The adjustable bristle broom is a broom of which the bristles (32) are vertically, up or down, adjustable. The broom is comprised of an elongated handle (12) that connects the bristle housing (16), the connection is made through an upper lip (26) and a lower lip (28) located at the bottom of broom handle (12). The lips of the broom handle snap fits with the semi-circular lip (30) located within the top of the bristle housing (16). The adjustment means is a spring loaded push button (20) that works in accordance with the broom handle (12) and bristle rod (14). When the bristles (32) are adjusted outward from the bristle housing (16), bristle tensile strength decreases. When the bristles (32) located within the bristle housing (16) are shortened or adjusted inward, the bristle tensile strength increases allowing for a broom that can be used on several different surfaces indoors and outdoors.
ADJUSTABLE BRISTLE BROOM
CROSS REFERENCE TO RELATED APPLICATIONS

[0001] Not Applicable

FEDERALLY SPONSORED RESEARCH

[0002] Not Applicable

SEQUENCE LISTING OR PROGRAM

[0003] Not Applicable

BACKGROUND OF THE INVENTION—FIELD OF THE INVENTION

[0004] This device relates to sweep brooms, those of which are commonly used in households.

BACKGROUND OF THE INVENTION

[0005] Brooms have been in use for thousands of years. In today's modern society the most common broom is the sweep broom used in a majority of households throughout the modern world. In certain factory settings the most common broom in use is the push broom made in various sizes with varying bristle tensile strengths as well as varying bristle lengths. The push brooms are used to push debris rather than sweep debris as is the function of the sweep broom commonly used in households.

[0006] In certain office complex settings a certain type of broom that is often in use is the dust broom, whose primary function is to keep dust and other debris off of the none carpeted areas of the office complex floors. Another type of broom in use is named the hand held broom, which is used to facilitate the placing of debris into a dust pan. This type of broom is often found in the industrial or office building settings.

[0007] All of the brooms mentioned are made from a variety of materials such as from plastic, plastic type material such as teflon, wood, light weight metals and perhaps in the future as technology advances, materials yet to be formulated or discovered.

1. Discussion of Prior Art

[0008] Of the several types of brooms mentioned one thing is common that is that the tensile strengths are different in all of the brooms mentioned. Besides the tensile strength of brooms, in some brooms or devices having bristles; varying tensile strengths are reached through an adjustment of the device itself; such as U.S. Pat. No. 4,149,293 Raaf et al, U.S. Pat. No. 5,142,726 Mann, and U.S. Pat. No. 6,202,248 B1 Faires. These patents show tooth brushes that obtain varying tensile strengths through or by adjustment of the tooth brush itself. U.S. Pat. No. 6,076,221 Bradshaw and patent application No. US 2003/0031510 A1 Suriano show brooms with adjustable bristles although these brooms are not trying to achieve a different tensile strength. U.S. Pat. No. 5,027,838 Lai et al shows a cosmetic applicator with varying bristle lengths, achieved through the adjustment of the device itself.

OBJECT AND ADVANTAGES

[0009] It is the object of the device referred to as the adjustable bristle broom to provide one single broom that has varying bristle tensile strengths; so that more than one sweeping task can be accomplished. With the adjustable broom in one setting the sweeping of a varnished hard wood floor can be accomplished. With the adjustable broom in a different setting the clean up of a less than smooth surface, such as a patio walk way is possible. Of the brooms mentioned earlier the clean up of different surfaces can be accomplished, but not with out using more than one broom. The advantage is that clean up of a vast area can be accomplished in less time using the adjustable bristle broom, another advantage is that a person can go from an indoor to outdoor sweeping task using only one broom. One more advantage of the adjustable broom is that the perfect setting can be made concerning the task at hand; such as finding the perfect setting for sweeping a pound of sugar off the floor, or finding the perfect setting for sweeping moist sand off of a stone driveway.

[0010] Further objects and advantages of the device referred to as the adjustable bristle broom will become apparent from a consideration of the drawings and ensuing description.

