Aug. 26, 1930. G. W. MANNING 1,774,283

BROOM

Filed Feb. 24, 1928

Fig. 1.

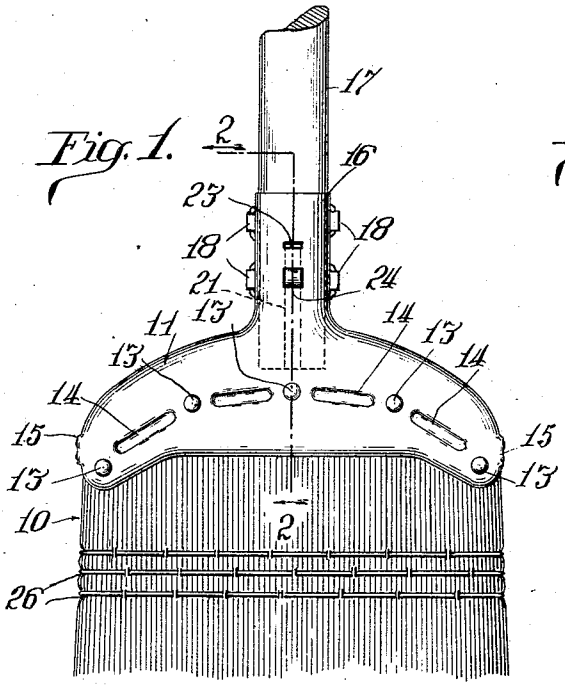


Fig. 2.

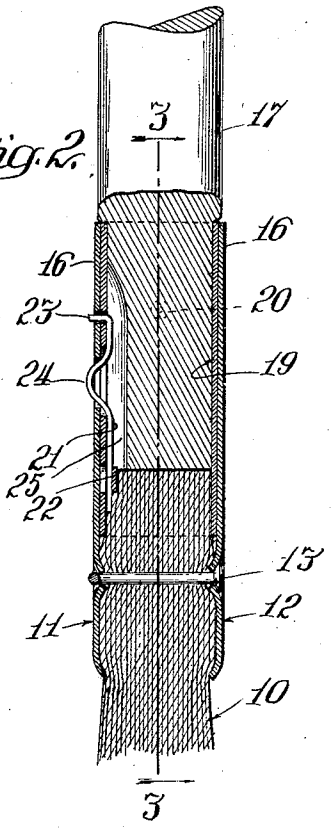


Fig. 3.

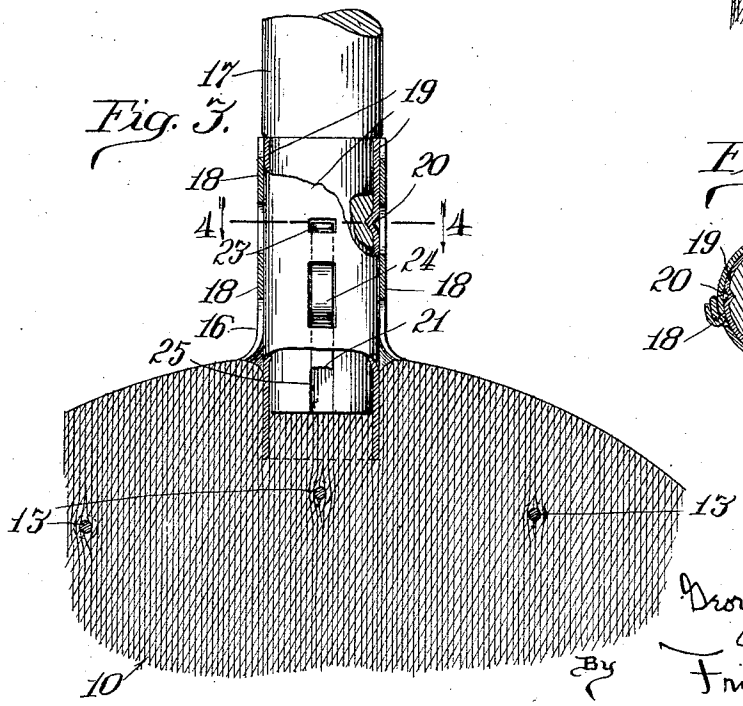
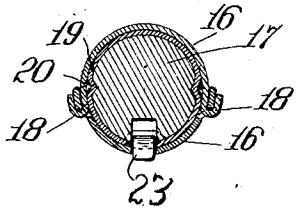


Fig. 4.



