J. H. O'BRIEN.

FLEXIBLE CONNECTION.

APPLICATION FILED JULY 12, 1910.

994,778. Patented June 13, 1911.

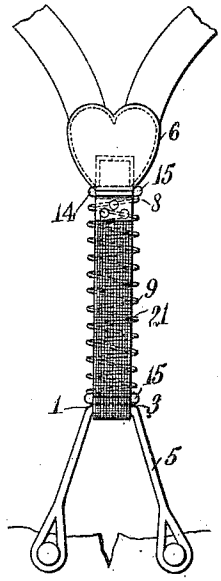

Fig. 1

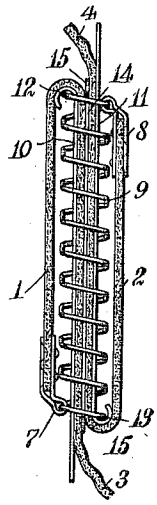

Fig. 2

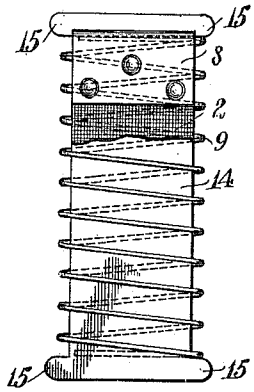

Fig. 3

WITNESSES:

Wm Schuh

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FLEXIBLE CONNECTION.

994,778. Specification of Letters Patent. Patented June 13, 1911.

Application filed July 12, 1910. Serial No. 571,631.

To all whom it may concern:

Be it known that I, JAMES H. O'BRIEN, a citizen of the United States, and a resident of Ilion, in the county of Herkimer and State of New York, have invented a new and Improved Flexible Connection, of which the following is a full, clear, and exact description.

This invention relates to a flexible connection to be used as a cushion for suspenders, garters, sleeve and hose supporters and the like, and is an improvement on my application Serial No. 339,072, filed January 20, 1910.

An object of this invention is to provide a device which will be simple in construction, inexpensive to manufacture, strong, durable, comfortable, and having great elasticity.

A further object of this invention is to provide a device in which a plurality of members are movable relative to each other against the tension of a spring, said members having attached thereto flexible connections, for supporting in various manners, with a yielding tension due to the resilience of said spring.

These and further objects, together with the construction and combination of parts, will be more fully described hereinafter and particularly set forth in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views, and in which—

Figure 1 is a view in elevation, showing my device attached to a pair of suspenders; Fig. 2 is a side view in elevation, of my device; and Fig. 3 is a face view in elevation, showing a part thereof removed to disclose the underlying structure.

Referring more particularly to the separate parts of the device, 1 and 2 indicate strips of suitable material, such as webbing, tape, leather, or the like, which are provided with free ends 3 and 4, which may be attached to any suitable type of supporter, such as the hanger 5 and the brace plate 6 of a pair of suspenders. The opposite ends of these strips are secured in any well known manner as by means of loops 7 and 8, to the opposite ends of a spiral spring 9. This spring 9 is preferably provided with flat polyhedral coils, so as to lie substantially flat. The strips 1 and 2 extend in opposite directions outside of the spring 9, and then turn back on themselves and extend within the spring 9.

For the purpose of maintaining the strips out of contact with the spring, there are provided guide plates 10 and 11, which preferably extend within the spring 9 and have turned-back portions 12 and 13, which form rounded guides for the strips of material at the points where they turn back on themselves.

In order to prevent the strips 1 and 2 from creating an excessive friction, due to their opposite movement, there is provided a slip plate 14, which is interposed between them and extends through the spring 9. This plate also serves the purpose of limiting the movement of the spring 9, by having lugs 15 formed at each side of each end thereof, against which the outermost coils of the spring 9 are adapted to abut.

It will thus be seen that there is provided a simple and efficient device, in which attaching members, comprising strips of material, are capable of movement relative to each other, which movement is regulated by a spring of exceeding flatness, and in which the oppositely-moving portions of the strips of material are guided out of contact with each other and with the moving parts.

While I have shown one embodiment of my invention, I do not wish to be limited to the specific details thereof, but desire to be protected in various changes, modifications and alterations which may come within the scope of the appended claims.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:—

1. The combination with a spring, of strips of material secured to opposite ends of said spring, said strips of material being turned back on themselves to form loops, and guide plates interposed between said strips of material and said spring.

2. The combination with a spring, of strips of material secured to the opposite ends of said spring and being bent back on themselves to form loops, guide plates for keeping said strips of material out of contact with said spring, and a guide plate interposed between said strips of material to maintain them out of contact with each other.

3. The combination with a spring, of strips of material secured to the opposite ends of said spring and being bent back on

themselves to form loops, guide plates for keeping said strips of material out of contact with said spring, and a guide plate interposed between said strips of material to maintain them out of contact with each other, said slide plate having lugs thereon for limiting the movement of said spring.

4. The combination with a spring, of strips of material secured to opposite ends of said spring and extending in opposite directions outside of said spring, said strips of material also extending in opposite directions inside of said spring, means for limiting the movement of said spring, and guide plates within said spring for keeping said strips of material out of contact with said spring.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JAMES H. O'BRIEN.

Witnesses:
CLAUDE H. STEELE,
FRED D. HARTFORD.