A stick (2) for a floor cleaning mop, the stick featuring a top part (4) and a bottom part (6) linked one to the other in an intermediate zone (5). Said stick (2) comprises an elongate element (10) and a grip element (16). The elongate element (10) features in the top part (4) of the stick (2), a rectilinear first portion (12) extending along a longitudinal axis (X) up to the intermediate zone (5), and in the bottom part (6) of the stick (2) a second portion (14) extending away from the longitudinal axis (X) and featuring a bottom end (15) suitable for receiving a cleaning head (8). The grip element (16) is located in the top part (4) of the stick (2), features an outside surface (17) and is movable in rotation relative to the elongate element (10) around the longitudinal axis (X).
BENT STICK FOR A FLOOR CLEANING MOP, AND A MOP INCLUDING THE STICK

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application claims priority under the Paris Union Convention from French patent application No. 1052679 filed on Apr. 8, 2010.

FIELD OF THE INVENTION

[0002] The invention relates to a stick for a broom or mop for cleaning surfaces, in particular the floor, and to a floor cleaning mop including the stick.

[0003] The invention seeks to improve the effectiveness of cleaning and to reduce the physical fatigue of the user.

SUMMARY OF THE INVENTION

[0004] To do this in accordance with the invention, the stick features a top part and a bottom part linked to one another in an intermediate zone, said stick comprising:

[0005] an elongate element featuring:

[0006] in the top part of the stick, a rectilinear first portion extending along a longitudinal axis up to the intermediate zone; and

[0007] in the bottom part of the stick a second portion extending away from the longitudinal axis and featuring a bottom end suitable for receiving a cleaning head; and

[0008] a grip element located in the top part of the stick, said grip element featuring an outside surface and being movable in rotation with respect to the elongate element around the longitudinal axis.

[0009] Thus, by holding the mop by the grip element, the user allows the mop to pivot freely around the longitudinal axis. Consequently, because the bottom end of the elongate element is offset from the longitudinal axis, friction between the cleaning head and the ground automatically causes the elongate element to pivot around the longitudinal axis so that the cleaning head always features substantially the same front surface perpendicularly to its travel direction.

[0010] The dirt collected by the cleaning head thus runs less risk of escaping therefrom. The effectiveness of cleaning is thereby improved.

[0011] Furthermore, since the user no longer needs to orient the cleaning head, the user needs to supply less effort and has greater freedom of movement.

[0012] According to another characteristic in accordance with the invention, and preferably, in the direction of the longitudinal axis, the top part of the stick extends over a first distance, and the bottom part of the stick extends over a second distance that is less than one-third and preferably less than one-fifth of the first distance.

[0013] For a given offset of the bottom end of the elongate element from the longitudinal axis, the cleaning head thus becomes oriented more quickly and more accurately relative to its travel direction. Conversely, the offset of the bottom end of the elongate element from the longitudinal axis may be reduced while still conserving a satisfactory orientation for the cleaning head. Use of the mop is consequently thus further facilitated and made more effective.

[0014] Preferably, the second distance is less than or equal to 30 centimeters (cm).

[0015] According to another characteristic in accordance with the invention, the stick includes in the top part, a knob disposed at a top end of said stick.

[0016] The user can thus manipulate the mop more easily by causing it to pivot in directions perpendicular to the longitudinal axis.

[0017] According to an additional characteristic in accordance with the invention, the grip element comprises the knob.

[0018] The user thus has great freedom of movement for moving the cleaning head.

[0019] According to another characteristic in accordance with the invention, and preferably, the mop further includes a handle secured to the elongate element, wherein the grip element comprises a sleeve disposed between the handle and the intermediate zone in the direction of the longitudinal axis.

[0020] The user is thus in a position also to pivot the cleaning head around the longitudinal axis, whenever that is found to be necessary, e.g. in order to clean a corner.

[0021] According to an additional characteristic in accordance with the invention, and preferably, the handle features a guard-forming shoulder situated between an outside surface and the grip element.

[0022] This further increases comfort in use of the stick.

[0023] According to another characteristic in accordance with the invention, and preferably, the elongate element features a telescopic portion situated between the grip element and the intermediate zone.

[0024] The length of the stick is thus easily adapted to the height of the user while providing great ease of use and satisfactory cleaning effectiveness.

[0025] The invention also provides a mop that comprises, in addition to the stick, a cleaning head connected to the bottom end of the elongate element, said cleaning head featuring a leading edge extending generally in a transverse direction, and said stick extending substantially in a plane perpendicular to the transverse direction of the cleaning head.

