United States Patent [19]

Grambor

[11] **3,855,659**

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[54] **ROTARY BROOMS**

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[52] **U.S. Cl.** **15/181,** 29/125, 300/21

[51] **Int. Cl.** **A46b 3/08**

[58] **Field of Search** 15/179, 181, 182, 183; 29/124, 125, 130; 300/21

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Attorney, Agent, or Firm—George E. Kersey

[57] **ABSTRACT**

Rotary brooms that are readily assembled at the point of use, each being formed by the combination of a casing, which can be multi-part, with a plurality of longitudinal members for supporting and guiding a group of individual brush segments of the broom. The longitudinal members can be mounted on the casing to provide a skew for the brush segments that they support, and have lateral tabs that are positionable to form guide shoulders for the supported brush segments.

15 Claims, 10 Drawing Figures

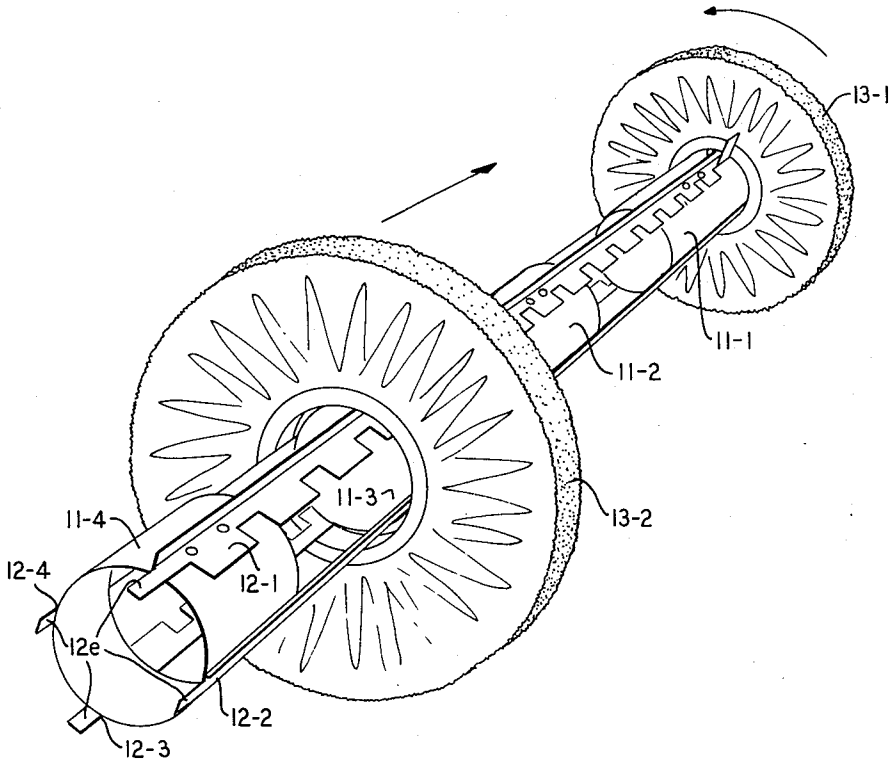


FIG. 1

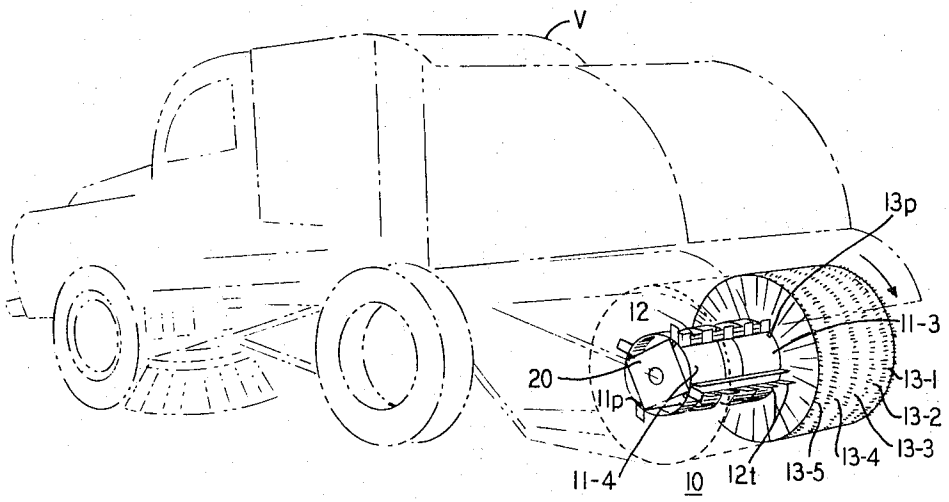


FIG. 2A

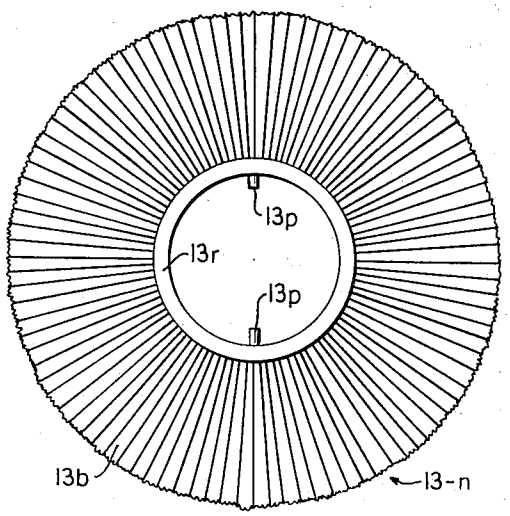


FIG. 2B

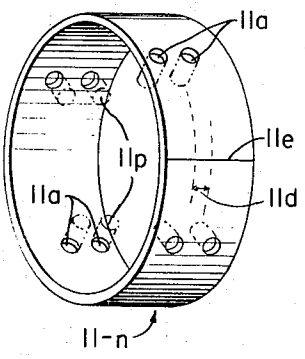


FIG. 2C

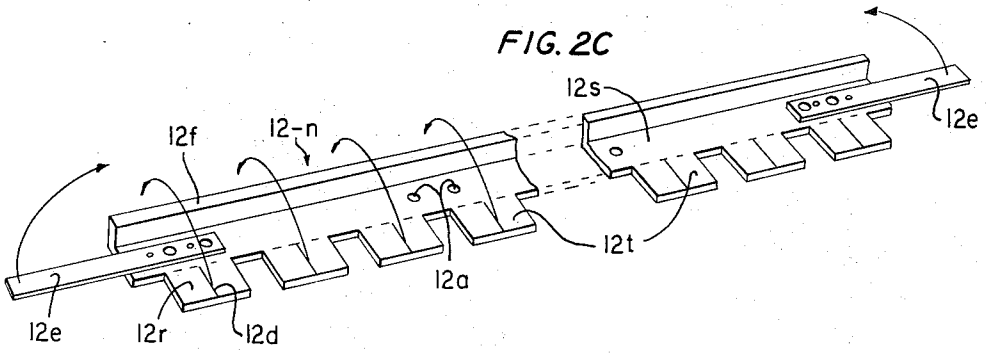


FIG. 3

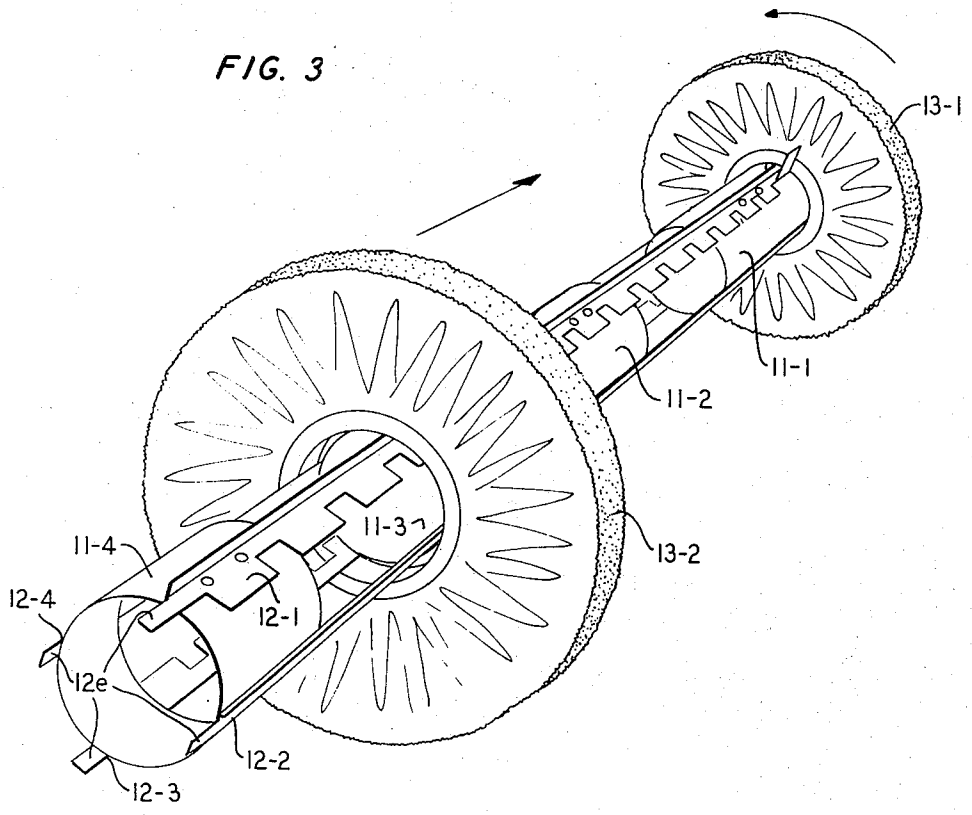

13-1
11-1
11-2
13-2
11-3
11-4
12-4
12-1
12e
12-2
12-3

FIG. 4

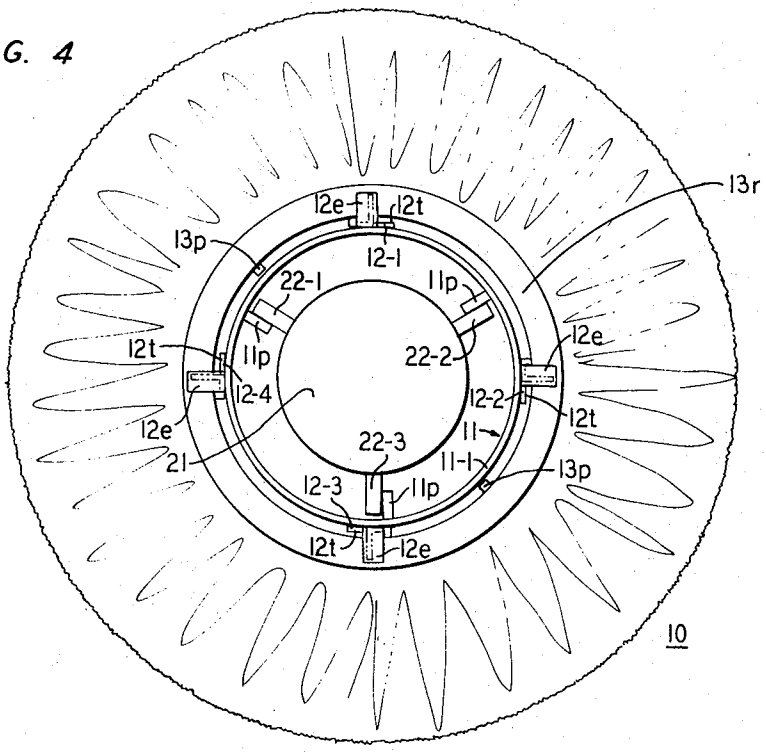

13r
12e
12t
13p
12-1
22-1
11p
12t
11p
22-2
12e
12-4
12-2
12t
12e
11
21
22-3
11-1
13p
12-3
11p
12t
12e
10

