

No. 807,657.

PATENTED DEC. 19, 1905.

S. H. BURNS.  
ABDOMINAL APPLIANCE.  
APPLICATION FILED JULY 11, 1904.

Fig. 1.

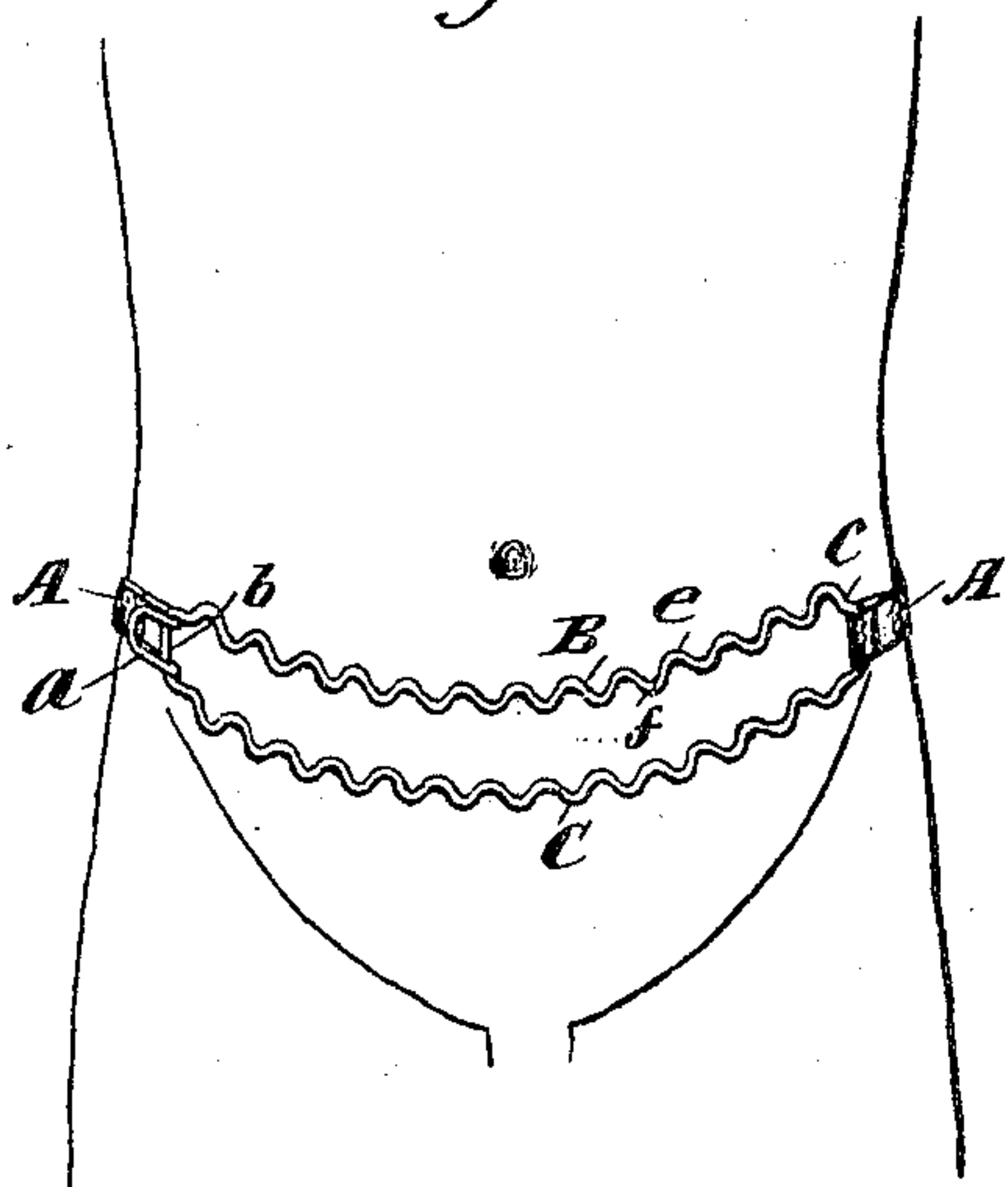


Fig. 2.

