Dec. 10, 1957 J. J. McCRINK 2,815,989

BRUSH HANDLE LOCK

Filed May 4, 1954

Fig. 1

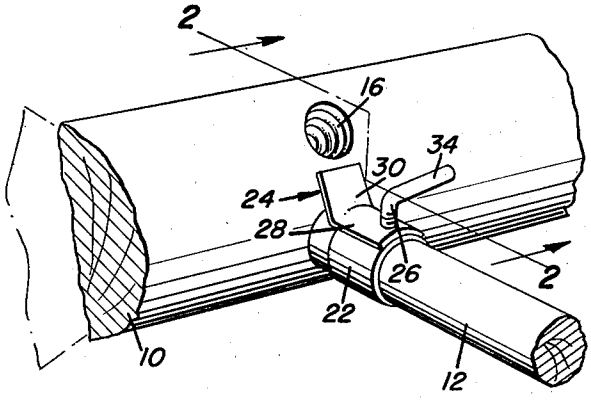


Fig. 3

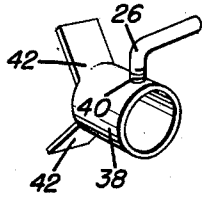


Fig. 4

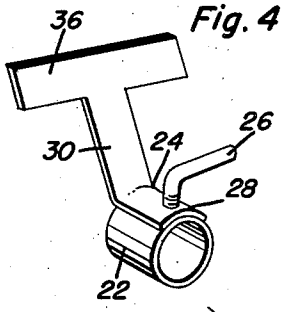
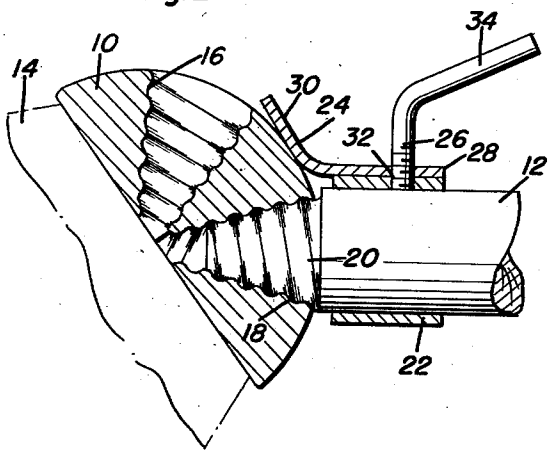


Fig. 2



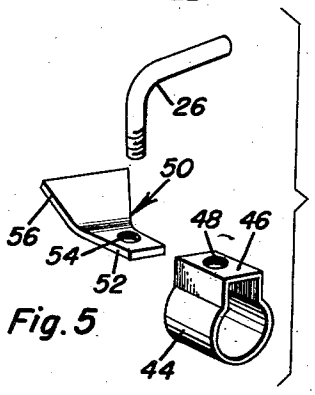


Fig. 5

Joseph J. McCrink

INVENTOR.

BY Thomas A. O'Brien and Harvey B. Jacobson

Attorneys

United States Patent Office

2,815,989

Patented Dec. 10, 1957

2,815,989

BRUSH HANDLE LOCK

Joseph J. McCrink, West Orange, N. J.

Application May 4, 1954, Serial No. 427,526

1 Claim. (Cl. 306—30)

The present invention is a continuation-in-part of my copending application, Serial No. 211,151, filed February 15, 1951, entitled Brush Handle Lock, now abandoned, and relates to a device for securing a brush handle against rotation when such handle is attached to a brush head.

The primary object of the invention is to provide a brush handle lock for push broom and similar types of handle and brush head connections wherein the brush head is detachably secured to one end of the brush handle, the lower end of the handle usually being threaded into a blind bore in the brush head, which locking device prevents relative rotational movement between the brush head and the handle.

A highly important object of the invention is to provide a brush handle locking device in accordance with the primary object, which locking device is of exceedingly simple construction, necessitating no modification of either the brush handle or head in its use and being substantially universally adapted for use with all conventional type brush head and handle connections.

Another important object of the invention is in the provision of a brush head and handle locking device which, in attachment to the brush handle, requires no penetration of the handle for its rigid, non-rotatable connection thereto utilizing a press type fastener in its securement to the handle.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a perspective view of a portion of a brush handle and head to which the brush lock of the present invention is applied;

Figure 2 is a cross-sectional view taken substantially through the plane of section line 2—2 of Figure 1;

Figure 3 is a perspective view of a modified brush lock of the present invention;

Figure 4 is a perspective view of a second modification of the brush lock wherein the same may also be utilized as a scraper; and

Figure 5 is an exploded perspective view of a third modification of the brush lock of the invention.

Noting first Figures 1 and 2 of the drawing, there is shown in these figures a suitable brush head **10** which is mounted or attached to the lower end of a brush handle **12**. As is conventional, the brush head is in the form of an elongated block having an arcuate top surface and a substantially flat undersurface to which the brush bristles **14** are applied.

Centrally between the ends and opening in the arcuated top surface thereof, the brush head **10** is provided with a pair of complementally angled, threaded bores **16** and **18**, respectively. The lower end of the brush handle **12** is shaped to conform to each of these bores **16** and **18**, as at **20**, and is threaded into one of these bores, the

bore **18** in Figures 1 and 2, to attach the brush head **10** transversely of the brush handle **12** to the lower end of this brush handle **12**.