SUMMARY

[0011] The adjustable bristle broom is a broom that has vertically adjustable, up or down, bristles. Allowing for different tensile strengths of the bristles. When the bristles of the adjustable bristle broom, located within the bristle housing are adjusted vertically upward, there is a minimal amount of bristles protruding from the bristle housing, allowing for the broom to have a stronger bristle tensile strength. When the bristles of the broom are adjusted downward or outward there is a longer length of bristles coming from the bristle housing allowing for a broom with a softer bristle tensile strength.

DRAWING—FIGURES

[0012] FIG. 1A-Front view of adjustable bristle broom handle.

[0013] FIG. 1B Partial sideview of adjustable bristle broom handle

[0014] FIG. 1C Enlarged partial view of adjustable bristle broom handle including spring loaded push button, the adjustment means working in accordance with broom handle and bristle rod.

[0015] FIG. 2A Frontview of bristle and bristle rod.

[0016] FIG. 2B enlarged view of bristle rod

[0017] FIG. 3A Front view of bristle housing

[0018] FIG. 3B Cutaway view of broom handle insert

[0019] FIG. 3c Top view of bristle housing.

[0020] FIG. 4A Side view of U shaped broom handle teeth.

[0021] FIG. 4B Bottom view of U shaped broom handle teeth.

[0022] FIG. 4C Top view of U shaped broom handle teeth which connects with the inner wall of broom handle.

[0023] FIG. 5 Side view of spring loaded push button.
FIG. 6 Front view of broom having adjustable bristle housing.

FIG. 7 Front view of bristle housing.

FIG. 8 Front view of bristle rod.

FIG. 9A Front view of bristle housing adjustment component.

FIG. 9B Cut away view of bristle housing adjustment component

FIG. 10 Front view of broom having adjustable bristles.

REFERENCE NUMERALS

12. Broom handle
13. Broom handle insert opening
14. Broom housing
16. Bristle housing push button insert opening
18. Bristle housing push button insert opening
20. Spring loaded push button
22. Spring
24. Broom handle push button insert opening
26. Broom handle upper lip
28. Broom handle lower lip
30. Bristle housing lip-inner
32. Broom bristles
34. Push button teeth
36. Bristle housing lip-outer-top
38. Bristle housing lip-outer-bottom
40. Bristle housing adjustment component
42. Bristle housing adjustment component lip
44. Bristle housing adjustment component threads
46. Broom handle threads

DETAILED DESCRIPTION—FIG. 1A THRU FIG. 10—PREFERRED EMBODIMENT

A preferred embodiment of the adjustable bristle broom, is shown in FIG. 1A thru FIG. 10. The Adjustable bristle broom has an elongated handle 12 which snap fits into broom handle insert opening 13 through the use of broom handle upper lip 26, broom handle lower lip 28 and bristle housing inner lip 30. A side view of the adjustable bristle broom handle is shown in FIG. 1B. An enlarged cut away view of the adjustable bristle broom handle is shown in FIG. 1C. An adjustment means, working in accordance with broom handle 12 and bristle rod 14 is shown in FIGS. 1B, 1C and FIG. 5; the adjustment means is a spring loaded push button 20 with teeth 34 which connect with the teeth of U shaped broom handle teeth FIGS. 4A, 4B and 4C. The U shaped broom handle teeth are located with in the broom handle shown in FIG. 1E and partially surround the broom handle push button insert opening 24. A front view of the adjustable bristle broom is shown in FIG. 10.

The handle 12 of the adjustable bristle broom can be composed of a moldable material such as plastic or composed of sheet metal; which is rolled or drawn through a die. The bristles 32 can be natural such as corn fibers or made from a synthetic material such as plastic. The bristle rod 14 and the bristle housing 16 are preferably formed of a synthetic moldable material such as plastic. The spring loaded push button FIG. 5 can be made of molded and machined plastic or can be made of forged and machined metal or can be composed of a variety of other materials not mentioned or shown in this specification. The broom handle push button insert opening 24 can be obtained through a machine punch process.

