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(54) **Self-supporting dustpan and broom**

(57) A self-supporting dustpan and broom combination. The dustpan includes a scoop portion and a handle. The broom includes a head having a front end and an opposed handle. The broom may be releasably secured to the dustpan in a storage position. In this storage position

the broom head is spaced from the scoop portion, and the front end is positioned such that said dustpan and broom combination is self-supported by said lip and said front end upon the floor. This reduces storage space requirements, and positions the handles at a convenient location.

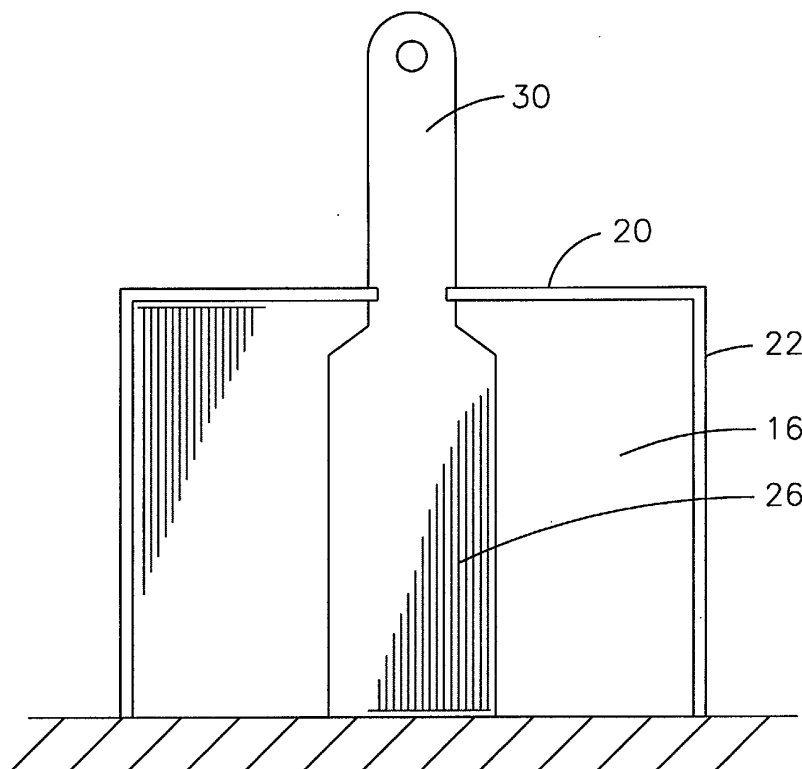


FIG. 3

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Description

[0001] I/WE, Hanno Kortleven have invented certain improvements in a self-supporting dustpan and broom as described herein.

CROSS-REFERENCE TO RELATED APPLICATIONS

[0002] Not applicable.

STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH

[0003] Not Applicable.

BACKGROUND OF THE INVENTION

[0004] The present invention relates in general to dustpans and brooms for use in sweeping and collecting small refuse, and in particular to an improved dustpan and broom combination which is self-supporting for storage.

[0005] Dustpan and broom combinations have been widely known in the prior art. Such dustpans generally include a scoop portion with a lip for contact with the ground or other surface to be cleaned, and a handle portion to permit manual movement and lifting of the dustpan. The broom typically consists of a head from which a plurality of bristles or other cleaning implement extend, and a handle secured to the head to permit manual movement of the broom to cause the bristles or other cleaning implement to force the refuse from the ground or other surface into the scoop portion of the dustpan.

[0006] It has also been known to provide various arrangements to permit the broom to be secured to the dustpan during storage, ensuring the combination remain associated for future use. This is often effected by securing the handle of the broom to the handle of the dustpan. The storage of this combination has been the source of various arrangements.

[0007] For example, it has been well known to provide an aperture in one or both of the handles to permit hanging of the combination. It is also known from US * to form the dustpan such that the scoop pivots with respect to the handle to provide a base upon which the combination may rest. While this arrangement is acceptable, the horizontal position of the scoop portion consumes considerable storage area.