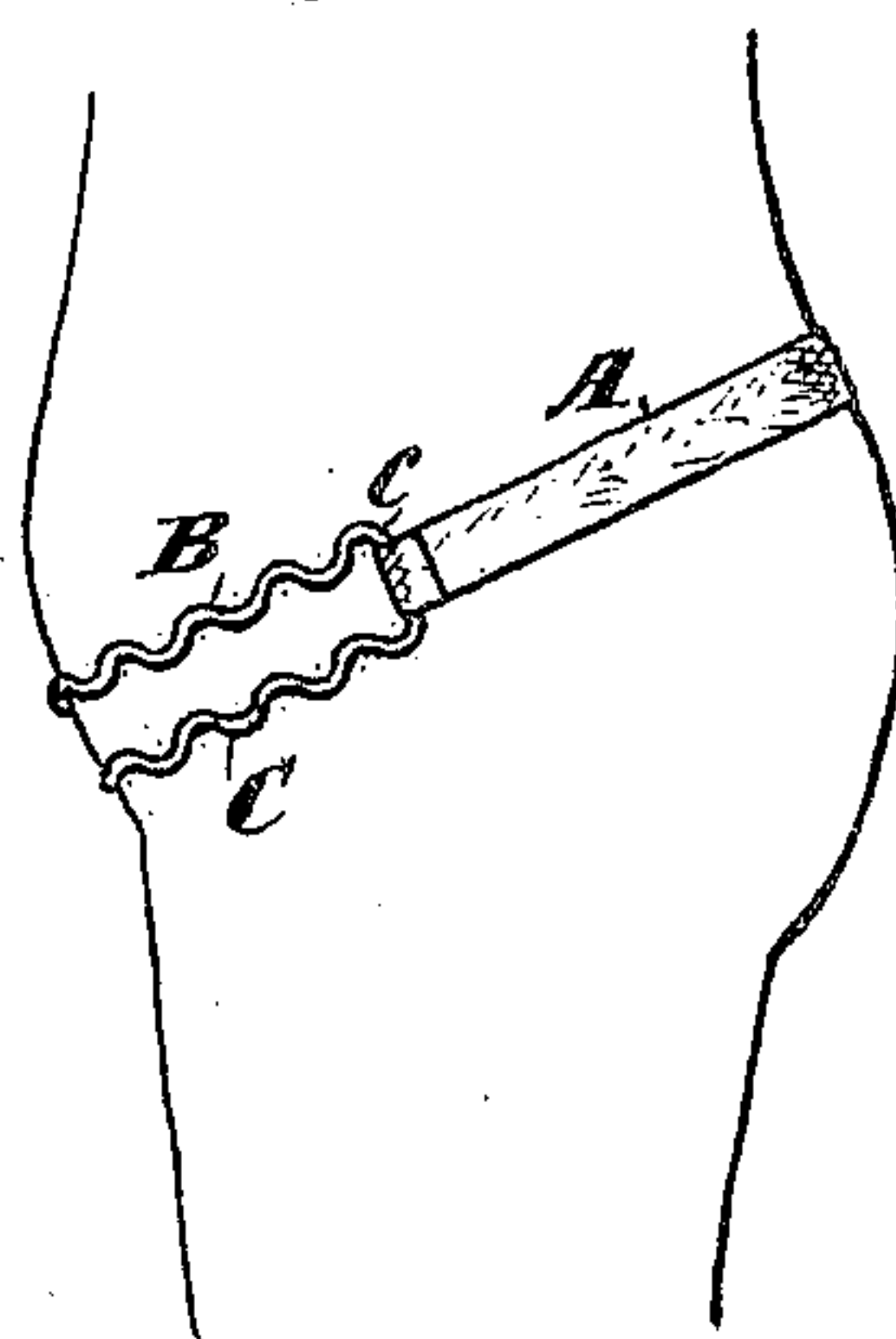


Fig. 3.

