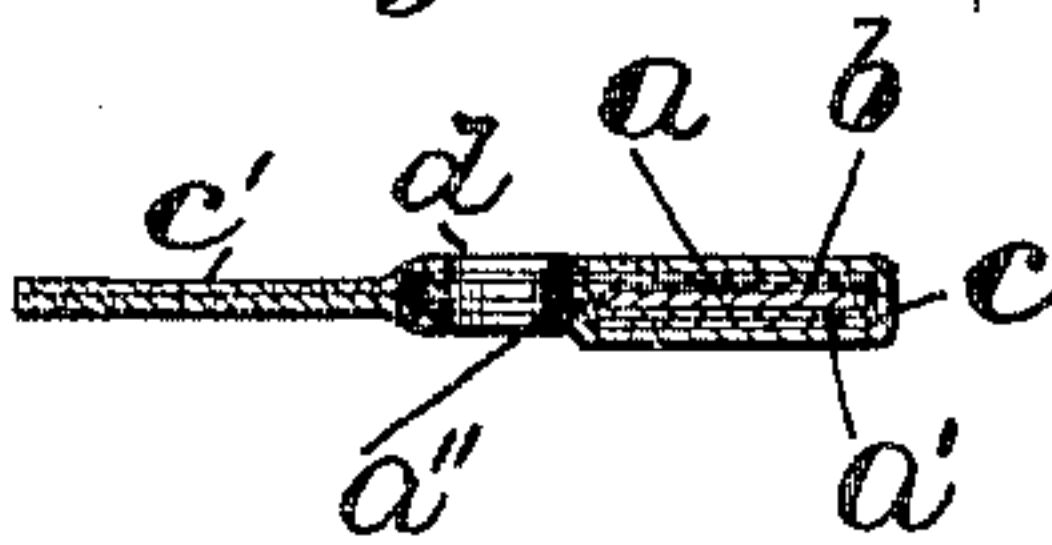


Fig. 6.

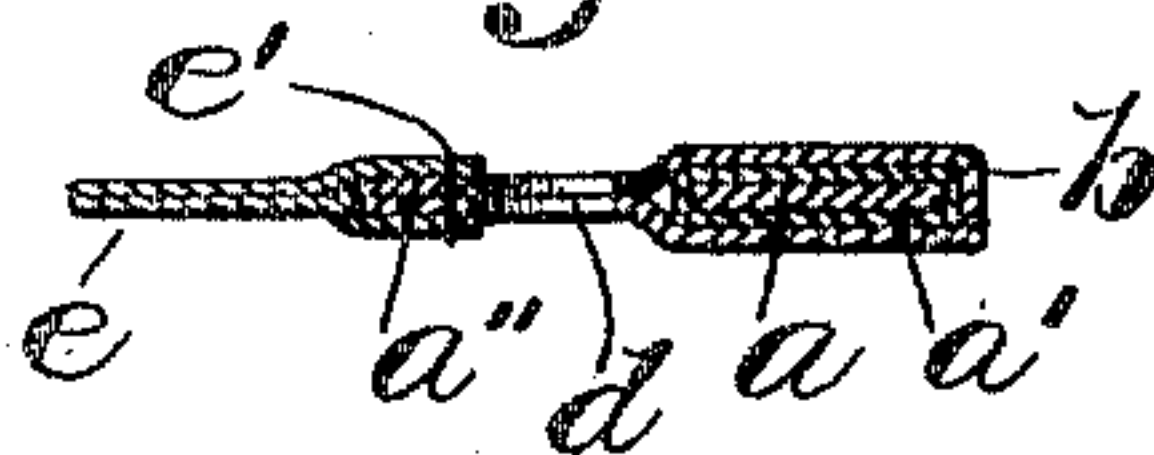


Fig. 6^a.

