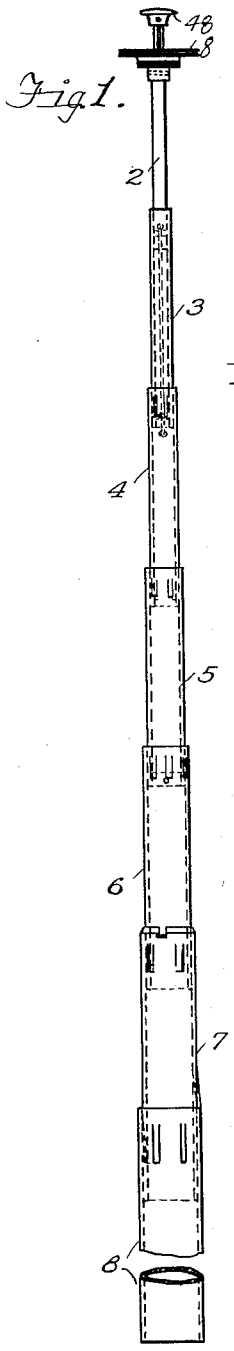
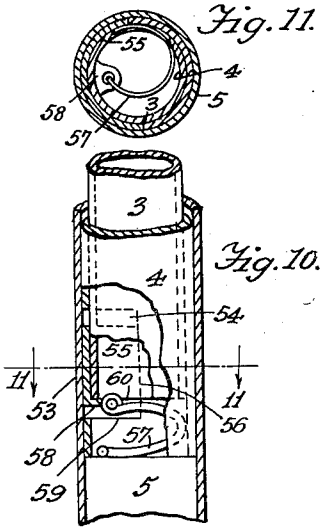
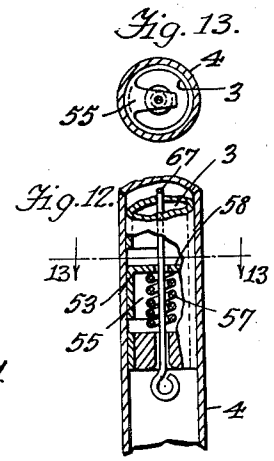
April 3, 1934. A. BENJAMIN 1,953,387

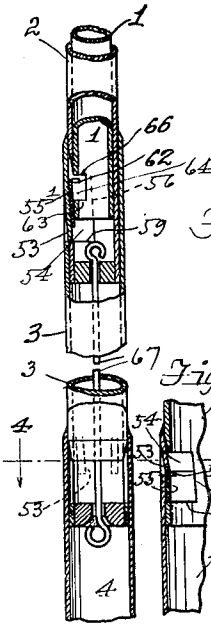
UMBRELLA

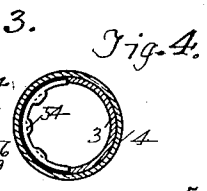
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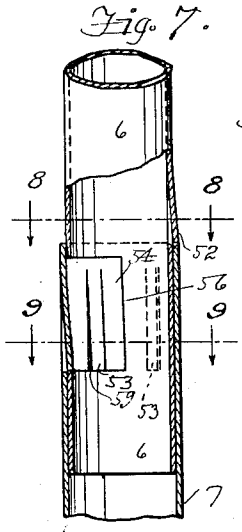


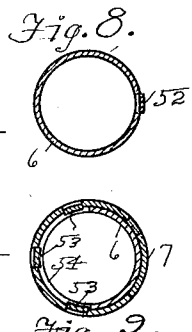


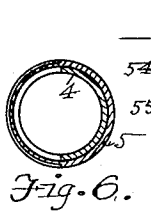


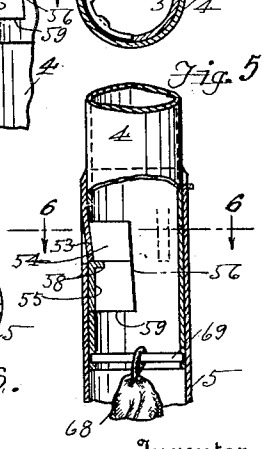












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Patented Apr. 3, 1934 1,953,387

UNITED STATES PATENT OFFICE

1,953,387

UMBRELLA

Anthony Benjamin, Grand Rapids, Mich.

Application January 26, 1931, Serial No. 511,191

6 Claims. (Cl. 135—46)

The present invention relates to umbrellas; and its object is, generally, to provide an umbrella which may be folded and contracted into very small space when not in use; and, more particularly, to provide such an umbrella having an improved expansible and contractible stem; and further, to provide improved means for holding the stem expanded.

These and any other and more specific objects hereinafter appearing are attained by, and the invention finds preferable embodiment in, the illustrative umbrella structure particularly described in the body of this specification and illustrated by the accompanying drawing, in which:—

Figure 1 is a view of the stem or "stick" of the umbrella in extended position;

Figure 2 is a view of some of the parts seen in Figure 1, certain thereof being axially sectioned and partially broken away;

Figure 3 is an axially sectional fragmentary view of parts of the umbrella stem;

Figure 4 is a transverse sectional view thereof taken on line 4—4 of Figures 2 and 3;

Figure 5 is an axially sectional view of parts of the stem;

Figure 6 is a transverse sectional view thereof taken on line 6—6 of Figure 5;

Figure 7 is an axially sectional view of parts of the stem;

Figure 8 is a transverse sectional view thereof taken on line 8—8 of Figure 7;

Figure 9 is a transverse sectional view thereof taken on line 9—9 of Figure 7;

Figure 10 is an axially sectional view of parts of the stem, illustrating a somewhat modified construction;

Figure 11 is a transverse sectional view thereof taken on line 11—11 of Figure 10;

Figure 12 is an axially sectional view of parts of the stem, illustrating a somewhat modified construction;

Figure 13 is a transverse sectional view thereof taken on line 13—13 of Figure 12.