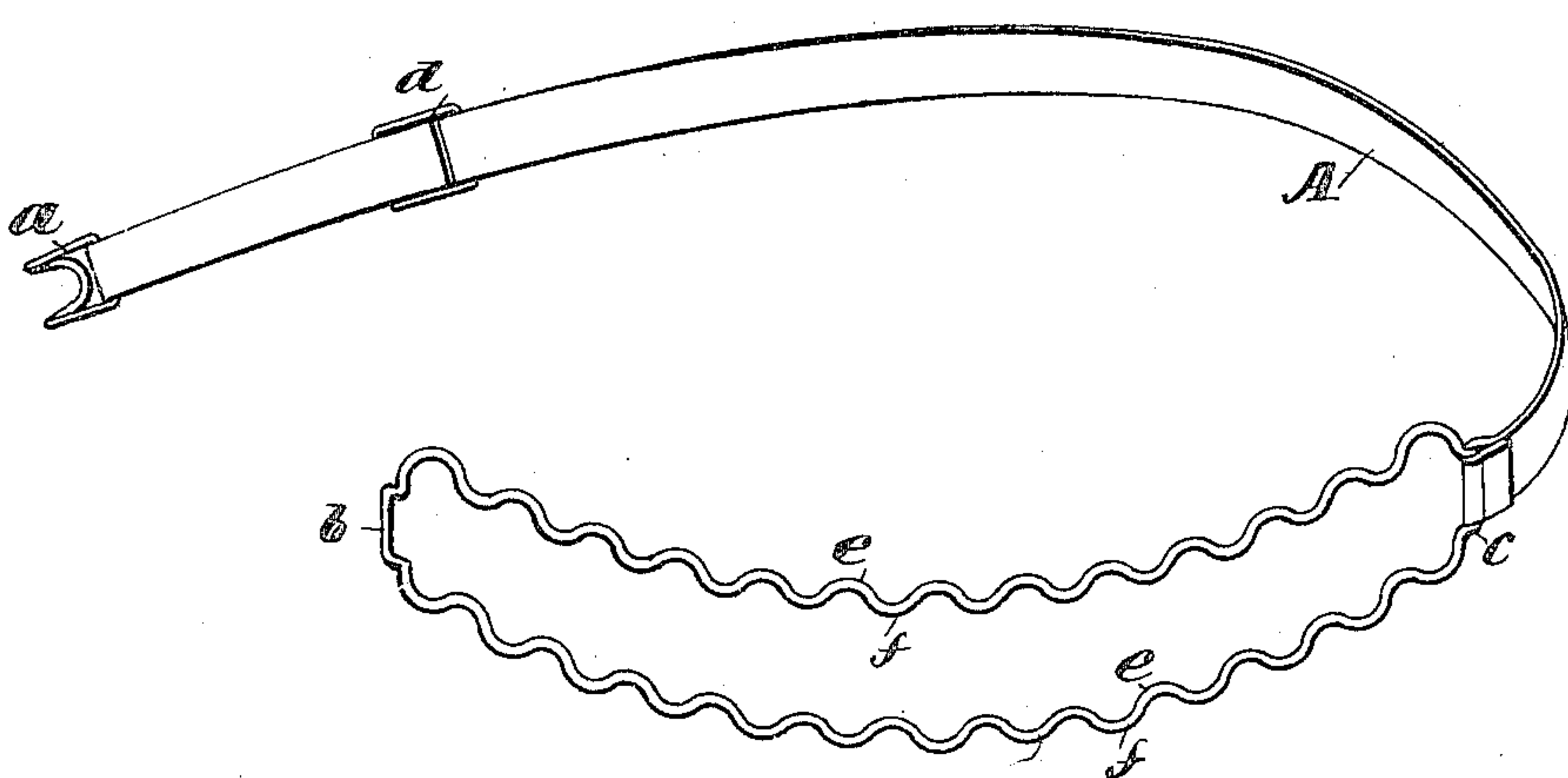


Fig. 4.

