

N. JENKINS.

CONTRACTILE SPRING FOR GARTERS.

No. 245,958.

Patented Aug. 23, 1881.

Fig. 1.

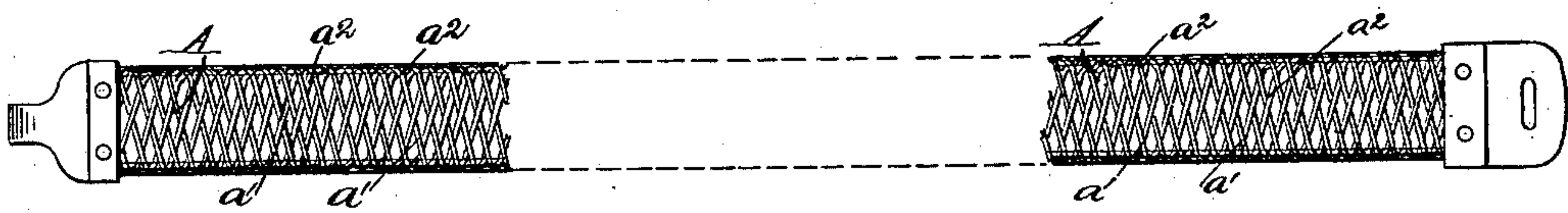


Fig. 2.

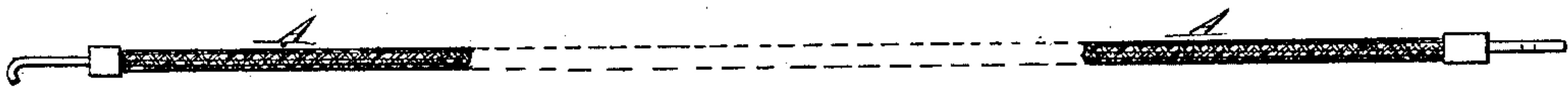
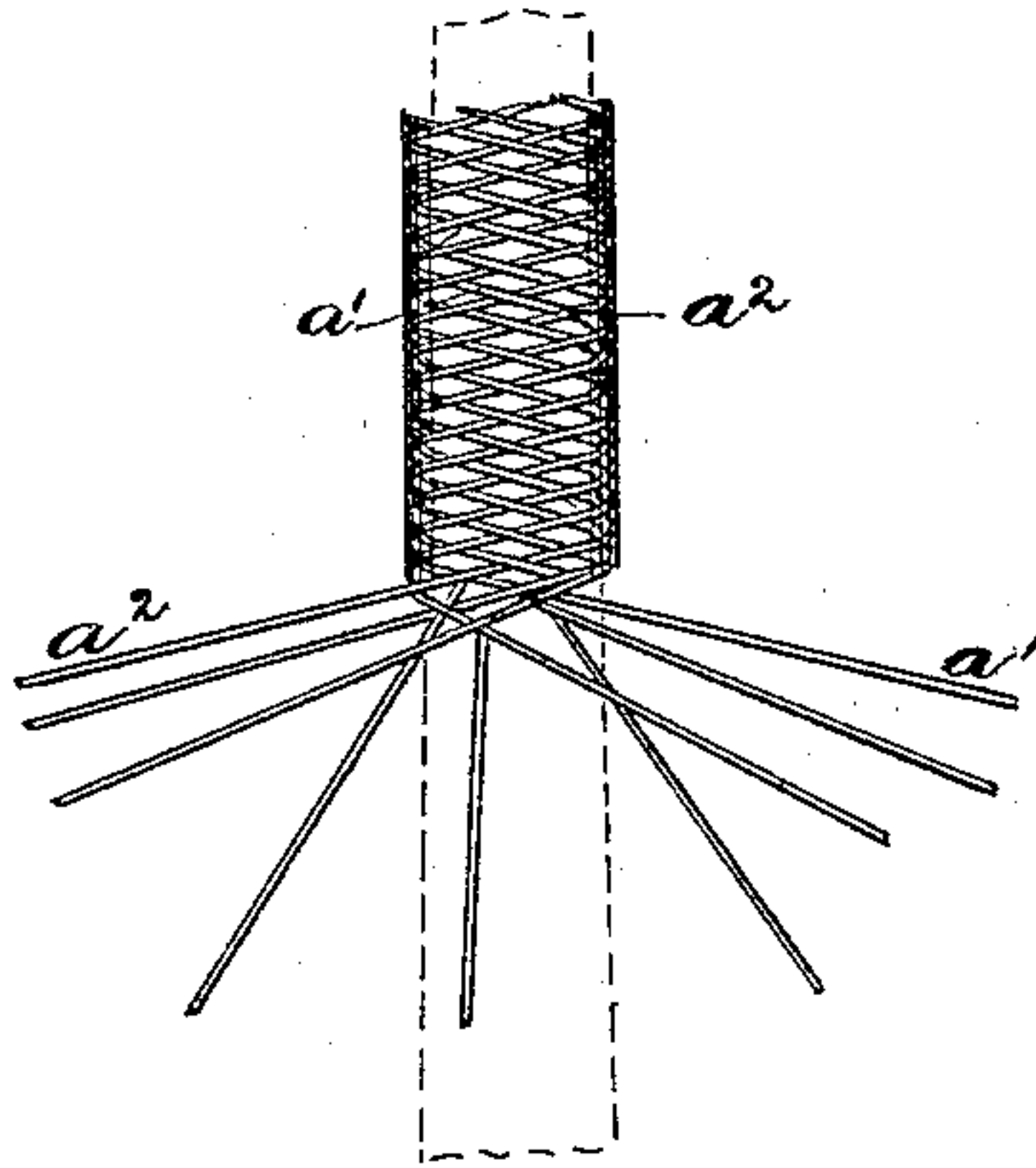