FIG. 5

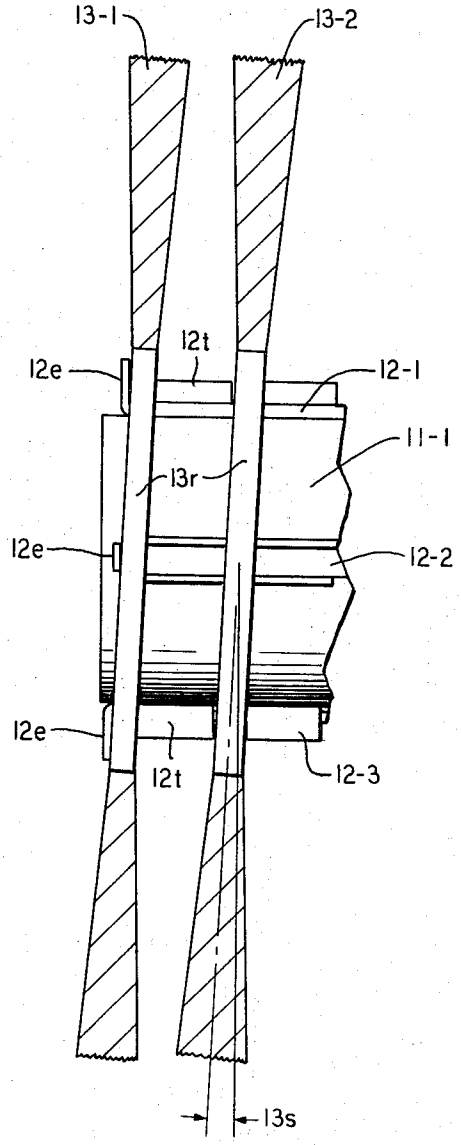


FIG. 6A

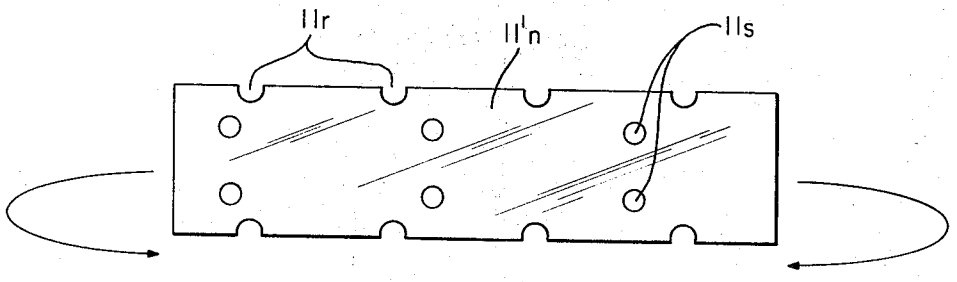


FIG. 6B

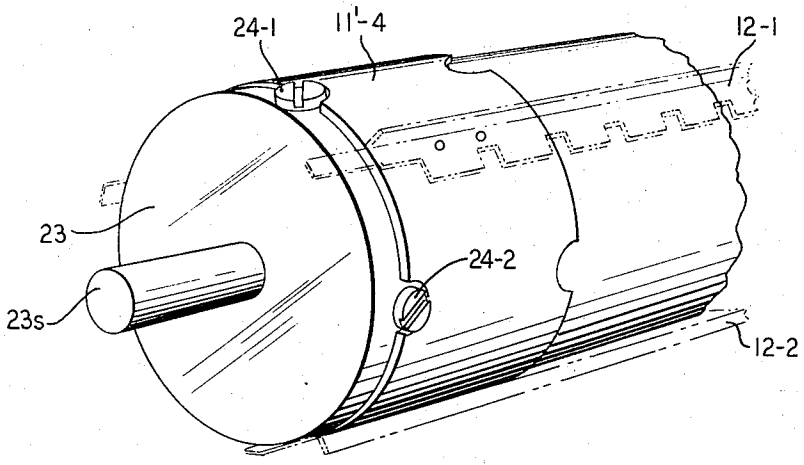
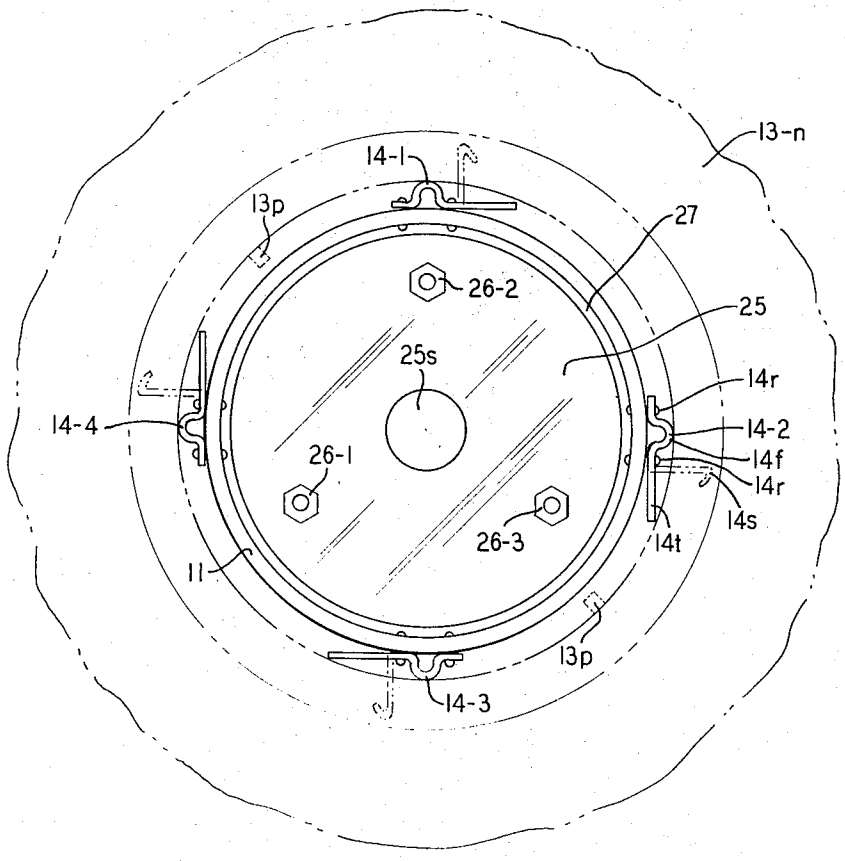

24-1
11'-4
12-1
23
24-2
23s
12-2

FIG. 7


13-n
14-1
13p
27
26-2
25
25s
14r
14-4
14-2
14f
26-1
14r
14s
26-3
14t
11
13p
14-3

ROTARY BROOMS

BACKGROUND OF THE INVENTION

This invention relates to rotary brooms, and more particularly to replacement rotary brooms for mechanized equipment.

Mechanized rotary brooms are generally used where large amounts of debris and litter are to be swept away, or large areas are to be cleaned. In a typical arrangement, the broom is an elongated, bristle-bearing cylinder mounted with its axis of rotation at an angle that is generally ninety degrees to the direction of travel of the machine. The broom usually sweeps debris into a special compartment or hopper carried by the machine.

