

(No Model.)

J. W. GREEN, Jr., & C. H. CASWELL.

ELASTIC CORD.

No. 377,027.

Patented Jan. 31, 1888.

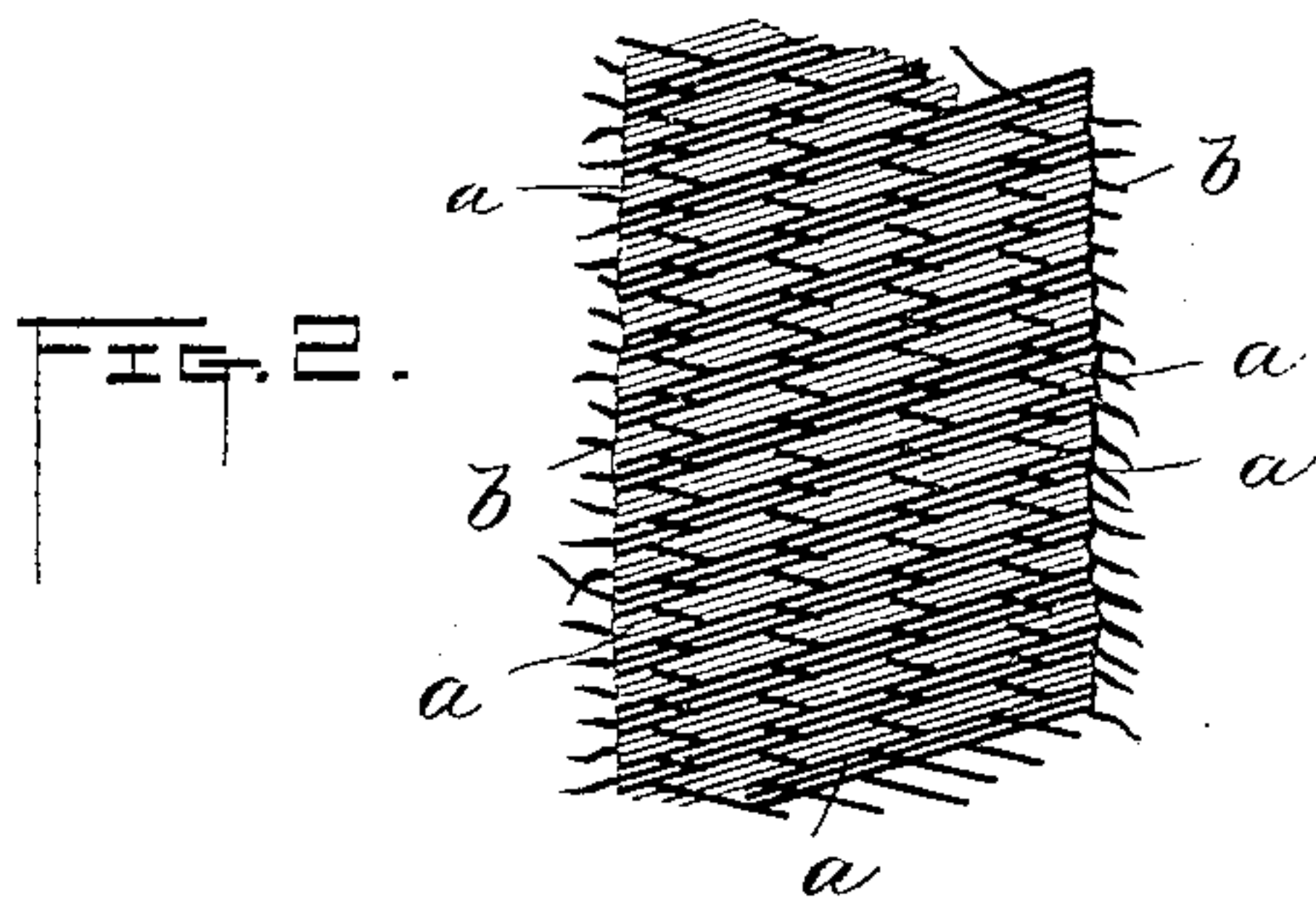
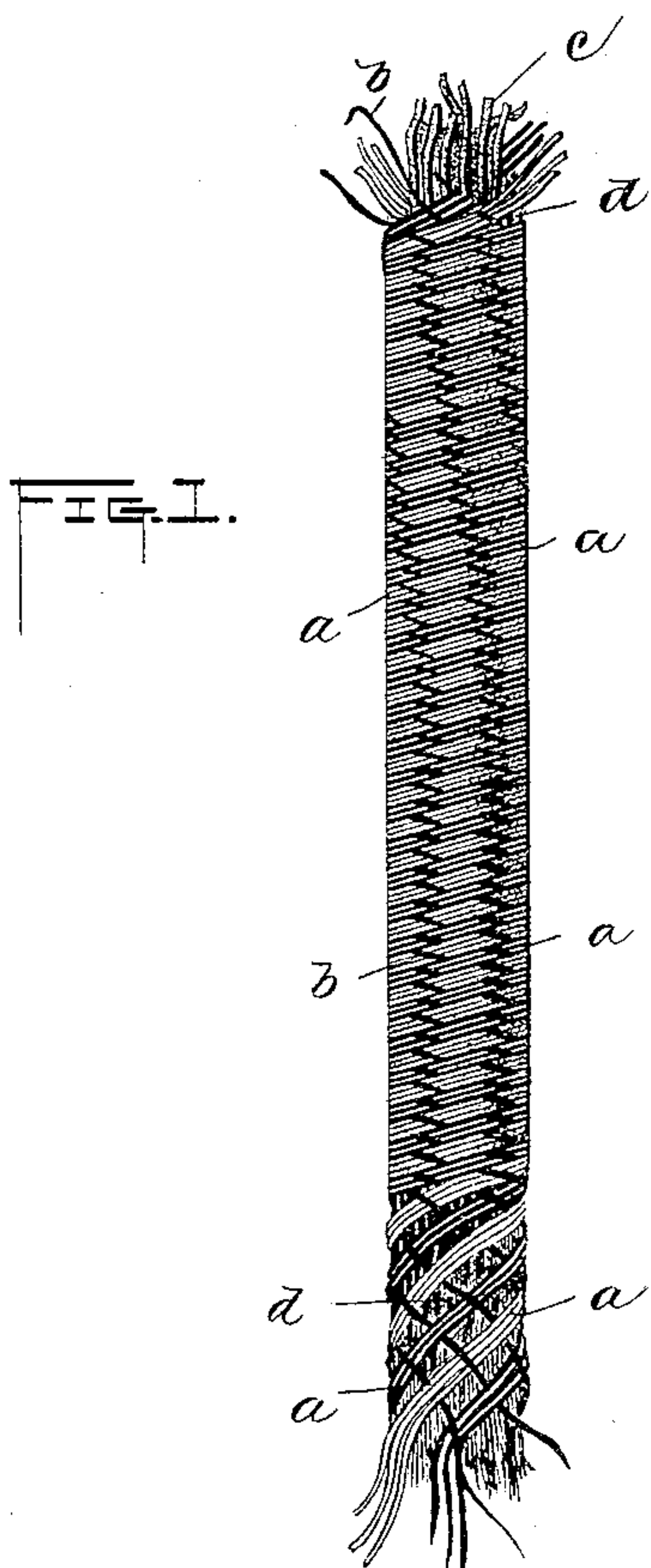
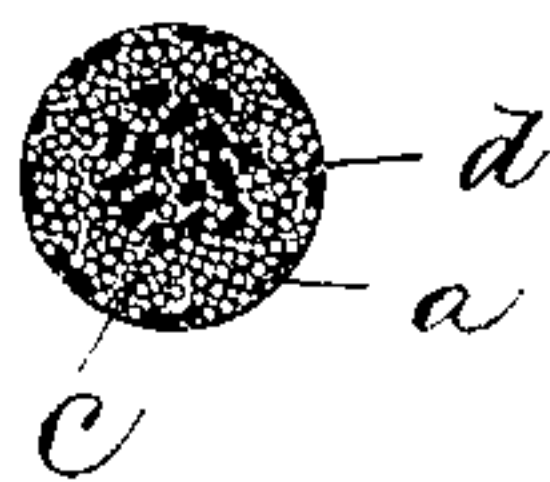


FIG. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

JOSEPH W. GREEN, JR., AND CHARLES H. CASWELL, OF EASTHAMPTON,
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ELASTIC CORD.