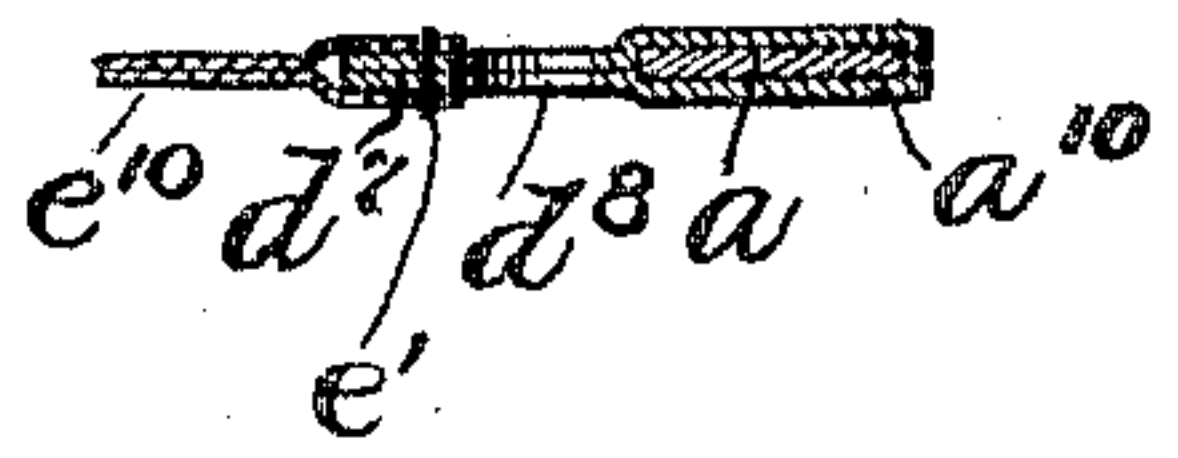


Fig. 7.

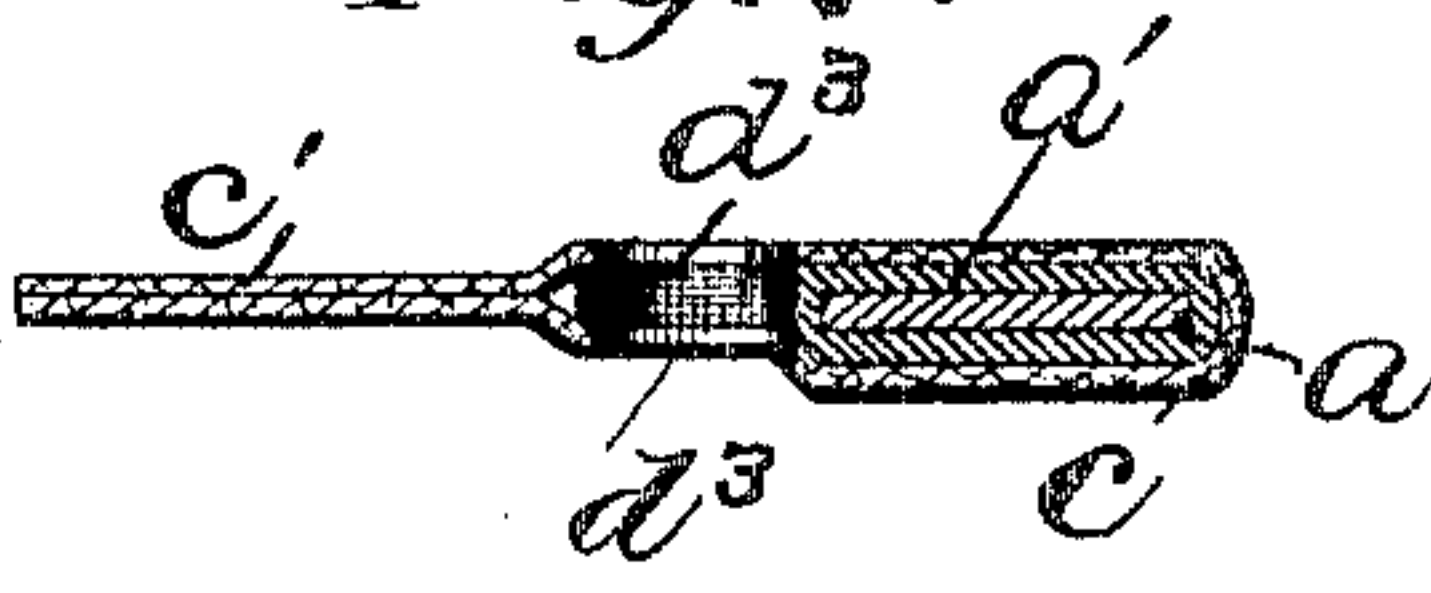


Fig. 8.



Witnesses

M. C. Fowler
Wm. H. Howell

Inventor

Moses K. Bortree

By John C. Dora

His Attorney

UNITED STATES PATENT OFFICE.

MOSES K. BORTREE, OF GRAND RAPIDS, MICHIGAN, ASSIGNOR OF ONE-HALF TO JOHN P. PLATTE, OF GRAND RAPIDS, MICHIGAN.