Such a broom tends to be large and expensive. It can vary between four and ten feet, or more, in length and is often between two and three feet in outside diameter. When its bristles become worn, the broom is replaced as a unit.

A common type of broom that has been employed with mechanized sweepers is formed by a rotatable machine core in which the bristles are embedded. The bristles are either spirally or longitudinally positioned on the core. For spiral positioning, the bristles are typically held in place by a heavy cable in spiral grooves or channels. For longitudinally positioning, the bristles are in strips that are inserted into longitudinal grooves of the core. Both of these arrangements have the objection of failing to provide a satisfactory configuration of bristles on the core. In the spiral arrangement, the bristles tend to be non-uniformly distributed in the spiral grooves. In the longitudinal arrangement, the amount of bristle material tends to be insufficient. Even if longitudinal bristle strips are closely spaced on the core, they tend to provide inadequate bristle density at the peripheral extremities of the broom. In addition, both of these arrangements require stripping or cleaning of the entire core when the bristles become worn. This is tedious and time consuming. Replacement cores with bristles are bulky and cumbersome, and are also expensive to ship and store.

To overcome some of the foregoing objections, cylindrical bristle-bearing shells have been devised. These shells are mounted on either special or pre-existing cores and are replaced as the need arises. This approach, however, has the objection that there are diffuculties in the proper assembly of the shells on pre-existing cores. Where the shells are used with special cores, a different shell is needed for each different core. A further objection is the lack of flexibility in the brush mix. There are many different kinds of brush materials. In some cases it is desirable to use bristles of plastic material, such as polypropylene. In other cases the bristles are of wire or are filled with wire. Sometimes it is desirable to intersperse the various kinds of bristles. When the bristles are set in a cylindrical shell, it is difficult to fabricate with wire or with a mix of wire and plastic. Furthermore, such bristle-bearing shells have the same objection from the standpoint of storage and handling as bristle-bearing cores.

To avoid the need for storing bristle-bearing cylindrical shells or cores, brush segments have been employed in conjunction with special cores. Each segment constitutes a disc corresponding to a portion of a cylindrical shell. A broom is formed by mounting a group of the brush segments with alternate spacers on one of the special cores. This arrangement has the objection of not only requiring a special core but also of presenting difficulty in providing a precise fit of the brush segments on the core. This is because cores vary in length, but the spacers and brush segments are of a prescribed width. As a result, there is generally undesirable play in the overall assembly of brush segments and spacers. In addition, the spacer and segment arrangement does not permit the brush to have the desired spiral bristle pattern. As a result, a broom formed by segments tends to produce streaking. There is the further objection that the bristles of the segments may tend to intermix after use. As a result, it is often difficult to remove the worn segments from the special core by which they are carried.

Accordingly it is an object of the invention to facilitate the repair and maintenance of rotary broom equipment. A related object is to facilitate the replacement of rotary brooms that have become worn or damaged in use.

Another object is to provide for the maintenance of rotary broom equipment without the need for replacement of bristle-bearing cores. A related object is to avoid the need for bristle-bearing shells and special cores in the maintenance of rotary broom equipment.

Still another object is to permit the use of brush segments in a rotary broom without requiring either spacers or special cores. A further object is to achieve a spiral sweeping effect in a rotary broom formed by a set of brush segments.

Another object is to facilitate the storage, shipment and assembly of replaceable rotary brooms. A related object is to avoid the need for the storage and shipment of bristle-bearing cores and shells. Another related object is to avoid the need for the storage and shipment of special cores and spacers for brush segments.

SUMMARY OF THE INVENTION

In accomplishing the foregoing and related objects, the invention provides a rotary broom which is formed by a casing that is adapted to be driven by a rotatable core of a type commonly employed in mechanized sweeping equipment. The casing is combined with a plurality of members for both supporting and guiding a group of individual brush segments. This construction provides a broom that is readily assembled at the point of use from constituents that are easily stored and shipped.

In accordance with one aspect of the invention, the casing is formed by a plurality of body shells that are spaced from one another and held together by the support and guide members. The latter are longitudinally fastened to the casing.

In accordance with another aspect of the invention, the casing and the support and guide members are separately storable and shippable. Their components have prepunched holes to facilitate their assembly at the point of use. According to a related aspect of the invention, the prepunched holes in the casing are offset for successive support and guide members in order to provide a skew in the orientation of the brush segments with respect to the casing.

In accordance with still another aspect of the invention, the casing includes at least one protuberance that is engaged by a standard core in order to provide for the rotation of the broom. The protuberance may be

formed by a device used to fasten the support and guide members to the casing.

