

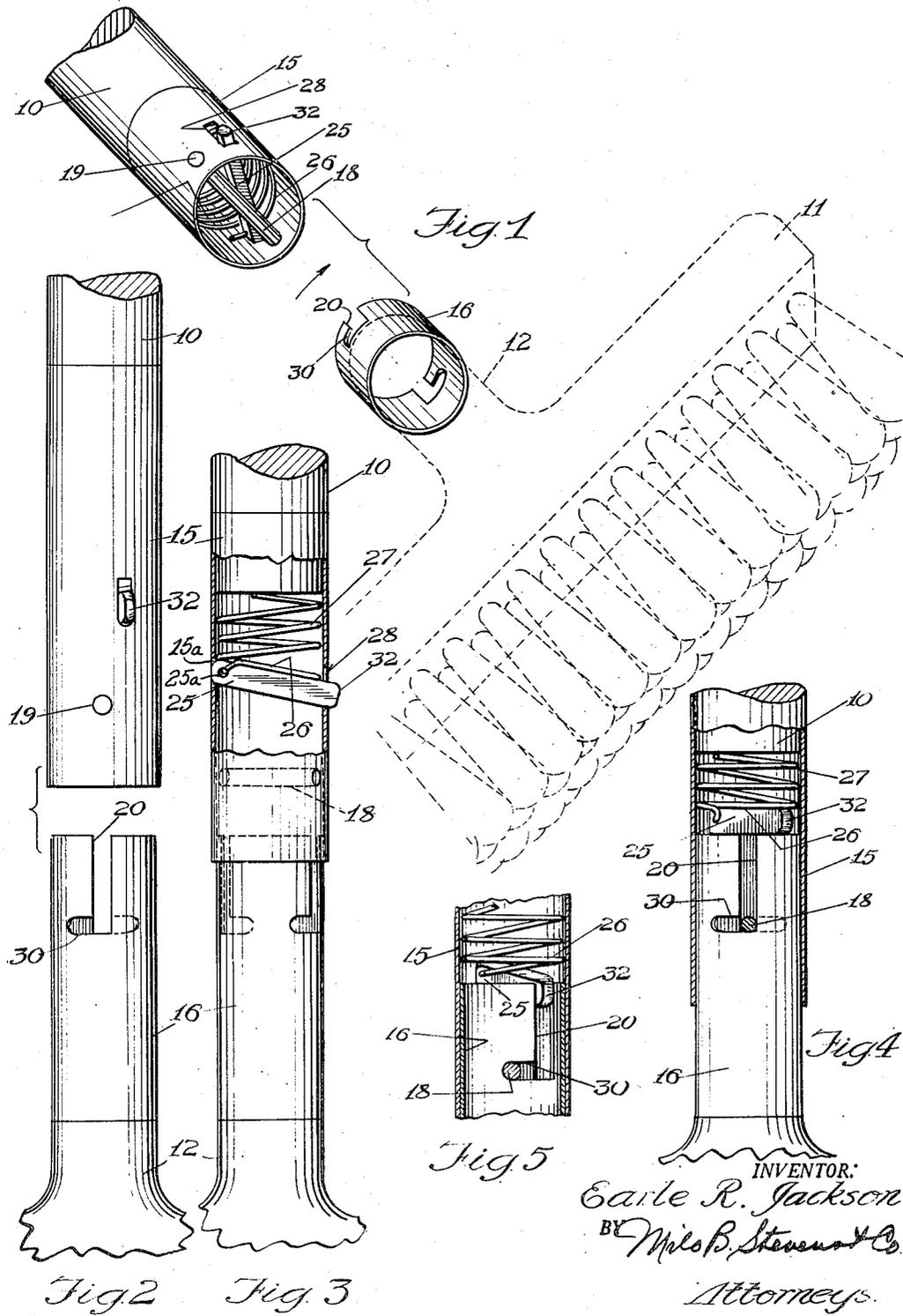
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CONNECTOR FOR BRUSHES, BROOMS, AND THE LIKE

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## CONNECTOR FOR BRUSHES, BROOMS, AND THE LIKE

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My invention relates to connections between the stocks or handles for brushes, brooms and like implements and more particularly to the separable type of connection. Various forms have been designed and marketed for this type of connection, but the failings of many are that they either get loose when least expected or they fit too tightly to be taken apart, or they do not hold the implement rigidly, causing an annoyance when it is used. It is therefore one object of the present invention to provide a connection which employs a rigid telescoping fit between the connected parts, whereby to permit no looseness between the handle and the implement.