LACING-STRIP.

SPECIFICATION forming part of Letters Patent No. 776,488, dated December 6, 1904.

Application filed April 18, 1901. Serial No. 56,375. (No model.)

To all whom it may concern:

Be it known that I, MOSES K. BORTREE, a citizen of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Lacing-Strips; 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.

This invention relates to lacing-strips for corsets, boots and shoes, and similar articles of wear; and it consists, substantially, in the improvements hereinafter more particularly described, and pointed out in the claims.

The object of the invention is to provide a lacing-strip of this kind which will not corrode in use and one also which is exceedingly light and strong, while possessing the desired degree of flexibility and elasticity for its purposes.

A further object of the invention is to so construct the strip as to obviate or prevent any contact with metallic portions thereof of the usual lacing-cord and also to reinforce or strengthen the strip at and between the points thereof wherein are formed the usual openings for the passage of the lacing-cord.

A still further object is to provide a lacing-strip of this kind possessing many economical advantages and also to provide simple and effective means whereby the said strip is attached to the corset or other article on which employed.

The above and additional objects I attain by the means substantially as illustrated in the accompanying drawings, wherein—

Figure 1 is a side view of a portion of a corset or other article having my improved lacing-strip attached thereto. Fig. 2 is a side view of the preferred form of lacing-strip detached and with portions of elements thereof turned back to more fully indicate the construction. Fig. 3 is a side view of one embodiment of my improved lacing-strip prior to the formation therein of the holes for the lacing-cord. Fig. 4 is an enlarged cross-sectional view taken on the line IV IV of Fig. 2.

Fig. 4^a is a similar view taken on the line *xx* of Fig. 3. Fig. 5 is an enlarged cross-sectional view of the preferred form of the lacing-strip, taken on the line V V of Fig. 2. Fig. 6 is an enlarged cross-sectional view of my improved lacing-strip minus the outer textile covering and also representing in section portions of the layers of the corset or other article between which the attaching edge of the strip is secured, said view being on the line *yy*, Fig. 2. Fig. 6^a is a sectional detail view of another form or embodiment of my invention, said view dispensing with both the inner wrapper and outer covering or casing and indicating the employment of a non-corrosive sheathing for the metallic wire, which is itself of a material capable of receiving and holding suitable stitches for securing the lacing-strip to the corset or other article on which used. Fig. 7 is a similar view, enlarged, of the lacing-strip as comprising the outer textile covering, but minus the inner wrapper which incloses and may form a part of the core of the strip. Fig. 8 is a similar view to the preceding figure, enlarged, and representing a modification in which two cores are employed with the openings for the lacing-cord intermediate thereof, said figure being minus inner wrappers or coverings for said cores.

Before proceeding with a more detailed description it may be stated that in the construction or formation of my improved lacing-strip I employ a thin flexible metallic strip of suitable elasticity, to which I apply a non-corrosive material in the form of a sheathing and which may consist of paper, paper-pulp, celluloid, or other suitable material, completely enveloping said metallic strip. The said non-corrosive sheathing can be applied to the said metallic strip in various ways, among which may be mentioned that of wrapping a sheet of coarse paper or thin strawboard around the same and subsequently applying pressure in a mold, so as to compress the sheathing about the metal strip. The said paper or strawboard may also be coated with some suitable adhesive substance to insure its intimate as-

sociation with or adherence to the metal and to bind the layers together, so as to form practically a homogeneous sheathing for the said metal strip, which sheathing, together
 5 with said metal strip, constitutes a composite core for the lacing-strip. Of course the non-corrosive material may be otherwise applied, as by dipping or embedding the metal strip
 10 in the material while the latter is soft or plastic and then molding it or shaping it in any suitable manner. To the core of the lacing-strip thus formed I preferably apply a wrapper of some suitable material adapted to be stitched to a corset or other article and
 15 which is preferably treated with some adhesive substance and wrapped closely around or about the core before the latter is subjected to pressure in the molding devices, so that the said wrapper will thus become partially embedded in the non-corrosive substance of the
 20 core and intimately associated therewith in such manner as to practically constitute a part of the same. Said wrapper may be made of any suitable fabric material, as textile fabric, for instance. The construction of the preferred form of my improved lacing-strip is completed by an outer covering or casing of textile or other suitable material, which preferably constitutes the medium through which
 30 the attachment of the strip is made to the corset or other article on which employed. The side portions of the said inner wrapper referred to are brought together at one side of the core, so as to form a projecting longitudinal web or edge, in which is formed at suitable
 35 distances apart the usual openings for the passage of the usual lacing-cord. The said outer covering or casing referred to is also formed with a similar web having like openings for the lacing-cord, and when both the
 40 said wrapper and outer covering or casing are employed together in the construction of the lacing-strip the openings for each are usually formed in the projecting web or edge thereof at the same time either by punching or otherwise. In some instances I dispense with the
 45 use of the outer covering or casing, in which case the projecting edge or web of the inner wrapper constitutes the medium through which attachment of the strip is made to the
 50 corset or other article by means of stitching or otherwise. Then, again, in some instances I retain the outer covering or casing and dispense with the use of the said inner wrapper, in which case the projecting edge or web
 55 formed by the overlapping portions of said outer covering constitutes the medium for the attachment of the strip, which is likewise effected by means of suitable stitching or otherwise. By doubling the outer covering or casing around the inner wrapper of the core and pressing the same closely thereto said covering will be caused to adhere to said wrapper by means of the adhesive substance previously
 65 applied to the latter, as mentioned.