In accordance with yet another aspect of the invention, the support and guide members extend longitudinally and have tabs that project laterally and are bendable to provide guide shoulders for the brush segments. The intervals between tabs are occupied by the brush segments and material of the tabs is selectively removable to control the number and width of the brush segments that are carried by the guide and support members.

In accordance with a further aspect of the invention, the edge of the strip opposite the tabs includes a shoulder for engaging the brush segments during the rotation of the broom. The shoulder is illustratively formed by the bending of the support and guide members to form a flange.

In accordance with a still further aspect of the invention, the support and guide members include longitudinal extensions that are bendable to provide outside support for the brush segments. The longitudinal extensions may be integral with the guide and support members or may be formed by separately attached strips of material.

In accordance with an additional aspect of the invention, the casing is drivable by a wide variety of different, preexisting cores, including those that require engagement with protuberances and those which employ end caps to hold the broom unit in place. The casing may also include a notch in its edge for engagement by an edge drive core.

DESCRIPTION OF THE DRAWINGS

Other aspects of the invention will become apparent after considering several illustrative embodiments, taken in conjunction with the drawings in which:

FIG. **1** is a perspective view of a vehicle mounted, replaceable rotary broom in accordance with the invention, with portions broken away;

FIG. **2** is a brush segment for the broom of FIG. **1**;

FIG. **2B** is a body shell for the broom of FIG. **1**;

FIG. **2C** is a support and guide member for the broom of FIG. **1**;

FIG. **3** is a perspective view showing the assembly of a broom in accordance with the invention;

FIG. **4** is a side view of a broom employed with an alternative drive core;

FIG. **5** is a partial plan and sectional view of a broom in accordance with the invention;

FIG. **6A** is a plan view of a blank for producing an alternate body shell;

FIG. **6B** is a partial perspective view of a support structure for use with a smooth tubular core; and

FIG. **7** is an end view of an alternative broom in accordance with the invention for use with a compression lock core.

Detailed Description

Turning to the drawings, FIG. **1** shows a mechanized broom **10** in accordance with the invention mounted in a sweeper vehicle V. The latter is shown in phantom outine and may include a hopper that receives trush and debris swept into it by the rotation of the broom **10,** which is mounted at a right angle to the direction of motion of the vehicle. It will be understood that the particular employment of the broom and the manner of mounting shown in FIG. **1** are merely illustrative.

The broom **10** is formed by a casing **11,** constituted of individual body shells, upon which longitudinal support and guide members **12** are mounted. In the embodiment of FIG. **1** the third and fourth body shells **11-3** and **11-4** are visible, mounting four equally spaced support and guide members. The body shells **11** and the support and guide members **12** form a support structure that carries a set of individual brush segments **13,** of which only the first five segments **13-1** through **13-5** are shown in FIG. **1.** The remaining brush segments have been broken away to show the underlying support structure. It is to be noted that the bristles of the brush segments **13-1** through **13-5** expand into contact with each other at the outer periphery of the broom.

Each brush segment is engaged by the support and guide members **12** and rides in a channel formed between tabs **12***t*. The way in which the engagement takes place is considered in detail below. The casing **11** of the broom **10** has projections **11**p that are engaged by an illustrative drive core **20** of the vehicle V. During operation, the core **20** rotates in a clockwise direction indicated by the arrow, causing litter and debris to be swept into a disposal compartment of the machine.

The broom **10** is positioned as an entire unit on the core **20** and is withdrawn when replacement is necessary, for example, when its bristles have become worn. The broom **10** does not require the use of a special drive core, but can be operated by any of a wide variety of pre-existing cores, for example, the square drive core **20** of FIG. **1.** In addition, the broom **10** is readily assembled at the point of use, so that the storage and shipment requirements for the constituents of the broom are considerably reduced.

Further, because of the support and guide members **12,** the need for spacers between brush segments is eliminated. The support and guide members also permit the broom to be accommodated to cores of different lengths without undesired lateral play among the brush segments. This is because each segment is guided between fixed tabs, instead of between spacers that are axially displaceable with respect to the drive core.

An illustrative brush segment **13-***n* of the broom **10** in FIG. **1** is detailed in FIG. **2A.** The segment **13-***n* is formed by a metallic ring **13***r* and a set of bristles **13***b*. Two protuberances **13***p* project inwardly through a cylindrical surface of the ring **13***r*. In general, one or more protuberances may be employed. Each protuberance is engaged by a flange of one of the nearby support and guide members **12** in the manner depicted by FIG. **4,** so that rotation of the casing **11** causes rotation of the brush segments in FIG. **1.**

An illustrative body shell **11-***n* for the broom **10** of FIG. **1** is detailed in FIG. **2B.** The shell **11-***n* is formed by a bending of a sheet of metal into a cylinder and joining its ends at or near an edge **11***e*, for example, by welding. The shell **11-***n* may also be formed by riveting or any other known way. The shell **11-***n* is desirably preformed in order to assure the desired cylindrical surface, but it may also be formed at the point of use to save storage and shipment costs. In addition, the shell may have other forms, being square, for example, where the broom **10** is employed with the square core **20** as shown in FIG. **1.** The number of body shells in the casing **11** depends upon the length of the core and the rigidity desired. The fewer the number of body shells, the greater is the economy of casing material. It is to be

noted that the casing may be a continuous structure instead of being formed by a group of body shells.