SUMMARY OF THE INVENTION

[0008] It is an object of the present invention to provide a dustpan and broom combination which may be secured together for storage.

[0009] It is a further object of the present invention to provide such a combination in which the area required for storage is reduced.

[0010] It is yet another object of the present invention

to provide such a combination in which the dustpan, in the storage position, is substantially vertical.

[0011] It is a further object of the present invention to provide such a combination in which the lip of the dustpan may act with the front end of the broom head to support the combination in the storage position.

[0012] These and other objects are achieved by a self-supporting dustpan and broom combination. The dustpan includes a scoop portion and a handle. The broom includes a head having a front end and an opposed handle. The broom may be releasably secured to the dustpan in a storage position. In this storage position the broom head is spaced from the scoop portion, and the front end is positioned such that said dustpan and broom combination is self-supported by said lip and said front end upon the floor. This reduces storage space requirements, and positions the handles at a convenient location.

BRIEF DESCRIPTION OF THE DRAWINGS

[0013] The objects and features of the invention noted above are explained in more detail with reference to the drawings, in which like reference numerals denote like elements, and in which:

[0014] Fig. 1 is an exploded perspective view of a dustpan and broom combination according to the present invention;

[0015] Fig. 2 is a side view of the dustpan and broom combination in the storage position and self-supported upon a surface;

[0016] Fig. 3 is a front view of the self-supported combination of Fig. 2;

[0017] Fig. 4 is a detail front view along line 4-4 of Fig. 2; and

[0018] Fig. 5 is a cross-sectional detail view along line 5-5 of Fig. 4.

DETAILED DESCRIPTION OF THE INVENTION

[0019] With reference to Fig. 1, a self-supporting dustpan and broom according to the present invention is generally designated by reference numeral 10. This dustpan and broom 10 includes a dustpan 12 and a broom 14. Each will be described in more detail.

[0020] The dustpan 14 includes a main panel 16 which terminates at the front end in a lip 18. As is known in the art, the lip 18 is preferably linear to permit close contact with horizontal planar surfaces to be cleaned. While shown as monolithic with main panel 16, the lip 18 may be formed as a separate element of increased resilience secured to the main panel 16, as is known in the art. Extending from the rear of the main panel is a rear wall 20, formed at an angle to the main panel. This angle is shown as substantially perpendicular, but other angles may be employed, so long as the main panel 16 and rear wall 20 together define a scoop portion which may sufficiently retain refuse therein for transport to per-

manent disposal of the refuse. To better retain the refuse, the lateral edges of the main panel 16 may include side walls 22 extending therefrom, with such side walls 22 preferably being secured to (or forming integral extensions of) the rear wall 20, such that the side walls 22 also serve to define the scoop portion. Extending rearward from the rear wall 20 is a dustpan handle 24 in the form of an elongated member suited for manual grasping with one hand. The dustpan 12 may be formed of several pieces of similar or diverse materials, such as metals, ceramics, plastics or rubbers. It is preferred, however, that dustpan 12 be formed of a monolithic piece of rugged plastic, such as by injection molding.

[0021] The broom 14 includes a head 26 having a front end 28 and an opposed broom handle 30 extending rearward from the head 26. In the embodiment shown, the head is elongated in the longitudinal direction, and is generally planar. This is not required, however, and the head may take a variety of shapes. As with the dustpan handle 24, the broom handle 30 takes the form of an elongated member suited for manual grasping with one hand. Extending downward from the head 26 is a cleaning element 32 intended to permit movement of refuse (and in particular loose dust and debris) along the surface to be cleaned by manual movement of the broom 14. The cleaning element 32 may take any form commonly employed, such as one or more pieces of cloth, or a large number of bristles. The cleaning element 32 may be permanently secured to the head 26, or may be removable or replaceable.