It will thus be seen that in the use of either the inner wrapper or the outer covering alone the same constitutes the medium through which the proper attachment of the lacing-strip is effected and also that in instances
 70 where both the inner wrapper and outer covering are used together the latter is preferably the medium of attachment, although in such case the stitching could be passed through the free edge or web of both the wrapper and
 75 said outer covering. In either of the cases mentioned, therefore, the non-corrosive sheathing need consist simply of a very thin substance of the consistency of varnish or shellac, for instance, and which is applied to
 80 the metallic strip in any suitable way. Then again, also, if said non-corrosive sheathing is in the nature of paper-pulp or strawboard, as already mentioned, said sheathing need only be made to inclose the metallic strip as
 85 in the nature of a closely-adhering sleeve or envelop and minus any web or projecting edge, such as are used in the instances of both the inner wrapper and outer covering already referred to. Under some conditions, however,
 90 I am enabled to form the non-corrosive sheathing of paper, pulp, strawboard, or some other suitable non-corrosive substance capable of receiving and holding the stitching for attaching the lacing-strip to a corset or other article, and in such cases I dispense with both
 95 the inner wrapper and outer covering and provide a web or free longitudinal edge along one side of the sheathing itself, in which free edge or web the openings are formed for the
 100 passage of the lacing-cord. Still further, I sometimes prefer the use or employment of a sheathing having such a web or free edge even when the inner wrapper or outer casing is used either singly or combined, for by such
 105 use the lacing-strip is given a certain degree of stiffness, while at the same time being considerably reinforced both at the edges of the openings for the lacing-cord as well as at the portions of said strip intermediate said openings.
 110

Specific reference being had to the accompanying drawings, A represents an ordinary corset or other article of wear to which my improved lacing-strip is applied for use. Said
 115 improved lacing-strip can be constructed in different ways; but preferably in forming the same I employ a thin flexible and sufficiently elastic strip of metal *a*, which is coated or incased in a sheathing *a'* of any suitable non-corrosive substance or material, (see Figs. 2 and 4,) such as hereinbefore mentioned, and said sheathing is usually quite thin in order not to increase the weight of the lacing-strip as a whole, as well as not to interfere in any
 120 way with the flexible and elastic qualities of the said metallic strip *a*. This metallic strip *a* and its sheathing *a'* constitute what I term the "core" of my improved lacing-strip, and inclosing and closely surrounding said core
 125
 130

is an inner wrapper *b*, of textile or other suitable material, the same being of such width that after it has been folded around the core, as shown in Fig. 2, a longitudinal free edge or web *a''* remains, and which edge or web is formed at suitable distances apart with openings *d* (see Fig. 2) for the passage of the usual lacing-cord. (Not shown.) Said wrapper, as before stated, closely adheres all around to the sides of the core, and, as shown in Fig. 6, the said longitudinal free edge or web *a''* is in some instances utilized as the medium of attachment of the lacing-strip between the layers *e* of a corset or other article on which used, the fastening being effected by means of stitching *e'* or otherwise. As a preferred construction, however, I employ an outer covering or casing *c*, of textile or other suitable material, which is folded about the inner wrapper *b* similarly as the latter is folded about or around the core, and thus is formed with said outer covering or casing a longitudinal web or edge *c'* greater in width or extent than the corresponding edge or web *a''*, forming a sufficient projection of the material beyond the web *a''* for the attachment of the lacing-strip in a like manner as already explained with reference to Fig. 6. The said outer covering or casing is also formed with openings *d'*, corresponding to the openings *d* of the wrapper *b*, and, as will be understood, when the lacing-strip has been otherwise properly completed said openings *d* and *d'* are preferably punched or otherwise formed in the webs *a''* and *c'* at one and the same time, so as to derive a more accurate registry thereof. While I have indicated at Fig. 6 that I dispense with the outer covering or casing in some instances, I have also indicated at Fig. 7 the retention of said covering or casing and the omission of said inner wrapper, which construction I also resort to in some instances.