A further object is to utilize the well known bayonet joint in the connection, and supplement the same by a spring lock which secures the joint against release by rotation until the lock is withdrawn.

Another object is to provide a connection of the above character which contains few parts of a sturdy and dependable nature.

An additional object is to provide a connection which is very compact and only slightly wider than the handle or stick of the implement.

With the above objects in view, and any others which may suggest themselves from the description to follow, a better understanding of the invention may be had by reference to the accompanying drawing, in which—

Fig. 1 is a perspective view, showing the manner in which the connection is in process of application between the handle and the appliance;

Fig. 2 is a similar view with the assembly in vertical position;

Fig. 3 is a similar view showing the initial movement in the assembling of the connection;

Fig. 4 is a section showing the forward movement for the bayonet joint made; and

Fig. 5 is a similar view showing the completing movement for the bayonet joint and the spring lock.

In accordance with the foregoing, specific reference to the drawing indicates the handle or stick of the implement at 10, the brush or broom head thereof at 11, and the stem of such head at 12. The parts 10 and 12 are usually made of wood and solid. However, they may be made of any other material and hollow without prejudice to the present invention.

The novel connector is primarily made in two units, the one for the handle 10 being indicated at 15, and the other for the stem 12 being indicated at 16. These units are sturdy metal tubes;

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and the unit 16 is designed to snugly telescope into the unit 15 when the connection is to be assembled.

As indicated, the first joint of the connection is of the conventional bayonet type. Thus, while the rear end of the tube 15 is designed to tightly receive the handle 10, the forward end of the tube has an internal cross-pin 18 whose ends 19 are flush with the outer surface of the tube. The tube 16 is designed to tightly receive the stem 12 in its forward end, but the rear end of the tube is cut with the conventional L-shaped slots 20 at diametrically-opposite points, so that when the units are assembled the slots will receive the pin 18 on the direct movement and engage the stem retentively on the subsequent or turning movement.

While the conventional bayonet joint is designed to hold its place to keep the joined parts together, it is appreciated that the handling of the implement and twisting tendencies of the stem or the handle may impose reverse-turning motion to the bayonet joint until the same comes apart. I have therefore provided the lock previously referred to as a safeguard against such an occurrence.

To be specific, a sturdy latch bar 25 is positioned cross-wise of the tube 15 a short distance behind the pin 18 and turned laterally at an angle thereto. One end of the latch bar seats in an opening 15a made in the tube and is rounded to be pivotable in the opening on an axis crosswise of the tube; and the pivoted end of the latch bar is perforated at 25a to receive the free end of the foremost coil 26 of a compression spring 27 contained in the tube 15, such coil seating against the latch bar. The pivoted end of the latch bar is thus held in place by the end-coil referred to; and the free end of the latch bar extends through a longitudinal slot 28 made in the wall of the tube 15. The latch bar is held against the forward end of this slot by the spring 27 which is lodged between the forward end of the handle 10 and the latch bar. The slot is of sufficient length to permit the latch bar to be swung back a short distance, such as to the horizontal position indicated in Fig. 4. Finally, the latch bar is of a thickness slightly less than the width of the entrance slot 20 of the bayonet joint.

