A. R. McNEILL & M. B. PARRISH.

DETACHABLE HANDLE FOR HOUSEHOLD AND OTHER ARTICLES.

APPLICATION FILED MAY 28, 1915.

1,147,332.

Patented July 20, 1915.

2 SHEETS—SHEET 1.

FIG. 1.

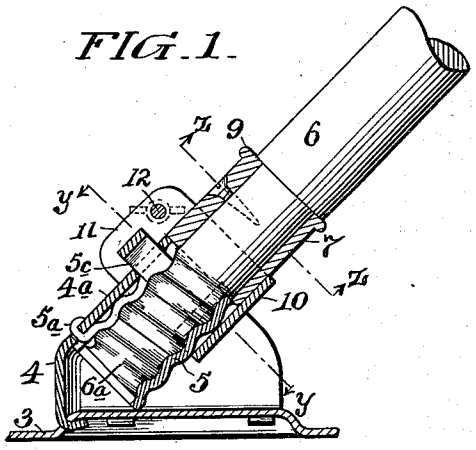


FIG. 3.

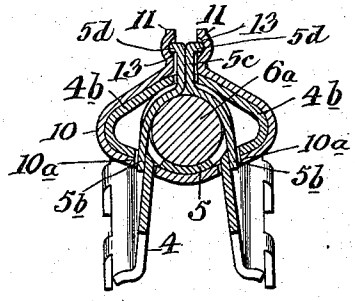


FIG. 2.

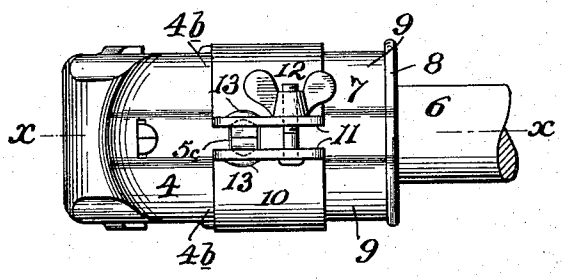
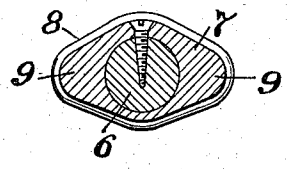


FIG. 4.



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2 SHEETS—SHEET 2.

FIG. 5.

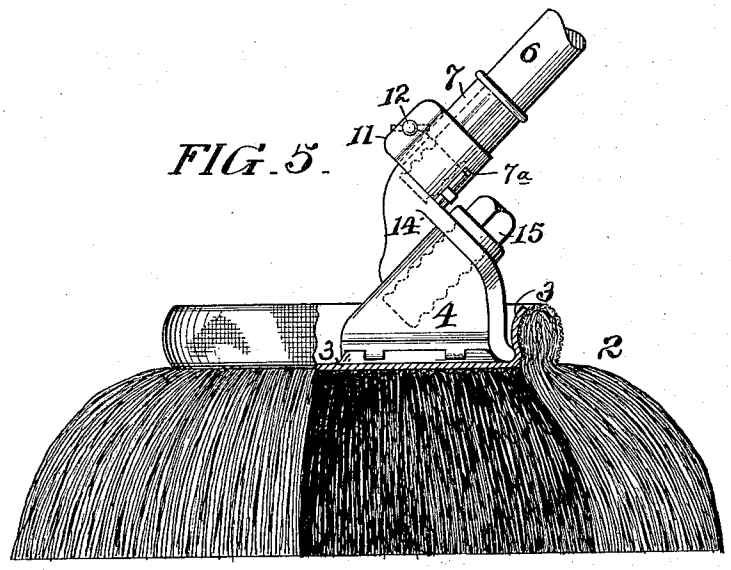


FIG. 6.

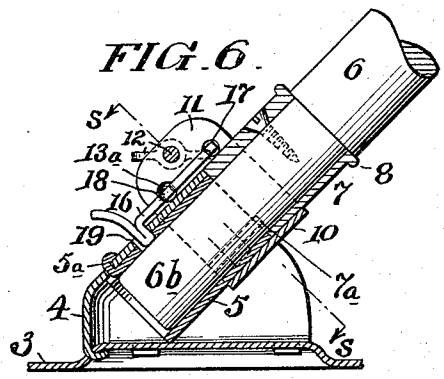


FIG. 9

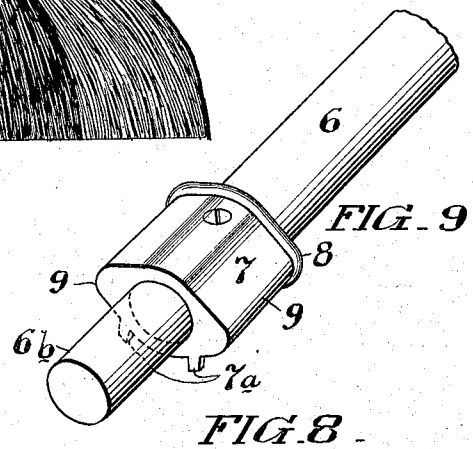


FIG. 8.