[0022] The operative use of the dustpan 12 and broom 14 is as commonly known, with the user manually positioning the dustpan 12 with the lip 18 against the surface to be cleaned with one hand, while moving the refuse onto the main panel 16 by repetitive movement of the broom 14 with the other hand. The real features of the present invention relate to the storage of the dustpan and broom combination 10. Specifically, the broom 14 may be releasably secured to the dustpan 12 in a storage position shown in Figs. 2 - 4. In this storage position, the head 26 is spaced from the main panel 16, and the front end 28 is positioned such that the dustpan and broom combination 10 may be supported by the lip 18 and front end 20 resting upon the ground.

[0023] This releasable securement of the broom 14 to the dustpan 12 in the storage position may be effected by any arrangement known in the art. In the embodiment shown, the broom handle 30 includes a pair of recesses 34, each located at a lateral upper edge of the handle in a common lateral plane. The rear wall 20 further includes a notch 36 having a depth at least slightly greater than the thickness of the broom handle 30 minus the depth of the recess 36 (in other words, at least slightly deeper than the height of the broom handle 30 below the recesses as shown in Fig. 4). The width of notch 36 is such that the handle is closely received therein, but includes a pair of opposed, laterally extending prongs 38 at the lateral edges thereof which reduce the width of

the notch 36. These prongs 38 are sized to provide a releasable snap fit within the associated recesses 34 when the broom 14 and dustpan 12 are in the storage position.

[0024] As may be seen, in this storage position the prongs 38 inhibit the movement of the broom 14 outward relative to the dustpan 12. Similarly, the longitudinal edges of the recesses 34 may abut against the prongs 38 to prevent relative longitudinal movement between the broom 14 and dustpan 12. This provides a sufficiently stable arrangement to enable the dustpan and broom combination 10 to be self-supporting upon the lip 18 and front end 28. To provide further stability, the handles 24 and 30 may be designed such that they abut in the storage position, at least upon a portion of their length. This can provide serve to prevent relative rotation of the broom 14 with respect to the dustpan 12. This may not be necessary, however, depending upon the length of the recesses 34 and prongs 38. As noted, numerous other arrangements for releasably securing the dustpan and broom combination 10 may be employed, such as magnets, hook and loop fasteners, keyed stud and slot fasteners, etc.

[0025] Regardless of the arrangement to secure the dustpan and broom combination 10 in the storage position, to permit the self-supporting feature it is necessary that, in the storage position, the head 26 is spaced from the main panel 16 and the front end 28 is positioned such that the dustpan and broom combination 10 may be supported by the lip 18 and front end 20 resting upon the ground. As may be seen, this self-supporting storage position requires less floor space than would be required if the main panel 16 were resting upon the floor. Further, the handles 24 and 30 are raised from the floor, and are in a convenient position for grasping, making it easier to lift the self-supported combination 10 from the floor.

[0026] From the foregoing it will be seen that this invention is one well adapted to attain all ends and objects hereinabove set forth together with the other advantages which are obvious and which are inherent to the structure.

[0027] It will be understood that certain features and subcombinations are of utility and may be employed without reference to other features and subcombinations. This is contemplated by and is within the scope of the claims.

[0028] Since many possible embodiments may be made of the invention without departing from the scope thereof, it is to be understood that all matter herein set forth or shown in the accompanying drawings is to be interpreted as illustrative, and not in a limiting sense.

Claims

1. A self-supporting dustpan and broom combination, including a dustpan having a main panel which ter-

minates at a front end in a lip, and extending from a rear of said main panel is a rear wall formed at an angle to said main panel such that said main panel and said rear wall together define a scoop portion, and extending rearward from said rear wall is a dustpan handle suited for manual grasping, and further including a broom having a head with a front end and an opposed broom handle extending rearward from said head and suited for manual grasping, the improvement comprising:

said broom being releasably secured to said dustpan in a storage position with said head spaced from the main panel and said front end positioned such that said dustpan and broom combination is self-supported by said lip and said front end.