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UNITED STATES PATENT OFFICE

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BROOM

Application filed February 24, 1928. Serial No. 256,512.

My invention relates to articles of the broom type in which bundles of broom head material are held by plates or clamps, a handle being secured in position upon the clamps. It is one of the objects of my invention to provide new and improved means for securing the handle firmly in position in such a way that the clamps are held rigidly so as to prevent weaving of the plates with respect to each other, and to provide such a construction arranged so that the handle can be inserted easily into position by the purchaser and secured in position to be held with the requisite firmness. It is another object of my invention to provide such a construction so arranged that the handle can be easily and quickly removed from the clamps when desired so that it shall not be necessary to provide a new handle for every new broom purchased.

It is another object of my invention to provide a construction of this type in which the handle comprises a non-shrinking portion or member which will have a snug fit in the socket of the broom head as originally manufactured and which will continue to have such snug fit regardless of any shrinkage of the handle itself which in most cases will be made of wood.

It is another object of my invention to improve devices of this type in sundry details hereinafter pointed out. The preferred means by which I have accomplished my several objects are illustrated in the drawing and are hereinafter specifically described. That which I believe to be new and desire to cover by Letters Patent is set forth in the claims.

In the drawing,—

Fig. 1 is a face view of a broom embodying my improved construction, the lower portion of the broom head and the upper portion of the handle being broken away.

Fig. 2 is a central longitudinal section through the parts shown in Fig. 1, being substantially a section taken at line 2—2 of said figure.

Fig. 3 is a transverse vertical section, being substantially a section taken at line 3—3 of Fig. 2; and

Fig. 4 is a horizontal section taken at line 4—4 of Fig. 3.

Referring to the several figures of the drawing, in which corresponding parts are indicated by the same reference characters,— 10 indicates a bundle of broom head material such as broom-corn, held together at their upper ends by means of clamps 11 and 12 which are secured upon opposite faces of the bundle by means of rivets 13 which in the construction shown are in the form of nails or pins clinched at one end, as is best indicated in Fig. 2. In the construction shown, the plates or clamps 11 and 12 are provided with strengthening ribs 14 pressed therein, and at their end portions the plates are provided with overlapping tongues 15 which complete the circuit about the bundle of broom head material and which to a very large degree brace the plates against weaving or other movement edgewise with respect to each other.

The plates 11 and 12 are provided with opposed arms 16 which are rounded at their edges toward each other for providing a socket for the reception of the handle 17, the arms 16 of the two plates being secured together at their meeting edges by means of tongues 18 of one plate passing through suitable openings in the edge of the arm of the other plate, as is clearly shown in Fig. 4, the tongues being bent backwardly for holding the arms in rigid clamped position with respect to movement away from each other.

At its lower end, the handle 17, which in most cases is of wood, is provided with a ferrule or sleeve 19 formed of metal so as to be non-shrinking, such ferrule being secured rigidly in position upon the reduced lower end of the handle. In the construction shown the ferrule is secured in position by inwardly projecting portions of the ferrule produced by means of a punch, as at the points 20.

The handle 17 with the ferrule 19 fixedly mounted thereon is removably secured in position within the socket provided by the arms 16 by means of a spring latch device carried by the ferrule. In the construction shown the latch is in the form of a flat spring 21 which is mounted in the ferrule between the

wall at one side thereof and an inwardly pressed cut-out portion 22 (see Fig. 2), the spring being held securely in position by means of friction. The free end portion of the flat spring 21 is turned outwardly in the form of a latch 23 which extends outwardly through registering openings in the wall of the ferrule and the arm 16 of one of the plates 11—12. The spring 21 is provided with an outwardly bent portion 24 at a short distance from its free end, such outwardly bent portion being adapted to extend outwardly through registering openings in the wall of the sleeve and in the arm 16, the arrangement being such that when the bent portion 24 is pressed inwardly the latch 23 is moved out of engagement with the opening in the arm 16 so as to permit the handle 17 and the ferrule 19 to be withdrawn from the socket. The handle 17 is grooved longitudinally at 25 to provide for the reception of the spring 21, the depth of the groove opposite the latch 23 being such as to prevent the movement of the latch 23 out of the opening in the wall of the ferrule 19.

