No. 795,717. PATENTED JULY 25, 1905.

L. E. MORROW.

DETACHABLE UMBRELLA HANDLE.

APPLICATION FILED JUNE 13, 1904.

Fig. 1.

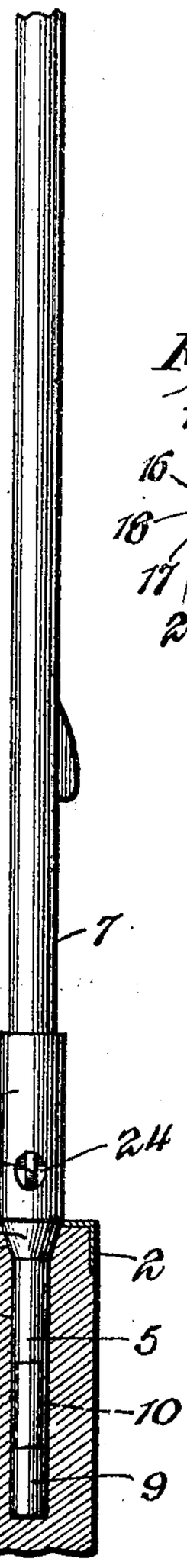


Fig. 2.

Fig. 3.

Fig. 4.

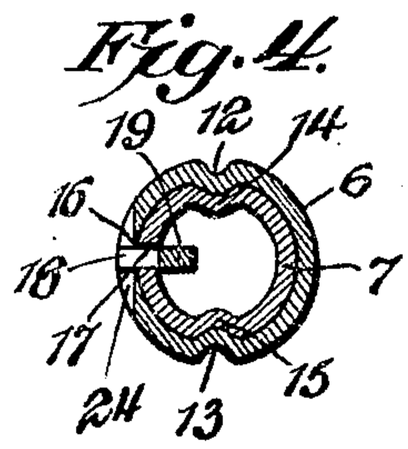
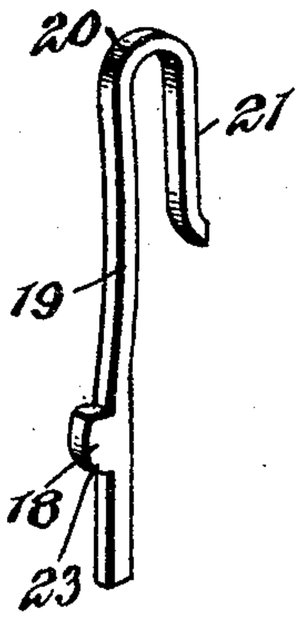


Fig. 5.



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DETACHABLE UMBRELLA-HANDLE.

No. 795,717. Specification of Letters Patent. Patented July 25, 1905.

Application filed June 13, 1904. Serial No. 212,385.

To all whom it may concern:

Be it known that I, LLOYD EDWIN MORROW, a citizen of the United States, residing at Norwalk, in the county of Huron and State of Ohio, have invented a new and useful Detachable Umbrella-Handle, of which the following is a specification.

This invention relates to a detachable handle for umbrellas and the like, the object being to produce a structure which will greatly strengthen the joint between the umbrella-rod and the socket-sleeve and which will not require the comparatively large bore which has heretofore materially weakened handles of this character.

Further objects are to provide improved means for preventing relative rotation of the rod and handle and an improved catch for preventing the accidental detachment of the handle from the rod.

To the accomplishment of these objects and others subordinate thereto the preferred embodiment of the invention embraces the construction and arrangement of parts to be hereinafter described, illustrated in the accompanying drawings, and succinctly defined in the appended claims.

In said drawings, Figure 1 is an elevation of the umbrella-rod and the socket-sleeve attached, the handle being shown in section. Fig. 2 is an elevation of the umbrella-rod and sleeve in juxtaposition. Fig. 3 is a sectional elevation of the rod and sleeve attached. Fig. 4 is an enlarged section on line 4 4 of Fig. 3, and Fig. 5 is a detail perspective view of the spring-catch.