[0026] Thus, the leading edge of the cleaning head remains perpendicular to its movement, thereby obtaining improved cleaning effectiveness. The term “generally” should be understood as meaning that the leading edge need not be rectilinear, but in particular may be slightly curved, and preferably concave.

[0027] According to an additional characteristic in accordance with the invention, and preferably, the cleaning head is connected to the bottom end of the elongate element by a hinge providing two degrees of freedom in rotation between the stick and the cleaning head.

[0028] The freedom of movement obtained by the hinge and the automatic orientation of the leading edge of the head perpendicular to the travel direction thus combine effectively.

BRIEF DESCRIPTION OF THE DRAWINGS

[0029] Other characteristics and advantages of the feature invention appear from the following detailed description given with reference to the accompanying drawings, in which:

[0030] FIG. 1 is a perspective view of a mop in accordance with the invention;

[0031] FIG. 2 is a plan view of the mop; and

[0032] FIG. 3 is a section view of the stick on line referenced III-III in FIG. 2.

[0033] The figures show a mop essentially comprising a stick and a cleaning head.
The stick 2 features a top part 4 and a bottom part 6 that are joined together in an intermediate zone 5. The stick 2 essentially comprises an elongate element 10, a sleeve 16, a handle 20, and a knob 30.

Detailed description

The elongate element 10 has a first portion 12 and a second portion 14. The first portion 12 is entirely rectilinear and it extends along a longitudinal axis X, between a top end 11 and the intermediate zone 5. The second portion 14 extends from the intermediate zone 5 to a bottom end 15 constituting the bottom end 2b of the stick 2. The second portion 14 is offset relative to the longitudinal axis X, with its offset relative to the longitudinal axis X increasing progressively from the intermediate zone 5 to the bottom end 15. The elongate element thus extends substantially in a plane P. The second portion 14 comprises, in succession from the intermediate zone 5 to the bottom end 15: a first angled portion 14a; a first rectilinear portion 14b; a second angled portion 14c; and a second rectilinear portion 14d. The second rectilinear portion extends substantially parallel to the longitudinal axis. At the bottom end 15, the stick 2 features an offset Δ relative to the longitudinal axis X.

Furthermore, the elongate element 10 is constituted by a first tubular segment 10a, a second tubular segment 10b, and a third tubular segment 10c.

The first segment 10a is entirely included within the first portion 12. The second segment 10b is inserted at least in part in the first segment 10a. A nut 18 screwed onto the bottom end of the first segment 10a and moving a bottom conical ring serves selectively (on being loosened) to allow the second segment 10b to slide in the first segment 10a along the direction of the longitudinal axis X, or to prevent it from moving (on being tightened). The first segment 10a and the second segment 10b thus form a telescopic assembly, as to vary the distance between the top end 11 of the tube secured to the first segment 10a and the bottom end 2b forming part of the third segment 10c.

The third segment 10c is preferably connected to the bottom end of the second segment 10b by a releasable fastener device 19, preferably by snap-fastening. The second segment 10c comprises, going from the bottom end 15 to the releasable fastener device 19, in succession: the second rectilinear portion 14d; the second curved portion 14c; the first rectilinear portion 14b; the first curved portion 14a; and a rectilinear portion, preferably similar to the second rectilinear portion 14d, that extends inside the first portion 4 of the stick (coaxially around the longitudinal axis X).

The handle 20 is substantially tubular. The handle 20 extends around the first segment 10a of the elongate element 10, and more precisely around the top end 11 of the elongate element 10. It extends along the direction of the longitudinal axis X between the knob 30 and the sleeve 16. The handle 20 is secured to the elongate element 10. The handle 20 extends between a top end 21 and a bottom end 23. The handle 20 features a guard-forming shoulder 24a and a cylindrical outside surface 22 whereby the handle is gripped, which cylindrical outside surface 22 extends between the top end 21. The guard 24 is disposed close to the bottom end 23, in other words between the outside surface 22 and the sleeve 16.

The knob 30 is mounted at the top end 21 of the handle 20 and thus constitutes the top end 2a of the stick 2. It features a spherical outside surface 22. In a variant, the knob 30 could be mounted on the elongate element 10, and its top end 2a. The knob 30 is mounted to rotate around the longitudinal axis X, and in the embodiment shown it is mounted by means of a roll bearing 26.

The sleeve 16 extends around the elongate element 10. It is mounted to be rotatable around the longitudinal axis X relative to the elongate element 10. The sleeve 16 features an outside surface 17 that, in the embodiment shown, is cylindrical and of circular section, and that extends in the direction of the longitudinal axis X. The sleeve 16 extends between the handle 20 and the intermediate zone 5, and more precisely between the handle 20 and the nut 18. The sleeve 16 is held in sliding along the direction of the longitudinal axis X between the handle 20 and a ring 28 secured to the first tubular segment 10a of the elongate element 10.