The adjustable bristle broom FIG. 10, is operated by pushing the spring loaded push button 20 down; whereby releasing the teeth of the push button 20 from the teeth of the U shaped broom handle teeth FIGS. 4A, 4B & 4C. Allowing for vertical up or down movement of bristle rod 14 and bristles 32 which are connected to bristle rod 14.

When a desired position is found for the bristle rod 14. The push button 20 is released whereby bringing into contact the teeth of the push button 34 and the teeth of the U shaped broom handle teeth shown in FIG. 4A. When the length of the bristles 34 extending from the bristle housing 16 is decreased the bristle tensile strength increases. When the length of the bristles 32 extending from the bristle housing 16 is increased the bristle tensile strength becomes less. Whereby allowing for a broom that can be used indoors or outdoors and is capable of sweeping a variety of different materials.

Additional Embodiments—FIG. 6 thru FIG. 9

An additional embodiment is shown in FIGS. 6, 7, 8, 9A and 9B. In this embodiment of the adjustable bristle broom FIG. 6; instead of the bristles 32 adjusting; the bristle housing 16 is adjustable. Achieving the same effect, that effect being a broom with different tensile lengths and strengths. Allowing for one broom that can be used on several different surfaces. The adjustment of the bristle housing 16 is achieved by snap fitting of the bristle housing adjustment component FIGS. 9A and 9B to the bristle housing FIG. 7.

The lip 42 located inside of the bristle housing adjustment component 40 snap fits between the upper lip 36 and the lower lip 38 of the bristle housing FIG. 7 the broom handle 12 is then inserted through the broom handle insert opening 13 until the threads of the broom handle 46 come into contact with the threads of the bristle housing adjustment component 44. Once this is achieved the bristle housing adjustment component 40 is rotated until a desired bristle length is found.

Advantages

Some advantages of the adjustable bristle broom FIG. 6 and FIG. 10 are that a person using this device can go from indoors to outdoors. The user of this device can sweep a flat smooth floor and the next moment clean a floor having grooves and uneven surfaces. This device can be used to sweep light weight materials such as bread crumbs or heavy weight material such as 5 pounds of sugar. In other words from feathers to steel balls.
CONCLUSION, RAMIFICATIONS AND SCOPE

The adjustment means of the preferred embodiment of the adjustable bristle broom is a spring loaded push button working in accordance with the broom handle and the bristle rod. The adjustment means of the additional embodiment of the adjustable bristle broom is the threaded hollow rod of 2" to 5" or of any sufficient length capable of completing the task of adjusting the bristle housing. The threaded hollow rod works in accordance with the threads of the broom handle.

In the specification is referred to as the bristle housing adjustment component. Instead of an adjustment means of a spring loaded push button which works in accordance with the broom handle and the bristle rod, other adjustment means can be used which are not shown in the drawings provided, such as a securement screw and screw hole to secure and adjust the bristle rod; or an adjustment means of a push button comprising a spring and steel ball (button) device; a movable friction button similar to that found on some tape measures; or a flexible tension device having a notch and groove. There can be many variations of the adjustment means instead of those mentioned above.

The adjustable bristle broom allows for a broom that is capable of adjustable bristle tensile strengths, allowing for an ultra adaptable cleaning device. As stated in the Disclosure Document filed in November of 2003.

I claim:

1. A broom with vertically up or down adjustable bristles said broom is comprised of an elongated handle that connects with a bristle housing said bristles are located within said bristle housing said bristles are connected to a rod said rod is adjustable and located within said broom handle.

2. An adjustable bristle broom as defined by claim 1 wherein the adjustment means is a spring loaded push button that connects with said broom handle and said rod.

3. A broom with a vertically up or down adjustable bristle housing said broom is comprised of an elongated handle with bristles and threads located at one end of said handle said broom has an adjustment means connecting to and working with said broom handle and said bristle housing.

4. A broom as defined by claim 3 wherein the adjustment means of said bristle housing is a hollow rod with inner threads said rod connects with bristle housing and handle as defined by claim 3 when the threads of said hollow rod come into contact with the threads of handle of claim 3 said hollow rod is rotated whereby adjusting raising or lowering the bristle housing of claim 3.

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