When so assembled, the brush assembly will work comparatively well; however, there is a tendency for the handle to rotate out of the brush head which very often makes the assemblage unwieldy to handle and extremely awkward to guide. I am aware that many locking devices have been devised to inhibit this tendency of rotation and that some of these locking devices have indeed achieved some commercial success. However, such brush locks, to my knowledge, have achieved no really general utility because many require initial modification of either the brush handle or the brush head, or both; many are expensive to manufacture or awkward to apply or are sometimes inadequate to serve their intended function.

My invention basically involves the utilization of a cylindrical collar or sleeve **22** which may be simply slipped over the brush handle **12** and allowed to slide down to the lower end of the handle at its connection to the brush head **10**. An arm is provided to extend below the lower end of the sleeve or collar **22** to rest upon the upper surface of the brush head **10**, this arm being designated by the numeral **24**. When in this position, a threaded, press lock fastener **26** frictionally engages the surface of the handle **12** to securely lock the collar **22** against rotation or sliding movement on the handle **12** to retain the arm **24** in abutment with the brush head **10**.

It is to be noted that the sleeve **22** is not necessarily cylindrical, the cross-sectional shape of the sleeve being such as to conform to the cross-sectional shape of the handle with which it is used.

In the form of the invention disclosed in Figures 1 and 2, the arm **24** has an arcuated upper portion **28** conforming to the curvature of the sleeve or collar **22** and resting upon the collar, being rigidly secured thereto. The lower end portion of the arm **24**, designated by the numeral **30**, extends longitudinally beyond the lower end of the collar **22** and is angled outwardly from the longitudinal axis of this collar. This lower end portion **30** of the arm **24** is flat, and seats tangentially against the upper surface of the brush head **10**.

The upper end portion of the arm **28** and the collar **22** are provided with registering threaded apertures **32** therethrough, through which the threaded stem of the fastening element **26** extends to penetrate the interior of the collar **22**. The inner end of the fastening element stem **26** is flattened to abut the handle **12** and is frictionally pressed thereagainst to lock the collar in place on the handle. The upper end or head portion of the fastening element **26** is angulated with respect to the stem to form a handle **34** for turning the fastening element.

With this construction, an exceedingly simple and extremely efficient brush lock is formed which may be quickly and conveniently applied to any conventional brush head and handle assembly requiring no skill, no special precautions and being virtually fool-proof.

Noting the modification of Figure 4, the brush lock is identical to that of Figure 1, with the exception that the free end portion **30** of the arm **24** is provided with a transverse cross-head **36** forming a scraper blade which may be utilized in conjunction with the brush in sweeping floors or the like to dislodge tacky, sticky or other hard-to-remove material from the floor or the like which the brush bristles themselves will not pick up.

In Figure 3, there is shown a collar **38** substantially identical to the collar **22** previously described and having a threaded aperture **40** through the wall thereof into which the fastening element **26** is threaded. Arms **42** extend integrally from the lower end of the collar **38** and are angled outwardly from the longitudinal axis of this

collar to rest tangentially on the brush head **10** on diametrically opposite sides of the handle.

In Figure 5, a collar **44** is shown for slipping over the brush handle **12** having a portion of the wall thereof formed into a rectangular open-ended housing **46**. Threaded aperture **48** is provided in the top of the rectangular housing **46**. The locking arm in this modification is designated by the numeral **50** and includes a rectangular upper end portion **52** which slides into the rectangular housnig **46** and has a threaded aperture **54** therethrough registering with the threaded aperture **48** in the collar. The lower end portion **56** of the arm **50** projects longitudinally beyond the lower end of and is outwardly divergent from the longitudinal axis of the collar to tangentially rest against the brush head **10**. Fastening element **26** projecting through the registering apertures **48**, **54** prevents outward withdrawal of the arm from the collar.

In all the modifications of the invention set forth, the locking action is substantially identical, the collar of each modification being rigidly secured to the handle **12** and the extending arm portion resting tangentially against the brush head **10** to lock the handle **12** against rotation with respect to the brush head **10**.

From the foregoing, the construction and operation of the device will be readily understood and further explanation is believed to be unnecessary. However, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction shown and described, and accordingly, all suitable modifications and equivalents

may be resorted to, falling within the scope of the appended claim.

What is claimed as new is as follows:

A device for preventing rotation of a brush handle when such handle is threaded into a brush head, said device comprising a collar adapted to slip over the brush handle, said collar having a threaded aperture through the wall thereof, a press lock fastener threaded through said aperture for frictionally engaging the brush handle to lock the collar in place, and an arm extending from one end of said collar at an angle diverging from the longitudinal axis of said collar, said arm having a portion disposed within said collar, said arm portion having an aperture registering with said aperture in said collar, said press lock fastener extending through both of said apertures, said arm having a relatively flat portion intermediate its ends for frictionally abutting the top surface of the brush head, the diverging angle of said arm being such that the arm will abut the brush head immediately adjacent said one end of said collar and at a point on the brush upper surface which is closer to said collar than it is to either the front edge or the rear edge of the brush.

References Cited in the file of this patent

UNITED STATES PATENTS

1,134,076	Hipkins	Mar. 30, 1915
1,402,485	Fredriksen	Jan. 3, 1922
2,163,979	Judson	June 27, 1939

FOREIGN PATENTS

417,964	Great Britain	Oct. 16, 1934
1,030,474	France	Mar. 11, 1953