The body shell **11-*n*** of FIG. **2B** includes four sets of protuberances **11*p***, shown in phantom, that project inwardly in order to permit engagement of the casing **11**, of which the body shell **11-*n*** is a part, by a drive core, for example, the core **20** of FIG. **1.** This kind of protuberance allows the casing to be engaged by the most common kinds of drive cores. The protuberances **11*p*** are affixed at preformed apertures **11*a*** and are desirably used to attach the support and guide members **12** to the body shell **11-*n***, as well as provide engagement with a drive core. In some cases, however, as noted below, the core is a smooth cylinder and the casing is held in position by special end caps or is driven by bolts that are screwed into the core, and the interior protuberances **11*p*** are not used. Further, where the body shell has the configuration of the core, having for example, the square shape of the illustrative core **20** in FIG. **1,** the shell is directly driven by the core. In any case, the protuberances **11*p*** are advantageously formed by pop rivets.

Returning to the apertures **11**a of the body shell **11-*n*** in FIG. **2B**, they are used in holding the support and guide strips **12** to the body shells **11** to form the desired support structure for the brush segments **13.** In addition, the apertures of successive rows of the body shell **11-*n*** are offset from one another as indicated by the displacement **11*d*** in order to provide a desired skew (shown in FIG. **7**) for the brush segments that become mounted on the composite support structure. It will be understood that the body shell **11-*n*** is for illustration only and that many other forms of body shell, including a continuous casing, may be employed instead.

Details of an illustrative support and guide member **12-*n*** for the broom **10** of FIG. **1** are set forth in FIG. **2C.** The member **12-*n*** is formed by a longitudinally extending strip of material **12*s***. One edge of the strip **12*s*** is bent upwardly to form a flange **12*f*** that supports the brush segments **13** over the cylindrical surfaces of their rims. The opposite edge of the strip **12*s*** has a set of laterally projecting tabs **12*t***. The intertab regions define the intervals occupied by the various brush segments **13.** When a brush segment, such as the segment **13-*n*** of FIG. **2A** is positioned on the support and guide member **12-*n***, the cylindrical surface of its rim rides on the flange **12*f*** and its side walls are guided between and adjoining tabs **12*t***, which are bent upwardly as shown in FIG. **1** to provide guide shoulders. In addition, as illustrated in FIG. **2C**, each tab **12*t*** has a region **12*r*** that can be severed from the balance of the tab along a line of demarcation **12*d*** to increase the inter-tab spacing and permit a variation either in the width of the rim or more than one brush segment in the inter-tab interval. Extensions **12*e*** at the longitudinal extremities of the strip **12*s*** are upwardly bendable to provide end support for the outside brush segments, i.e. the first and last segments on the support structure formed by the casing **11** and the members **12.** The strip **12*s*** also includes a set of apertures **12*a*** for fastening the support and guide members **12** to the casing.

To provide an offset of the support and guide members **12** from one another, they may have their apertures offset from one member to another. However, it is advantageous to have the offset of the apertures in the body shell, as shown in FIG. **2B**, since that avoids the need for having separate sets of support and guide members for producing the desired offset effect.

FIG. **3** shows a broom **10** in accordance with the invention being assembled using the elements shown in FIGS. **2A** through **2C**. The body shells **11-1** through **11-4** are spaced from each other and the support and guide members **12-1** through **12-4** are attached, typically using the preformed apertures **11*a*** and **12*a***. It will be understood that the number of body shells **11** depends on the length of the core and the reinforcing action that is desired. As shown in FIG. **3,** the successive support and guide members are offset from each other. It will be appreciated that the number of support and guide members depend upon the rigidity desired and the parameters and operating conditions of the broom. In general two or more members are employed. The assembly of the broom **10** in FIG. **3** is made in any convenient way, advantageously by using pop rivets which are easily applied using simple tools and pliers.