In the direction of the longitudinal axis X, the first portion 12 of the stick 2 extending from the top end 2a to the intermediate zone 5 features a distance D. Still in the direction of the longitudinal axis X, the second portion of the stick 2, extending from the intermediate zone 5 to the bottom end 2b of the stick 2 features a distance d. The distance d is preferably less than 30 cm and is advantageously substantially equal to 20 cm. It is less than one-third and preferably less than one-fifth of the distance D, including when the telescopic assembly is in its retracted position. Preferably, the offset Δ between the bottom end 2b of the stick 2 and the longitudinal axis X lies in the range 5 cm to 25 cm, and is advantageously substantially equal to 15 cm.

The outside surface 22 of the handle 20 preferably features a diameter D22 lying between the diameter D17 of the outside surface 17 of the sleeve 16, and the diameter D30 of the knob 30. Advantageously, the diameter D17 of the outside surface 17 of the sleeve 16 is substantially equal to 30 millimeters (mm), the diameter D22 of the outside surface 22 of the handle 20 is substantially equal to 30 mm, and the diameter D30 of the knob 30 is substantially equal to 45 mm.

The cleaning head 8 features a slightly concave leading edge 9 that extends substantially in a transverse direction Y. The cleaning head 8 is connected to the bottom end 2b of the stick 2 via a hinge 7, preferably of the cardan joint type or analogous type, featuring two degrees of freedom in rotation around axes that are perpendicular to the direction of the longitudinal axis X. In known manner, the cleaning head 8 includes a cleaning band of towel or analogous type. The stick 2 extends substantially in a plane P perpendicular to the transverse direction Y of the cleaning head 8.

The elongate element 10 is preferably made of metal and advantageously of aluminum, the knob 30 is made of elastomer or rubber, and the sleeve 16 and the handle 20 are made of polypropylene or of analogous material.

Naturally, the invention is not limited in any way to the embodiment described by way of non-limiting illustration. Thus, although not preferred, the knob 30 could be integral with the handle 20.

We claim:

1. A stick for a floor cleaning mop, the stick featuring a top part and a bottom part linked one to other in an intermediate zone, said stick comprising:

an elongate element featuring:

in the top part of the stick, a rectilinear first portion extending along a longitudinal axis up to the intermediate zone; and
in the bottom part of the stick a second portion extending away from the longitudinal axis and featuring a bottom end suitable for receiving a cleaning head; and a grip element located in the top part of the stick, said grip element featuring an outside surface and being movable in rotation relative to the elongate element around the longitudinal axis.

2. A stick according to claim 1, wherein, in the direction of the longitudinal axis, the top part of the stick extends over a first distance, and the bottom part of the stick extends over a second distance that is less than one-third and preferably less than one-fifth of the first distance.

3. A stick according to claim 2, wherein the second distance is less than or equal to 30 centimeters.

4. A stick according to claim 1, including, in the top part, a knob disposed at a top end of said stick.

5. A stick according to claim 4, wherein the grip element comprises the knob.

6. A stick according to claim 1, further including a handle secured to the elongate element, wherein the grip element comprises a sleeve disposed between the handle and the intermediate zone in the direction of the longitudinal axis.

7. A stick according to claim 6, wherein the handle features a guard-forming shoulder situated between an outside surface and the grip element.

8. A stick according to claim 1, wherein the elongate element features a telescopic portion situated between the grip element and the intermediate zone.

9. A floor cleaning mop comprising a stick and a cleaning head, wherein:

the stick features a top part and a bottom part inked one to the other in an intermediate zone;

said stick comprises an elongate element and a grip element;

the elongate element features, in the top part of the stick, a rectilinear first portion extending along a longitudinal axis up to the intermediate zone, and in the bottom part of the stick a second portion extending away from the longitudinal axis and featuring a bottom end;

the grip element is located in the top part of the stick, said grip element featuring an outside surface and being movable in rotation relative to the elongate element around the longitudinal axis; and

the cleaning head is connected to the bottom end of the elongate element, said cleaning head features a leading edge extending generally in a transverse direction, and said stick extends substantially in a plane perpendicular to the transverse direction of the cleaning head.

10. A mop according to claim 9, wherein the cleaning head is connected to the bottom end of the elongate element by a hinge providing two degrees of freedom in rotation between the stick and the cleaning head.

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