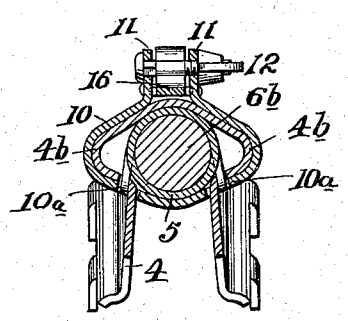
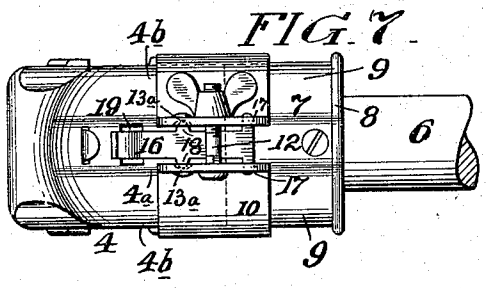


FIG. 7.



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DETACHABLE HANDLE FOR HOUSEHOLD AND OTHER ARTICLES.

1,147,332. Specification of Letters Patent. Patented July 20, 1915.

Application filed May 28, 1915. Serial No. 30,886.

To all whom it may concern:

Be it known that we, ALBERT R. McNEILL and MARY B. PARRISH, citizens of the United States, and residents of Philadelphia, county of Philadelphia, and State of Pennsylvania, have invented an Improvement in Detachable Handles for Household and other Articles, of which the following is a specification.

The object of our invention is to provide a detachable handle for mops, sweepers, brushes and various household and outdoor articles requiring such detachable handles, in which the handle when positioned for use is firmly attached and permits rough usage without danger of becoming worn or loose.

Heretofore, it has been customary to provide household appliances with detachable handles which are screwed into a metal socket, but experience has shown that these handles become easily worn and loose jointed to such an extent as to make them unreliable and necessitate frequent repairs. By our improvement we insure rigid connection between the handle and the article to be operated, said connection being wholly of metal and detachable when desired; the construction being such that the parts are positively locked in assembled condition and cannot become accidentally disconnected while in use.

Our object is further to provide an additional part which may be fixedly bolted in position upon articles now in use and said part arranged for direct connection with the handle proper by use of our improvements, said part acting as an auxiliary means of adapting our improved detachable handle to existing forms of household and other articles requiring operating handles of this character.

With the above and other objects in view, the nature of which will be more fully understood from the description hereinafter, the invention consists in the novel construction of detachable handle as hereinafter more fully described and defined in the claims.

In the drawings: Figure 1 is a sectional side elevation of a detachable connection for handles embodying our invention taken on line *x—x* of Fig. 2; Fig. 2 is a plan view of the same; Fig. 3 is a transverse section of the same on line *y—y* of Fig. 1; Fig. 4 is a cross section of Fig. 1 on line *z—z;* Fig. 5 is a side elevation of a mop (with part in section) showing our improvements attached thereto; Fig. 6 is a sectional elevation corresponding to Fig. 1 showing a modified form of our improvements; Fig. 7 is a plan view of the same; Fig. 8 is a cross section taken on line *s—s* of Fig. 6; and Fig. 9 is a perspective view of the lower part of the handle structure.

As will be seen from Fig. 5, in which our device is attached to a mop, 2 represents the mop structure and 3 the upper plate secured thereto, and to which the handle is ordinarily detachably connected. This mop is shown by way of illustration as the handle is intended to be employed with any household or other article which may require a detachable handle, and hence the mop structure is more by way of example than as a limitation of the use of our invention. Ordinarily the plate 3 has provided an upwardly projecting socket structure 4 into which the flattened handle has been ordinarily screwed so as to be detachable therefrom. The socket structure 4 may be made in any suitable manner and therefore the particular structure shown in the various figures of this application is only given as a convenient means of adapting our invention to the general form of devices now in the market.