Like numerals indicate corresponding parts in the several views.

1 indicates the umbrella-handle, which may be of any desired configuration and is preferably provided with a cap 2, as usual. Into an axial socket 3, formed in the handle 1 and having an upper flared end 4, is fitted the reduced end 5 of a socket-sleeve 6. The sleeve 6 is formed from tubing of sufficient size to receive the lower end of the hollow umbrella-rod 7 and is swaged down to form the reduced cylindrical end 5 and a tapered or trunco-conical portion 8, connecting the reduced lower end 5 and the comparatively large upper end of the sleeve 6. The tapered portion 8 of the sleeve 6 is preferably, though not necessarily, fitted into the flared upper end 4 of the socket 3, as shown in Fig. 1, and in order to facilitate the gluing of the handle to the sleeve the latter is provided at its lower end with a wooden or other suitable attaching-plug 9, fitting closely within the socket 3 and having a reduced upper end 10 extended into the sleeve. This plug 9 may also be viewed as a part of the handle, since it is securely glued therein and as the reduced end or extension 10 extends upwardly for reception in the lower end of the sleeve.

The rigid retention of the handle on the sleeve without the use of separate securing devices—as, for instance, rivets or the like—has heretofore been attended with considerable difficulty; but I find that by gluing the sleeve externally to the wall of the bore 3 in the handle and by additionally gluing said sleeve internally to the interfitting portion 10 of the plug 9, which is in turn securely glued in the handle, the liability of accidental separation of the handle and sleeve is reduced to a minimum. The lower end of the rod 7 is designed to be fitted into the upper end of the sleeve 6 and to be seated upon the shoulder 11, defined by the tapered portion 8, which latter not only affords a stop for the rod, but strengthens or braces the sleeve at that point—to wit, just below the end of the rod—where it is ordinarily weakest.

To prevent relative turning movement of the sleeve and rod when in engagement, the sleeve 6 is provided with a pair of diametrically-opposed internal longitudinal projections 12 and 13, preferably formed by swaging the metal and designed for reception within corresponding recesses or depressions 14 and 15 in the outer surface of the rod 7 at its lower extremity. These coöperating projections and depressions in the sleeve and rod not only prevent relative turning of the parts, but also insure their attachment in position to properly aline a pair of slots 16 and 17, formed at one side of the sleeve and rod, respectively, for the accommodation of a catch 18, carried by and preferably integral with a spring 19, inclosed within the rod 7. (See Fig. 3.) At a point above the catch 18 the spring 19 is doubled upon itself, as indicated at 20, and one extremity 21 is deflected and bears against the interior of the rod to prevent the longitudinal displacement of the spring. The doubled end of the spring bears at 22 against the opposite side of the rod, and between this bearing-point and that end of the spring which carries the catch said spring is bowed, as shown.

When the rod 7 is passed into the sleeve, the rounded lower corner 23 of the latch 18

strikes against the upper edge of the sleeve and is forced back into the rod until it arrives opposite the slot 16, through which it springs to prevent the detachment of the handle until the catch is again forced inward, the outer surface of the sleeve adjacent to the catch being cut out or recessed in proximity to the catch, as indicated at 24, to facilitate this latter operation. When the handle is thus connected to the rod, the parts are held against relative longitudinal movement by the catch and are prevented from turning by the lugs or projections 12. It will appear, furthermore, that the tapered portion 11 of the sleeve strengthens the latter at the upper end of the handle, where it is naturally weakest, and that by reason of the reduced diameter of the lower end of the sleeve only a comparatively small portion of the material is removed from the handle, and as a consequence the latter is much more durable than ordinarily.

While the advantages flowing from the swaging down of the lower end of the sleeve 6 have been referred to, it is desired to emphasize the fact that by swaging the sleeve in the manner indicated both the sleeve and the connection of the rod to the handle are greatly strengthened, because the tapered portion thus produced constitutes both a brace for the sleeve and a solid shoulder for the end of the rod to rest against. Furthermore, this swaging results in so reducing the lower end of the sleeve that only a small hole in the handle is required, and as less of the material of the handle is cut away than is ordinarily necessary it follows that the handle will be proportionately stronger, particularly at its upper end, where it is usually comparatively weak.