Fig. 3.



WITNESSES—

W. C. Dey.
Charles C. Stetson

INVENTOR—

Nicholas Jenkins
by his attorney
Thomas D. Stetson

UNITED STATES PATENT OFFICE.

NICHOLAS JENKINS, OF NEW HAVEN, CONNECTICUT.

CONTRACTILE SPRING FOR GARTERS.

SPECIFICATION forming part of Letters Patent No. 245,958, dated August 23, 1881.

Application filed February 25, 1880.

To all whom it may concern:

Be it known that I, NICHOLAS JENKINS, of the city and county of New Haven, in the State of Connecticut, have invented certain new and
5 useful Improvements relating to Contractile Springs for use as Garters and Analogous Articles, of which the following is a specification.

It has been before attempted, with some degree of success, to produce garters and analogous articles by first coiling hard brass wire
10 in close compact coils, and then braiding five or other number of these coils together. The braiding served as a means of holding the coils together and making them serve as a unit;
15 but the extension and contraction were due entirely to the fact that the individual wires were coiled, and that the coils extended and contracted.

I have discovered that wires not coiled but
20 made of sufficient size to obtain the requisite tension may be braided on a suitably-adjusted machine, making large angles with the axis or central line of the tape to obtain the required elasticity by the direct extension and contraction
25 of the braid itself. Being made of larger wire, the material is produced with less labor and cost, and the construction is less liable to injury if accidentally stepped on or otherwise subjected to unusual strains.

30 The accompanying drawings form a part of this specification, and represent what I consider the best means of carrying out the invention.

Figure 1 is a side elevation, and Fig. 2 an
35 edge view of a garter complete. Fig. 3 represents the wires in the act of being braided together. The flat forms over which the goods are braided are shown in this figure in dotted lines.

40 Similar letters of reference indicate like parts in all the figures.

The body of my spring, A, is composed of stout wires a' a^2 , of hard brass. They may be braided by machinery.

45 I have not deemed it necessary to represent the machine. It can be fully described by saying that it is of the style known as a round braider, used in braiding fibrous material, but of a larger size and provided with a flat, tapering, smooth former, on which the braid is
50 made. The machine is adjusted to take up slowly in proportion to the motion of the braiding-bobbins, so that the braid, instead of being extended with the wires nearly parallel to each
55 other, is contracted so that the wires cross the

fabric nearly at right angles to the length of the goods. I prefer to use from sixteen to twenty-four strands of No. 26 wire; but this may be varied. The wires are inserted in
lengths of one hundred yards, more or less, and
60 are made into one continuous spring. If cut off into lengths without previous precautions the ends "broom" apart. I guard against this and also hold them permanently together by soldering, the solder being applied at the proper
65 points for the ends before cutting, and cut carefully through the centers of the soldered places. The proper clasps are afterward clamped on the ends of these short lengths and joined thereto
70 by compressing or by melting the solder and causing it to adhere, or preferably by both these means combined.

The action of the spring is a little less "live" than ordinary coiled springs. This is due to the friction of the wires of the braid one upon
75 another. I esteem the slightly deadened elasticity of this garter superior to the intense freedom of the coiled spring.

The improved spring may be produced cheaply, and it is obviously adapted for long endurance of ordinary usage, and even for very rough
80 usage, if such by any chance shall be inflicted.

Modifications may be made. The degree of angularity of the wires may be varied within
85 considerable limits. The spring may be covered by a light muslin or other fibrous envelope, but I have not found such to be generally necessary.

I apply the term "sinuous" to indicate the condition of the wires being bent alternately
90 in one direction, and another in the flattened tubular body of my spring.

I claim as my invention—

1. The tension-spring described, composed of hard wires braided directly together at or
95 about the large angle described, so as to constitute a stretching-spring without previous coiling of the wire, all substantially as herein specified.

2. The combination of a tube of sinuous
100 spring-wires and end pieces, substantially as herein specified.

In testimony whereof I have hereunto set my hand at New York city, New York, this
5th day of February, 1880, in the presence of
105 two subscribing witnesses.

NICHOLAS JENKINS.

Witnesses:

BERN. T. VETTERLEIN,
CHARLES C. STETSON.