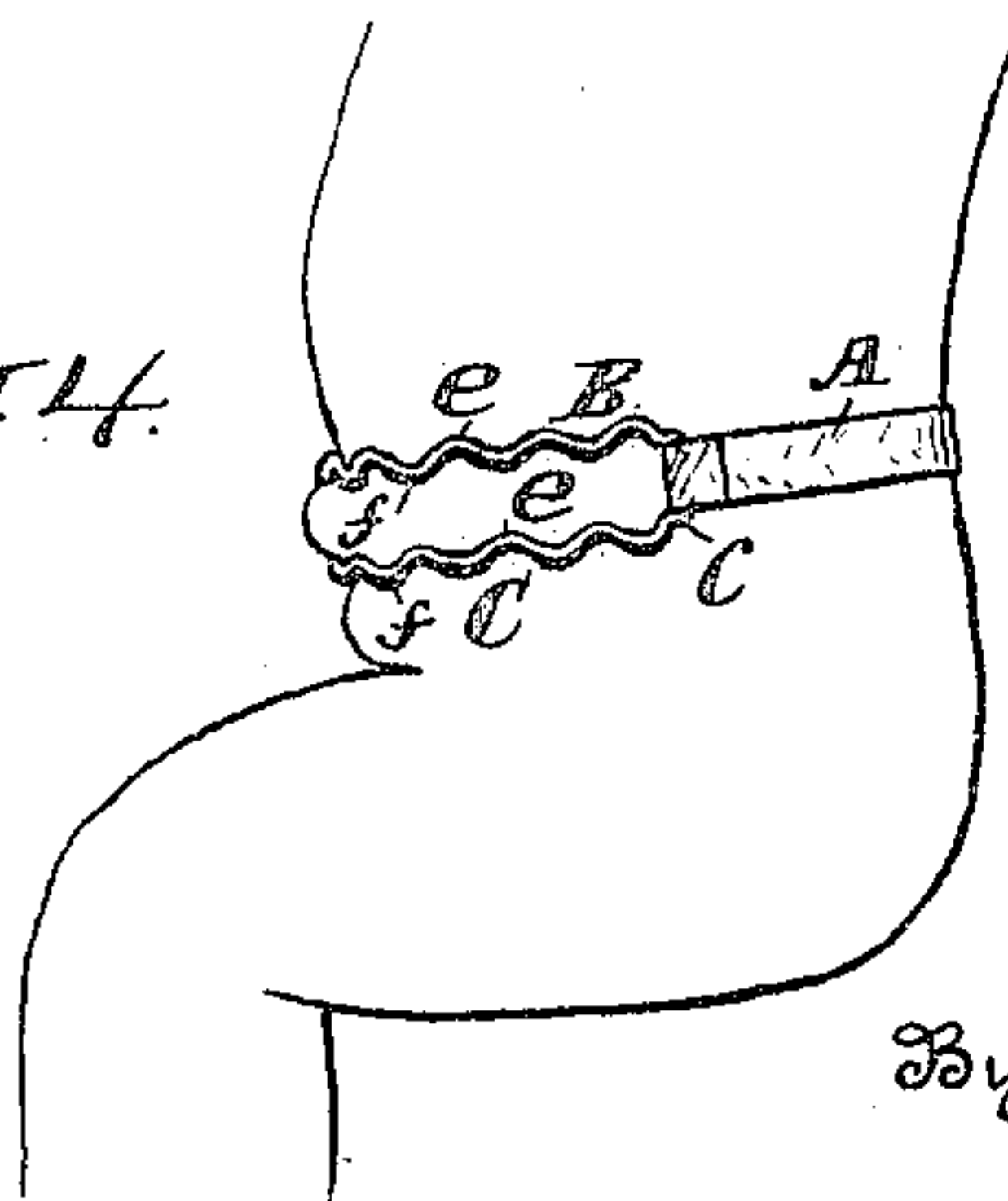


Fig. 5.