2. The combination of claim 1, wherein one of said broom and said dustpan includes a pair of recesses, and the other of said broom and said dustpan includes a pair of mating prongs which snap fit within said recesses in said storage position.
3. The combination of claim 2, wherein said broom handle abuts against said dustpan handle at a position spaced from said recesses.
4. The combination of claim 2, further including a notch formed in said rear wall, said prongs extending from an opening of said notch.

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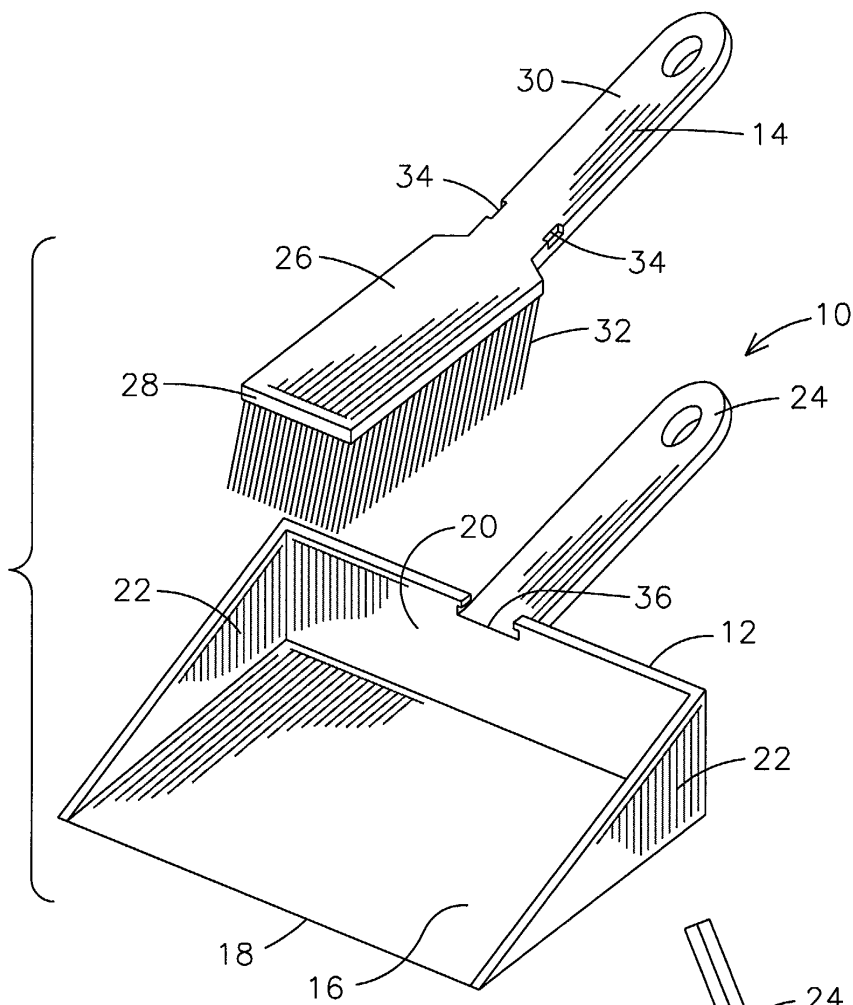