In the drawing is illustrated an umbrella whose stem or "stick" is adapted to be extended and its cover spread to the position of use, and collapsed and folded into an extremely compact condition when not in use.

The stem of this umbrella comprises a plurality (seven in the illustrated construction) of telescoping tubular members 1, 2, 3, 4, 5, 6, 7, the member 1 being a plunger slidable in member 2.

The stem member 6 is held positively in extended position by its outwardly pressing catch 52 which abuts on the upper edge of the lowest stem member 7, (the handle portion of the stem) this catch being pressed inwardly by hand to release it. (See Figures 7, 8.) In the expanded position of the stem, its members are held positively against farther expanding movement by the inwardly pressing catches 53 of the lower one of a pair thereof abutting on the lower edge 59 of an opening 54 in the upper member of said pair. This construction is particularly shown in Figures 2, 7 and 9.

These catches 53 in Figure 2 are sprung outwardly to release them by an element 55^1 contacting their inner surfaces and slidable in said opening 54, in the stem's longitudinal direction, said element 55^1 bearing at its side edges on the opposite sides 56 of the opening and the sides 56 being slightly inclined downwardly-inwardly that is, toward the lower end of the stem and toward its central axis. This element 55^1 etc. is shown in Figures 2, 3, 5 and 10, and is slid downwardly and inwardly on its inclined side bearings 56 by the action of a still higher slidable member (as member 3 in Figure 10) whose lower edge 60 striking the ledge 58 of said element moves it downwardly against the pressure of a spring 57.

A coiled form of this spring is shown at 57^1 in Figure 12. In Figure 2 however the element 55^1 is not spring-pressed, but is slid upwardly by its inwardly extending lug 62 being struck by the bottom 63 of an opening 64 in plunger member 1; and to press catch 53 outwardly to release it, element 55^1 is slid downwardly, by its said lug 62 being struck by the top 66 of opening 64 in the downward movement of plunger member 1.

In Figures 3 and 5 there is no movable member like said 55^1, but the member 55 on whose top ledge 58 the catch 53 engages is a part of the wall of the upper stem member, the catch being a part of the lower stem member. When the upper stem member (3 in Figure 3 or 4 in Figure 5) is slid downwardly the inclined outer surface of its lower end engaging the inner surface of the catches 53 spring them outwardly and off of the ledge 58.

A rod 67 may be provided for preventing the separation of stem members, as shown in Figures 2 and 12. It is very evident that such a tubular telescoping element as this umbrella "stick" or stem, with like catches, etc., may be employed for many uses and in many connections other than as shown.

The invention being intended to be pointed out in the claims, is not to be limited to or by details of construction of any particular embodi-

ment thereof illustrated by the drawing or hereinbefore described.

I claim:

1. In an umbrella of the character described: a stem comprising a pair of telescoping members, one of them having a catch movable into engagement with the other one of said pair to hold said members against relative movement in one longitudinal direction, one of said pair having a bearing inclined from the axial direction of the stem; and an element slidable in said bearing and on the catch into engagement with the catch to release the same.

2. In an umbrella of the character described: a stem comprising a pair of telescoping members, one of them having a catch movable into engagement with the other one of said pair to hold said members against relative movement in one longitudinal direction, one of said pair having a bearing inclined from the axial direction of the stem; and an element slidable, by the relative movement of said members, in said bearing and on the catch into engagement with the catch to release the same.

3. In an umbrella of the character described: a stem comprising a pair of telescoping members, one of them having a catch movable into engagement with the other one of said pair to hold said members against relative movement in one longitudinal direction, one of said pair having a bearing inclined from the axial direction of the stem; and an element slidable against spring pressure in said bearing and on the catch into engagement with the catch to release the same.

4. In an umbrella of the character described: a stem comprising a pair of telescoping members, the lower outer one of them having a catch springing inwardly into engagement with the upper inner member of said pair to hold said members against separating movement, the upper inner member of said pair having a bearing inclined toward the lower end of the stem and toward its axis; and an element slidable, by the movement of said members in stem-expanding direction, in said bearing and on the catch into engagement with the catch to release the same.

5. In an umbrella of the character described: a stem comprising a plurality of telescoping members including a pair thereof, one member of said pair having a catch movable into engagement with the other member of the pair to hold said pair of members against relative movement in one longitudinal direction, the other member of said pair having a bearing inclined from the axial direction of the stem; an element slidable in said bearing and on the catch into engagement with the catch to release the same; and a third telescoping member of the stem movable longitudinally into engagement with said element to slide the same into catch-releasing position.

6. In an umbrella of the character described: a stem comprising a plurality of telescoping members including a pair thereof, one member of said pair having a catch movable into engagement with the other member of the pair to hold said pair of members against relative movement in one longitudinal direction, the other member of said pair having a bearing inclined from the axial direction of the stem; an element slidable in said bearing and on the catch into engagement with the catch to release the same; and a third telescoping member of the stem movable longitudinally into engagement with said element to slide the same against spring-pressure into catch-releasing position.

ANTHONY BENJAMIN.