The socket structure illustrated in Figs. 1 to 3 comprises the upwardly extending hub 4^a in which is secured a sheet metal tubular socket part 5 which may be corrugated in the form of coarse screw threads, and said socket part 5 may be rigidly secured in place by the interengaging parts 5^a and 5^b. This socket portion 5 may be of sheet metal as shown or of cast metal, or made in any suitable manner. Broadly considered, the entire parts 4 and 5 may be formed as a casting or of sheet metal as preferred, as the particular details of construction in this respect would vary to suit the different appliances to which our invention is adapted for use. As shown in the drawings the inner or socket portion 5 is provided at its upper part with upwardly extending flanges 5^c which provide lateral lugs 5^d and these are preferably more or less pointed or rounded at their outer edges as indicated in Fig. 2. The hood plate 4^a is preferably formed with lateral projections 4^b and over these projections and under the

socket portion 5 we provide the adjustable sleeve 10, preferably formed of sheet metal and adapted to snugly fit the configuration of the hood and socket portions as will be clearly understood by reference to Figs. 1 and 2. 6 represents the wooden handle and may have its extreme lower end formed with a coarse screw thread 6^a adapted to screw into the socket portion 5 as indicated in Fig. 1. The lower end between the screw threaded part of the handle and the main body is also provided with a metal sleeve or ferrule 7 whose cross section is indicated in Fig. 4 and which is provided with lateral projections 9 to correspond to the shape of the lateral projections 4^b of the hood. The upper end of the ferrule is provided with a flange or shoulder 9. The outside surface of the ferrule and the outside surface of the hood form a practically continuous alinement over which the locking sleeve 10 is adapted to slide. This sleeve 10 may be pushed back upon the ferrule against the shoulder 9 thereof, and at which time it is entirely clear of the hood and its shoulder portion, so that the handle may then be unscrewed from the socket 5. In adjusting the handle to the socket it is screwed thereinto as far as possible and so as to bring the ferrule into practical contact and alinement with the hood portions 4^b. The clamping sleeve 10 is then pushed forward partly off the ferrule and over the head and socket portion, as indicated in Fig. 1, and in this position it is clamped to prevent the handle and its ferrule from being turned and thereby unscrewed from the socket portion. Moreover, the clamping action holds all the parts in rigid relation and prevents any looseness or rattling and also any appreciable wear between the wooden end of the handle and the socket. To provide the clamping action the sleeve 10 is formed with two upwardly extending parallel flanges 11 which may be drawn together by a wing bolt 12. Each of these flanges 11 is provided with a recess or socket part 13 and into which the lateral projections 5^a of the socket are received and clamped, as will be clearly understood by reference to Figs. 2 and 3. The sleeve portion 10 may have sufficient elasticity when the wing bolt is unscrewed, to enable the flanged portions 11 to spring apart sufficiently to loosen the sleeve about the ferrule and hood, and also to allow the flanges to spring away from the projections or lugs 5^a and thereby permit the sleeve 10 to be moved back wholly upon the ferrule when it is desired to remove the handle from the socket. Suitable means may be provided for preventing the sleeve 10 from becoming disengaged from the ferrule, and these means consist of small lugs 7^a which project into the slotted portions 10^a of the sleeve 10, said slotted portions also providing a means of passing over the sides of the hood part as will be clearly understood by reference to Figs. 3 and 8. Any other suitable means for preventing the sleeve from leaving the ferrule may be employed in lieu of that shown, as we do not limit ourselves in this respect.

In cases where it is desired to apply our improved handle and socket connection to existing articles on the market, this may be accomplished in the manner indicated in Fig. 5 in which an intermediary casting 14 is provided and adapted to be clamped to the ordinary socket heretofore employed. This is accomplished by fitting the casting 14 to the former socket structure and clamping it in place by a metal screw 15 corresponding to the former shape of the handle end. The casting is otherwise provided at its outer end with a socket and other structure corresponding in general to the parts previously described in respect to Figs. 1 to 4 except that in this case the sheet metal parts are in the form of a casting. In this way our improvements may be adapted to articles already in use without necessitating any other change than to remove the old wooden handle and to clamp the casting 14 directly to the handle socket by means of the screw 15.

In Figs. 6, 7 and 8 we have shown a modification of our improvements in respect to the means of locking the parts together and in the particular shape of the end portion of the handle, but in other respects the general construction and mode of operation are the same as those already described. By reference to these figures it will be seen that the end of the wooden handle is made with a straight or smooth end 6^b, and that the socket part 5 is likewise straight or cylindrical on its interior part and adapted to receive the smooth end of the handle. 16 represents a latch hinged to the flanges 11 at 17 and having lateral projections 18 which engage the socket portions 13^a of the flanges to hold the latch 16 in locking position when the flanges 11 are drawn into clamping relation by the wing bolt 12. The hood 4 and the socket 5 are provided with apertures 19 into which the hooked portion of the latch 16 engages as clearly indicated in Fig. 6, and in which engagement it is locked by the lateral projections 18 engaging the sockets 13^a of the flanges when the parts are clamped in locking position as indicated in Fig. 7. It will now be understood that in this modification the handle may be detached by unscrewing the wing bolt and lifting the latch 16 out of engagement with the aperture 19, and then directly withdrawing the handle. In applying the handle to the article it is only necessary to push the end 6^b of the handle into the socket 5 and push the sleeve 10 downward until the latch 16 snaps into the aperture or hole 19 and

then tighten the wing bolt, which tightens the sleeve 10 over the ferrule 7 as well as about the socket 5 and the hood 4, bringing all of the parts in tight relation and at the same time locking the latch against being accidentally sprung out of its engagement. It will now be understood that if desired the end of the handle may be screw threaded in this modified form as in the case of Fig. 1, and similarly it will be understood that in Fig. 1 the screw threaded portion of the handle and the socket 5 may be dispensed with and correspond to the structure shown in Fig. 6 as we do not limit ourselves to these details.