FIG. 1

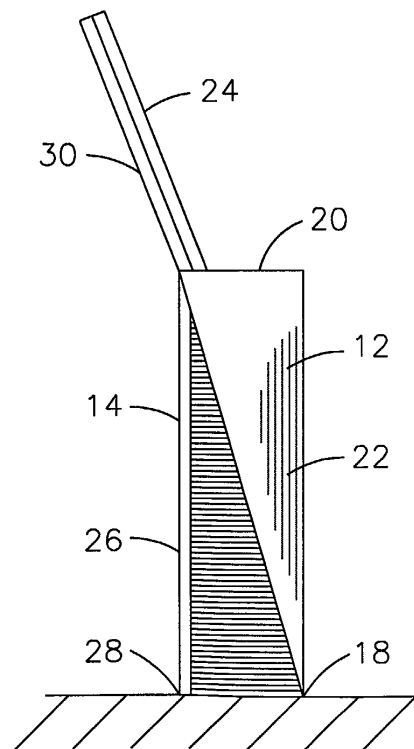


FIG. 2

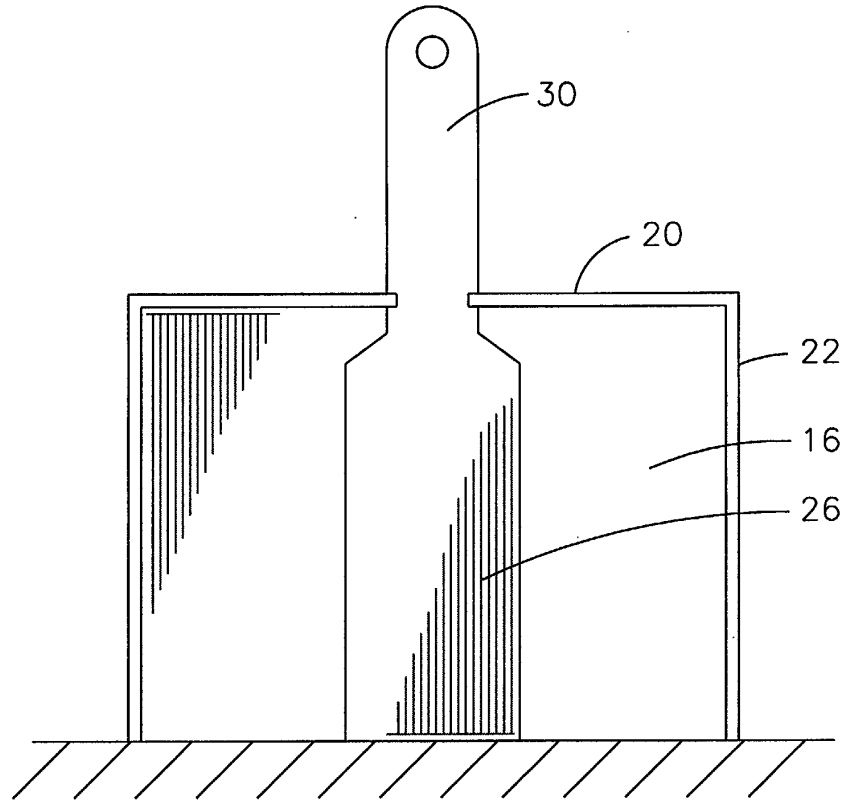


FIG. 3

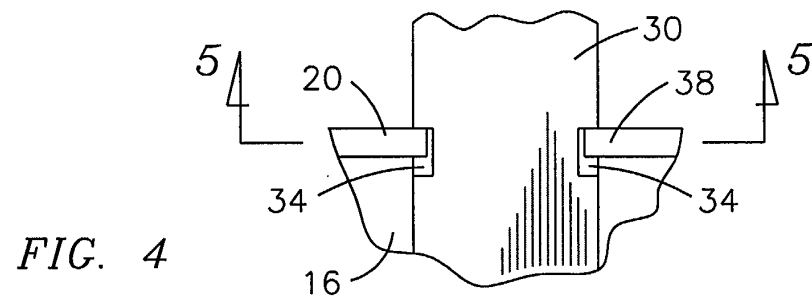


FIG. 4

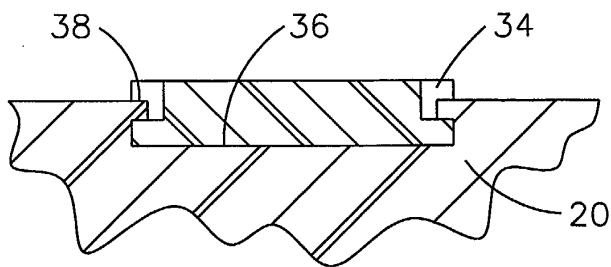


FIG. 5