It is thought that from the foregoing the construction and many advantages accruing from the use of my detachable handle will be clearly apparent; but while the present embodiment of the invention is believed at this time to be preferable I desire to reserve the right to effect such changes, modifications, and variations of the illustrated structure as may come fairly within the scope of the protection prayed.

What I claim is—

1. The combination with a handle, provided with an axial bore having a flared outer end, of a sleeve having cylindrical end portions of different diameters and an intermediate tapered portion, the reduced end of the sleeve fitting closely within the bore of the handle, and the tapered portion of said sleeve fitting within the flared end of the bore to dispose the larger end of the sleeve beyond the handle, and a rod fitting closely within the larger end of the sleeve and having its extremity seated against the shoulder formed by the tapered portion of the sleeve.

2. The combination with a handle, provided with an axial bore having a flared outer end, of a sleeve having a reduced cylindrical end extended into the bore, an enlarged cylindrical end disposed beyond the handle, and a tapered portion fitted in the flared end of the bore and forming both internal and external abutments, internal longitudinal projections disposed adjacent to the tapered portion of the sleeve, a rod extended into the enlarged end of the sleeve with its extremity received against the internal abutment of the latter, said rod having longitudinal depressions at its extremity disposed to receive the internal projections of the sleeve, and a latch mounted in the rod and arranged to engage the sleeve when the rod is arrested by the shoulder of the latter.

3. The combination with a handle, provided with an axial bore having a flared outer end and closed at its inner end, and an attaching-plug retained in the bore at its closed end, of a sleeve having a reduced cylindrical end, a larger cylindrical end, and an intermediate tapered portion forming internal and external abutments, the reduced end of the sleeve being fitted within the bore of the handle and also fitted upon the attaching-plug, the tapered portion of the sleeve being located in the flared end of the handle-bore, and the enlarged end of the sleeve being disposed exterior to the handle.

4. The combination with a handle, having an axial bore, provided with a flared outer end and with an attaching-plug within its inner end, of a sleeve having a reduced end fitted in the bore and upon the plug, a tapered portion fitting in the flared end of the bore, and an enlarged cylindrical end disposed beyond the handle, a rod fitted within the enlarged end of the sleeve and seated against the shoulder defined by the tapered portion of the sleeve, a latch mounted in the rod and engaging the sleeve, and longitudinal projections extending inwardly from the sleeve and engaging depressions in the rod.

5. The combination with a handle provided with an axial bore having a flared outer end, of a sleeve having a reduced cylindrical end extended into the bore, an enlarged cylindrical end disposed beyond the handle, and a tapered portion fitted in the flared end of the bore and forming both internal and external abutments.

6. The combination with a handle, provided with an axial bore having a flared outer end, of a sleeve having cylindrical end portions of different diameters and an intermediate portion, the reduced end of the sleeve fitting closely within the bore of the handle and the intermediate portion of said sleeve fitting within the enlarged outer end of the bore, and an attaching-plug fitted tightly within the inner end of the bore in the handle and having a reduced portion extended into the lower end of the sleeve.

7. The combination with a handle, a sleeve and a hollow rod, of a latch extending through the wall of the rod to engage the sleeve, and a spring doubled upon itself and carrying the latch at a point adjacent to one extremity, the doubled end of the spring and the extremity thereof beyond the latch having a bearing against one side of the rod, that portion of the spring located between said bearing-points being inwardly bowed and the other extremity of the spring being laterally deflected and bearing against the opposite side of the rod at a point opposite the bowed portion of the spring, whereby said spring will be afforded two bearings against one side of the rod and a single intermediate bearing against the other side of the rod and will be otherwise out of contact with the rod.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

LLOYD EDWIN MORROW.

Witnesses:
F. E. RUDOLPH,
A. F. EMMONS.