As shown in Fig. 8, I sometimes construct my improved lacing-strip with two metallic strips *aa*, each having a non-corrosive sheathing *a'* connected by a central webbing *a''*, in which like openings *d'* are formed for the lacing-cord, said sheathings being inclosed in a single outer covering or casing *c'*, having similar registering or coinciding openings *d'*. In this embodiment of the invention I have chosen to omit or dispense with an inner wrapper for the cores formed by the metallic strips *aa* and their sheathings; but it is evident that I can employ such a wrapper, if desired, similarly as shown in the preferred embodiment designated at Figs. 2 and 5. In said Fig. 8 the attachment between the layers *e* of the corset or other article is formed by the stitching *e'*, the same as already explained in connection with Fig. 6. It may be here stated that this form of attachment is preferably resorted to in each of the forms of the device herein shown. As indicated at *c''*, the outer

covering or casing *c* also projects beyond the core, at each end thereof, so as to be received between layers of the corset or other article on which the lacing-strip is employed.

If desired, I can also employ two cores, as in Fig. 8, but dispensing with the outer covering *c'* and retaining inner wrappers for said cores, similarly as already explained in connection with Fig. 6, where the single core only is shown.

As shown in Figs. 3, 4^a, and 6^a, it will be seen that the sheathing *a''* alone is used and wherein such sheathing consists of any suitable non-corrosive material capable of receiving and holding the stitching. Said sheathing in this form also closely adheres to the sides of the metal strip *a*, and the same is of such dimensions as to provide the web or edge *d'* of double thickness and which is secured between the layers *e''* of the corset or other article by stitching *e'*, as already explained. The openings *d'* for the lacing-cord are formed in said web or edge *d'*. Of course said edge or web *d'* may be constituted of only a single thickness, if desired, and in this structure or particular application of the non-corrosive sheathing the particular substance or material employed may be either a pulp or plastic or a wrapping applied in either of the ways already specified. If desired, I can also employ in connection with this embodiment of the invention two metallic strips, each having a non-corrosive sheathing, with a connecting-web of the same material between them, similarly as already explained in connection with Figs. 6 and 8. It is evident that by thus preventing such contact of the lacing-cord the latter does not wear out quickly, and besides the same does not become soiled or tarnished, as occurs with many of the forms of lacing-strips at present in use. Moreover, by thus covering the metallic strip with a non-corrosive substance the same is prevented from rusting, due to perspiration from the body and other causes, and hence the corset or other garment does not become soiled therefrom, as so frequently happens in many former instances. It will also be seen that the portion of the strip in which the lacing-openings are formed is reinforced or strengthened and that the edges of said openings offer an entirely adequate resistance to the drawing action of the lacing-cord as it is drawn through the openings. The said lacing-strip is exceedingly strong and durable and is also economical both in the manufacture and use of the same. Of course it will be understood that I am not limited to the precise details of construction and arrangement of parts herein shown, since these can be altered in immaterial degree and still be within the scope of my invention. In Figs. 3 and 4^a the embodiment of Fig. 6^a is shown prior to the formation of the holes *d'* and minus the corset layers and stitching.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. A lacing-strip comprising a folded sheath-
5 ing of substantially stiff material formed with lacing-apertures therethrough and a stiffening-strip inclosed in said sheathing and arranged immediately adjacent to the walls of said apertures for reinforcing the same, and
10 receiving the pull and wear of the lace introduced through said apertures.

2. A lacing-strip comprising a stiffening-strip, and a sheathing of substantially stiff material inclosing said stiffening-strip and adher-

ing thereto throughout the length thereof, 15 said sheathing being formed with lacing-apertures arranged immediately adjacent to one edge of said stiffening-strip, whereby said stiffening-strip is adapted to receive the pull and wear of the lace introduced through said 20 apertures.

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

MOSES K. BORTREE.

Witnesses:

CHAS. E. RIORDON,
OSGOOD H. DOWELL.