With the broom head prepared complete comprising the broom material held together by the plate clamps 11 and 12, and preferably stitched at a point below the clamps as indicated at 26, and with the handle comprising the ferrule 19 and the spring latch structure as described, the broom heads are packed for shipment in a box of appropriate shape, the handles separate from the head being shipped in a separate bundle, each bundle being compact and easily handled. The broom is then easily prepared for use by the insertion of the handle into the socket, the latch 23 being displaced for permitting the movement by the camming action of the socket upon the outwardly projecting bend 24. When in the movement of the handle into the socket the portion 24 and the latch 23 come opposite the respective openings in the arm 16, the latch springs outwardly into operative locking position as shown in Fig. 2. When it is desired to remove the handle, this can be effected by pulling the handle upwardly in Fig. 2 while the spring latch device is being moved inwardly by pressure upon the bent portion 24 for freeing the latch 23 from the opening in the arm 16.

By reason of the snug fit between the ferrule 19 and the wall of the socket, the arms 16 are held from moving inwardly toward each other. By reason of the lower end of the ferrule 19 extending into the body of the broom material as is clearly shown in Fig. 3, the handle is braced very materially with respect to the broom head and with respect to the plate clamps, this bracing effect being strengthened by the engagement of the lower end of the handle with the broom material in the ferrule, as is also shown in Fig. 3. With the parts properly tightened with respect to each other as described, and with the sleeve 19 of a non-shrinking form, the structure is maintained in its original tightened condition for an indefinitely long time. By reason of the rigidity of the structure comprising the plates 16 held against outward movement by the tongues 18 and held against inward movement by the ferrule 19, the plates 11 and 12 are held very securely against edgewise movement with respect to each other and the broom-corn or other broom head material is held very strongly in position.

While I prefer to employ the construction as illustrated in my drawing, I do not wish to limit the invention to such form except so far as the claims are so limited by the prior art.

I claim:—

1. A broom, comprising in combination a bundle of broom head material, sheet metal clamps secured tightly about said head material, opposed arms extending from said clamps and bent toward each other at their sides for forming a socket, means for holding said arms from movement outwardly with respect to each other, a metal sleeve fitting snugly within said socket holding the arms spread into fixed spaced relation and serving by its engagement with the bent-in side portions of said opposed arms to strengthen the structure against sidewise movement of the clamps with respect to each other, means for holding said sleeve removably in position in said socket, and a handle fixedly secured in said sleeve.

2. A broom, comprising in combination a pair of sheet metal clamps, broom material secured between said clamps, opposed arms extending from said clamps forming a socket, a sleeve in said socket and extending into the body of the broom material between said clamps, means for securing said sleeve in position in said socket, and a handle fixed in said sleeve with its lower end engaging the broom material within the sleeve.

3. A broom, comprising in combination a pair of sheet metal clamps, broom head material secured between said clamps, opposed arms extending from said clamps forming a socket, a sleeve in said socket and extending into the body of the broom material between the clamps for bracing the sleeve, a handle fixedly secured in said sleeve, and means for releasably securing said sleeve in said socket.

4. A broom, comprising in combination a bundle of broom head material, sheet metal clamps secured tightly about said head material, opposed arms extending from said clamps forming a socket, means for holding said arms from movement outwardly with respect to each other, a metal sleeve within said socket holding the arms from movement toward each other and serving thus to strength-

en the structure against sidewise movement of the clamps with respect to each other, a flat spring carried by the sleeve and having an outwardly extending latch portion projecting through registering latch openings in the sleeve and one of the arms for holding the sleeve removably in position in the socket, and comprising also an outwardly bent portion extending through other openings in the sleeve and the arm for retracting said latch portion from the latch opening in said arm, and a handle fixedly secured in said sleeve with the flat spring working within a longitudinal groove in the handle, the inner face of the groove being positioned so as to limit the inward movement of the spring for preventing the latch portion from moving inwardly out of engagement with the latch opening in the sleeve.

GEORGE W. MANNING.