Witnesses  
A. L. Kuntz  
J. A. Graves.

Inventor  
S. H. Burns  
By his Attorneys  
Philip D. Davis, R. H. Kennedy

# UNITED STATES PATENT OFFICE.

SIDNEY H. BURNS, OF NEW YORK, N. Y.

## ABDOMINAL APPLIANCE.

No. 807,657.

Specification of Letters Patent.

Patented Dec. 19, 1905.

Application filed July 11, 1904. Serial No. 215,972.

*To all whom it may concern*

Be it known that I, SIDNEY H. BURNS, a citizen of the United States, residing at New York city, county of New York, and State of New York, have invented certain new and useful Improvements in Abdominal Appliances, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

10 The invention relates to abdominal appliances for the purpose of reducing and preventing protrusion of the abdomen.

The invention consists in a device used in stationary position upon the person and which  
15 when so applied by reason of its construction coacts with the muscles to cause them automatically to knead or massage themselves whenever bodily motions of the wearer occur—that is to say, it produces upon the flesh an  
20 effect closely similar to that produced by the fingers of the massage operator, and this without subjecting the muscles to any load or requiring any external manipulation and solely through the natural movements of the wearer  
25 himself.

The invention further consists in the construction of said device, as more particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is  
30 a front view of the human figure, showing the appliance in position on the abdomen. Fig. 2 is a side view of the figure, showing the appliance disposed to act also as an abdominal support. Fig. 3 is a perspective view  
35 of the appliance. Fig. 4 shows the action of the appliance when the body is in a seated position. Fig. 5 shows a portion of the helical massaging member.

Similar letters of reference indicate like  
40 parts.

The massaging member B is preferably a continuous metal wire so bent as to have a plurality of projections *e*, with intervening  
45 recesses *f*. Such a bending is obtained by forming the wire in a helix with widely-separated turns. This member is to be placed transversely across the abdomen, as shown in Fig. 1, and is held in stationary position thereon by means of a belt A, which is secured to  
50 its ends and passes around the back of the wearer. The projections *e* then slightly indent the flesh at certain points, while between these points the flesh expands into the recesses *f*. When any muscular or other move-  
55 ment of the abdomen takes place, the free mo-

tion of the flesh under the projections *e* is restricted, while in the recesses *f* its free motion is permitted. The result is a mechanical action upon the flesh similar to that produced thereon by the fingers of a massage  
60 operator.

It is preferable to use two similar massaging members B and C, connected at their ends by cross-pieces *b c*. To one of said cross-pieces, as *c*, the belt A may be permanently attached.  
65 The other cross-piece *b* then serves as an engaging bar for the hook *a* on the end of said belt. The belt may also be provided with any suitable slide or adjusting device *d* for altering its length to suit the wearer.  
70

When two massaging members are employed, the projections *e* form parallel rows of massaging-fingers normally held in fixed position across the abdomen. The bodily  
75 movements of the wearer not only cause the massaging action of each member, as before explained, but when he bends or sits the members automatically close together, Fig. 4, squeezing the flesh between them, and thus  
80 imitating the kneading action of the fingers of the masseur. As the body is straightened again the members separate, and thus with every slight movement of the person the parallel rows of fingers open and close, thus gently and automatically massaging the flesh.  
85

The wire of which the members are formed may be protected from oxidation in any suitable way and should be of such diameter as will not cut into the skin. By adjusting the device under the abdomen, as shown in Fig. 2,  
90 it will also serve as a support therefor.