SPECIFICATION forming part of Letters Patent No. 377,027, dated January 31, 1888.

Application filed August 13, 1887. Serial No. 246,898. (No specimens.)

To all whom it may concern:

Be it known that we, JOSEPH W. GREEN, JR., and CHARLES H. CASWELL, citizens of the United States, residing at Easthampton, in the county of Hampshire and State of Massachusetts, have invented certain new and useful Improvements in Elastic Cords, of which the following is a specification, reference being had therein to the accompanying drawings.

Our improved elastic cord belongs to that class of cords having a core and a braided covering. To economize in the use of rubber threads in making comparatively large cords we prefer to form the core of our cord partly of fibrous threads and partly of rubber threads. The fibrous threads, in addition to giving strength and back to the core, also serve to limit the elasticity of "stretch" of the cord when the latter is distended, so that the rubber threads will not be broken or weakened by a distention greater than that to which they are subjected when under the tension required in braiding. The braided covering of our cord consists of series of threads, with two or more threads in a series running in one direction, these series of threads being interbraided by single threads running in the opposite direction. By thus arranging these covering-threads our cord is given an attractive figured appearance, which is particularly handsome and strongly marked when colored threads are employed.

In the drawings, Figure 1 is a side view illustrating our improved cord. Fig. 2 represents the braided covering thereof flattened out; and Fig. 3 is a cross section of the cord.

All of the figures are on an enlarged scale.

The cord herein illustrated shows our invention in its preferred form, the braided covering consisting of sixteen fibrous threads. The threads *a*, which run in one direction and which may be termed the "warp-threads," are shown as being in four series of three each, these series of threads being crossed or interwoven by four threads, *b*, which may be termed the "weft" or "binder" threads, running in the opposite direction. By disposing the threads *a* in series of two or more each and treating each of these series of threads as single threads in crossing or interbraiding them

by the threads *b* a pleasing figure is produced, and this attractive appearance of the braiding-covering is particularly well marked where the alternate series of the threads *a* are of different colors from each other and where the threads *b* are of still different colors. Thus by using alternate series of red and white threads *a* and blue weft or binder threads *b* a very pretty effect is produced.

The core of our cord consists, preferably, of rubber threads *c* and fibrous or non-elastic threads *d*, the latter serving to give strength to the core as well as to limit the distention of the cord when stretched, as hereinbefore stated.

It will be readily understood by those skilled in the art to which our invention relates that our braid, formed in the manner above described, is produced by causing a greater number of thread-carriers of a braiding-machine to travel in one direction than in the other, or by causing three thread-carriers traveling in the same direction to follow each other in succession before their tracks are crossed by a carrier traveling in the opposite direction. Of course it will be understood that we may vary the numbers or proportions of the threads from those herein shown and described without departing from the spirit of our invention.

We are aware of the covered straw braid shown by patent to Friend, No. 272,229, February 13, 1883, which is ornamented by an open-meshed braided covering consisting of plain and ornamental threads or cords of different sizes running in opposite directions. This covering, however, differs from ours in that the straw core is but partly concealed and the surface formed by the covering is not smooth, in our cord the covering being smooth and unbroken and serving to entirely conceal the core even when the cord is distended.

We claim and desire to secure by Letters Patent—

1. An elastic cord having a smooth unbroken braided covering consisting of series of threads, with two or more threads in a series running in one direction, said series of threads being crossed or interbraided by single threads running in an opposite direction, substantially as set forth.

2. An elastic cord consisting of a core com-

posed partly of fibrous or non-elastic threads
and partly of rubber threads, and a smooth
unbroken braided covering consisting of series
of threads with two or more threads in a se-
5 ries running in one direction and single in-
terbraiding threads running in the opposite
direction, substantially as set forth.

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

JOSEPH W. GREEN, JR.
CHARLES H. CASWELL.

Witnesses:

EMIL C. KOENIG,
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