It will now be apparent that we have devised a novel and useful construction which embodies the features of advantage enumerated as desirable, and while we have in the present instance shown and described the preferred embodiment thereof which has been found in practice to give satisfactory and reliable results, it is to be understood that we do not restrict ourselves to the details, as the same are susceptible of modification in various particulars without departing from the spirit or scope of the invention.

Having now described our invention, what we claim as new and desire to protect by Letters Patent is:

1. In a detachable handle for household and other articles, the combination of a socket portion attached to the article, a handle having a ferrule at a short distance from its end to provide a projecting portion beyond the ferrule adapted to engage the socket, a clamping sleeve arranged to slide upon the ferrule and adjustable over the end thereof to engage the socket portion, and clamping devices on the sleeve for tightening it both upon the ferrule and the socket portion.

2. In a detachable handle for household and other articles, the combination of a socket portion attached to the article, a handle having a ferrule at a short distance from its end to provide a projecting portion beyond the ferrule adapted to engage the socket, a clamping sleeve arranged to slide upon the ferrule and adjustable over the end thereof to engage the socket portion, clamping devices on the sleeve for tightening it both upon the ferrule and the socket portion, and locking devices between the sleeve and the socket portion to hold the sleeve over the socket portion against longitudinal adjustment.

3. In a detachable handle for household and other articles, the combination of a socket portion attached to the article, a handle having a ferrule at a short distance from its end to provide a projecting portion beyond the ferrule adapted to engage the socket, a clamping sleeve arranged to slide upon the ferrule and adjustable over the end thereof to engage the socket portion, clamping devices on the sleeve for tightening it both upon the ferrule and the socket portion, said ferrule and socket portion provided with lateral projections on the outside and cylindrical apertures upon the inside and said clamping sleeve fitting the outside surface of said ferrule and socket portion and provided with free flanges adapted to be drawn together to clamp the parts in fixed relation, and a wing bolt extending through the flanges for drawing them together into clamping position.

4. In a detachable handle for household and other articles, the combination of a socket portion attached to the article, a handle having a ferrule at a short distance from its end to provide a projecting portion beyond the ferrule adapted to engage the socket, a clamping sleeve arranged to slide upon the ferrule and adjustable over the end thereof to engage the socket portion, clamping devices on the sleeve for tightening it both upon the ferrule and the socket portion, said ferrule and socket portion provided with lateral projections on the outside and cylindrical apertures upon the inside and said clamping sleeve fitting the outside surface of said ferrule and socket portion and provided with free flanges adapted to be drawn together to clamp the parts in fixed relation, means for engaging the flanges of the sleeve with the socket portion to prevent longitudinal shifting of the sleeve when in clamping position, and a wing bolt extending through the flanges for drawing them together into clamping position.

5. In a detachable handle for household and other articles, the combination of a socket portion attached to the article, said socket portion having a screw threaded interior, a handle having a ferrule at a short distance from its end to provide a projecting portion beyond the ferrule formed with a screw threaded portion adapted to engage the socket, a clamping sleeve arranged to slide upon the ferrule and adjustable over the end thereof to engage the socket portion said sleeve being sufficiently short to be thrust wholly back upon the ferrule whereby the handle may be rotated free of the socket portion, and clamping devices on the sleeve for tightening it both upon the ferrule and the socket portion.

6. The combination of a household or other article having a screw threaded socket portion, with a detachable frame fitting tightly against the socket portion and providing a second socket portion, clamping means for extending into the socket portion of the household article for clamping the frame in position, a detachable handle having its lower end adapted to the socket portion of the frame, and a detachable clamp-

ing device between the handle and the frame for holding the handle against being withdrawn from the socket portion.

7. The combination of a household or other article having a screw threaded socket portion, with a detachable frame fitting tightly against the socket portion and providing a second socket portion, clamping means for extending into the socket portion of the household article for clamping the frame in position, a detachable handle having its lower end adapted to the socket portion of the frame, and a detachable clamping device between the handle and the frame for holding the handle against being withdrawn from the socket portion, said clamping device carried upon the handle and movable longitudinally thereof to extend over the socket portion of the frame and be clamped thereto for providing a non-rotatable union between the handle and the socket portion.

In testimony of which invention, we hereunto set our hands.

ALBERT R. McNEILL.
MARY B. PARRISH.

Witnesses:
R. M. HUNTER,
FLORENCE DEACON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."