When the unit 16 carried by the implement 11 is backed into the unit 15 as far as it can go to complete the direct movement in assembling the bayonet joint, as is indicated in Fig. 4, the

position of the latch bar 25 is at one side of the entrance slot 20 of such joint, and on the opposite side from the hook portion 30 thereof. Also, the forward movement of the tube 16 has impinged upon the latch bar to back it to the transverse position shown, where it is strongly urged by the spring 20 into engagement with the rear edge of the tube 16. Now, when the implement 11 is turned to receive the cross-pin 13 in the hook portion 30, the registration of the slot 20 with the latch bar 25 will cause the same to be released and to advance into the slot as shown in Fig. 5 to the extent afforded by the wall slot 28. The units are now locked against rotation, while the completion of the bayonet joint, as indicated in Fig. 5 locks the units against longitudinal separation.

The latch bar 25 projects from the slot 28 in the form of a rounded button 32. Thus, when it is desired to disconnect the implement 11 from the handle 10, the button 32 may be drawn rearwardly to position the latch bar 25 free of the tube 16. Now, a back twist of the implement will unhook the tube 16 and permit it to be withdrawn from the tube 15, separating the implement from its handle.

It will now be apparent that a double lock is involved in the novel connection to secure the joined parts against movement in any direction when they have once been assembled. The implement is rigidly and securely held to the handle or stick which carries it; and vibration or lateral impacting influences on the implement cannot in the slightest operate to loosen the same or uncouple it from the handle. Yet, the novel connector is not only a device containing few and simple parts, but is of a nature to be manipulated without the need of skill or experience, since the handling to assemble the connector is merely the familiar action to engage the bayonet joint, the final locking movement occurring automatically. However, the extra attention to release the latch bar 25 is an easy matter when the bayonet joint is to be unhooked, requiring only the retraction of the locking button 32. Also, the part 12 may be made of tubular metal and cut with the slot 20, eliminating the need of the unit 16. Finally, it is noted, that the units 15 and 16 are smooth by maintaining practically the same diameter as that of the parts joined, the button 32 being the only projection from the connector.

While I have described the invention along specific lines, various minor changes or refinements may be made therein without departing from its principle, and I reserve the right to employ all such changes and refinements as may come within the scope and spirit of the appended claims.

I claim:

1. A bayonet joint connection comprising a pair of telescoping tubes, the inner of said tubes having a diametrical pair of longitudinal slots each terminating inwardly in a transverse slot,

the outer of said tubes having a transverse pin bridging same adapted to first enter said longitudinal and then said transverse slots, and spring pressed means extending transversely within said outer tube cooperating with said longitudinal slots to lock said tubes together when said pin is positioned in said transverse slots.

2. The structure of claim 1, said spring pressed means including a transversely disposed latch bar.

3. The structure of claim 1, said spring pressed means including a transversely disposed latch bar pivoted at one end to said outer tube.

4. The structure of claim 1, said spring pressed means comprising a transversely disposed latch bar pivoted at one end to said outer tube and having a spring seated thereon.

5. The structure of claim 1, said spring pressed means comprising a transversely disposed latch bar pivoted at one end to said outer tube and a spring seated thereon, said outer tube having a short longitudinal slot, the outer end of said latch bar movable in said longitudinal slot.

6. The structure of claim 1, said spring pressed means comprising a transversely disposed latch bar inwardly of said pin and pivoted at one end to said outer tube, a coil spring seated on said latch bar, said outer tube having a short longitudinal slot, the other end of said latch bar movable in said longitudinal slot and extending slightly therebeyond to constitute an operating button.

7. The structure of claim 1, said spring pressed means comprising a transversely disposed latch bar with one end rounded, said outer tube having an opening seating said rounded end to dispose the latch bar for pivotal motion longitudinally of the tube, and a spring contained in said outer tube and seating with one end on said latch bar.

8. The structure of claim 1, said spring pressed means comprising a transversely disposed latch bar with one end rounded, said outer tube having an opening seating said rounded end to dispose the latch bar for pivotal motion longitudinally of the tube, and a spring contained in said outer tube and seating with an end coil on said latch bar, said end coil passing through said rounded end of the latch bar as a means to retain the same seated in said opening.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
346,605	Perry et al. ....	Aug. 3, 1886
806,665	Henderson et al. ....	Dec. 5, 1905

FOREIGN PATENTS

Number	Country	Date
300,094	Great Britain .....	of 1928