I am aware that massage-rollers and so-called "massage-machines" have been devised which are moved by an operator over the surface of the body; but they are entirely different in principle from my invention, which is  
95 fixed in position on the body, requires no external manipulation, and operates through co-action with the moving flesh beneath it. So, also, I am aware that weights of from three to  
100 ten ounces each strung upon belts have been caused to exert by gravity pressure upon individual abdominal muscles against which they are held. This also is different in principle from my device, which does not depend  
105 at all upon pressure on individual muscles nor require any normal pressure beyond such as suffices to cause the projections *e* slightly to indent and so sufficiently to engage with the flesh. Weights merely oppose a passive  
110



resistance to the muscular movements and so force the muscles to do work to overcome it. My device has no such action; but, on the contrary, it coacts by reason of its shape with the abdominal muscles to cause the latter automatically to knead or massage themselves whenever changes in bodily position of the wearer take place.

The term "automatic massage device" used in the claims means a device actuated by the bodily movements of the wearer to produce the kneading or squeezing of the muscles whereto it is applied or generally to imitate the manipulation of a massage operator upon said muscles.

The term "flesh-manipulating member" means a mechanical part of the device constructed and formed to coact with the muscles to which it is applied and on which it is secured in order to imitate the said massage operation.

I claim—

1. An automatic massage device having a mechanical member constructed and formed to coact with the muscles upon which it is secured to produce a massaging effect of the kind described by the bodily movements of the wearer, and means for securing said device in fixed position upon the body of said wearer.

2. In an automatic massage device, a continuous flesh-manipulating member and means for holding the same in fixed position upon the body of the wearer: the said member having a plurality of projections constructed and disposed to indent the flesh, and recesses between said projections into which the flesh is free to expand.

3. In an automatic massage device; a flesh-manipulating member in continuous helical form, and means for holding the same in fixed position upon the body of the wearer.

4. In an automatic massage device, a continuous elongated flesh-manipulating member and means connected to the extremities of said member for holding the same in fixed position upon the body of the wearer: the said member having a plurality of projections constructed and disposed to indent the flesh, and recesses between said projections into which the flesh is free to expand.

5. In an automatic massage-belt, a continuous flesh-manipulating member having a plurality of projections constructed to indent the flesh and recesses between said projections into which the flesh is free to expand, and a flexible band detachably connected to the extremities of said member.

6. In an automatic massage device, two continuous elongated flesh-manipulating members united at their corresponding ends and separated at their intermediate portions, and

means for holding the same in fixed position upon the body of the wearer.

7. In an automatic massage device, two continuous elongated flesh-manipulating members flexibly united at their corresponding ends and separated at their intermediate portions, and means for holding the same in fixed position upon the body of the wearer.

8. In an automatic massage device, two continuous elongated resilient flesh-manipulating members united at their corresponding ends and separated at their intermediate portions, and means for holding the same in fixed position upon the body of the wearer.

9. In an automatic massage device, two continuous elongated flesh-manipulating members flexibly connected at their corresponding ends and separated at their intermediate portions, each of said members having a plurality of projections constructed to indent the flesh and recesses between said projections into which the flesh is free to expand, and means for holding said members in fixed position upon the body of the wearer.

10. In an automatic massage device, two flesh-manipulating members formed of wire helices, connected at their corresponding ends and separated at their intermediate portions, and a flexible band for attaching said members to the body of the wearer secured to said ends.

11. In an automatic massage device, two flesh-manipulating members formed of wire helices connected at their corresponding ends and separated at their intermediate portions, a flexible band for attaching said members to the body of the wearer, secured to said ends and means for adjusting the length of said band.

12. In an automatic massage device, two flesh-manipulating members formed of wire helices, cross-bars connecting said members at their corresponding ends, a flexible band for attaching said members to the body of the wearer secured at one extremity to one of said cross-bars, and means for detachably securing the other extremity of said band to the other cross-bar.

13. In an automatic massage device two flesh-manipulating members connected at their corresponding ends and separated at their intermediate portions, and means for holding said members in fixed position upon the body of the wearer; one of said members being a wire helix.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

SIDNEY H. BURNS.

Witnesses:

J. A. GRAVES,  
A. L. KENT.