Once the support structure formed by the casing **11** and the support and guide members **12** has been assembled, brush segments of the kind shown in FIG. **2B** are fitted onto the structure. The first such segment **13-1** is shown in place at one end of the structure. The rim of the segment **13-1** rides on the flanges of the support and guide members **12.** The adjoining longitudinal tab of the members **12** are turned upwardly to provide outside support on one end of the casing **11.** The tab adjoining the other side of the brush segment **13-1** is bent upwardly to hold the segment **13-1** in place. With the first segment in place, the ensuing brush segments are placed upon the support structure formed by the casing and the support and guide members **12.** The second brush segment **13-2** is shown in the course of being positioned to adjoin the first brush segment **13-1.** When the second brush segment **13-2** reaches its intended position, the side wall of its rim will be guided by the upwardly bent tabs that adjoin the first brush segments **13-1.** In addition, the next ensuing tab will be bent upwardly to form a guide surface for the side wall of the ring for the second brush segment. It will be understood that the assembly of the brush segments on the broom **10** may take place from the middle position of the casing towards the outer end positions, instead of proceeding from one end to the other. Because of the way that the apertures of the body shells have been prepunched with an offset, the brushes such as the brush segments **13-1** and **13-2** have a desired skew that produces a spiral effect when they are locked in position. In addition, the brush mix of the broom **10** is readily controlled according to the situations under which the broom will be used, allowing for a wide variety of sweeping conditions so that the brush mix may include both wire and synthetic bristles, for example, of polypropylene. In some cases synthetic bristles are used alone or wire bristles are used alone. Furthermore, the use of the guide and support members **12** with tabs **12*t*** to accurately fix the positions of the brush segments assures that there will be no undesired play in the brush segments with respect to the casing **11.** The width of the tabs **12*t*** is readily adjusted to account for differences in core length, without having any undesired end play. Thus, for example, on a 68 inch core, the spacers can be widened slightly and on 56½ and 58 inch cores the spacers narrowed slightly to provide an exact fit.

A side view of a broom in accordance with the invention, employed with a three-bladed core is shown in

FIG. 4. There are four support and guide members 12-1 through 12-4 connected to a casing 11, using, for example, pop rivets. The rim 13*r* of the brush segment is shown resting on the flange portions of the support and guide members 12-1 through 12-4. The brush segment includes protuberances 13*p* that make contact with the flanges of adjoining support and guide members. Consequently, as the casing 11 is rotated in a counterclockwise direction by virtue of the movement of the core 21, the flanges of the nearby support and guide members engage the protuberances 13*p* and consequently cause the brush segment to rotate in a counterclockwise direction. As shown in FIG. 4, the extensions 12*e* of the support and guide members 12-1 through 12-4 have been bent upwardly to provide outside support, but not the tabs. Before the broom 10 can be used in a sweeping operation, it is necessary to upwardly bend the tabs to provide the desired guide surfaces. The position occupied by the bent tabs adjacent to the brush segment 13-1 is shown in phantom. Before being upwardly bent, the extended support and guide tabs 12*t* in FIG. 4 do not interfere with the placement of the brush segment on the support and guide member 12-1 through 12-4 since there is enough of a gap between the casing 11 and the contacting surface of the rim 13*r* to allow clearance of the extended tabs. The particular drive core 21 in FIG. 4 has three blades 22-1 through 22-3 that operate against respective protuberances 11*p*. The three-bladed core of FIG. 4 is only one form of a multi-blade core. It will be apparent, that the core 21 of FIG. 4 may have one or more blades.

The skew of individual brush segments in accordance with the invention is illustrated by the partial plan and sectional view of FIG. 5. Support and guide members 12, of which three such members 12-1 through 12-3 are visible in FIG. 5, are mounted on a body shell 11-1 of the kind shown in FIG. 2B. Since each pair of apertures 11*a* in FIG. 2B is offset by an amount 11*d*, there is a corresponding offset of the successive support and guide members 12. The latter are fastened to the shell 11-1 by pop rivets 11*p* (FIG. 2B) which project into the shell for engagement with a drive core. Consequently, each brush segment, as illustrated by the second segment 13-2, is inclined at an angle 13*s* with respect to a plane perpendicular to the longitudinal axis of the body shell 11-1. In FIG. 5, the bristles of the brush segments 13-1 and 13-2 are shown shortened. In general, the bristles of adjoining brush segments make peripheral contact with each other as indicated in FIG. 1.

Also indicated in FIG. 5 are the upwardly bent extensions 12*e* that provide outside support for the outer brush segment 13-1 against the outside wall of its rim 13*r*, and the upwardly bent tabs 12*t* that act as spacers and guide shoulders between adjoining brush segments, for example, the segments 13-1 and 13-2.

In addition to operating with the cores discussed previously, the broom 10, in accordance with the invention, provides almost universal fitting to other cores. Thus, the casing 11 can be employed with a square wafer core, a triangular wafer core, a core sold and marketed under the trade name "DANLINE", a core marketed and sold under the trade name "MILEMASTER", and others, including those marketed and sold under the trade names "SPEED SWEEP" and "CORELOK".

The use of the invention with a smooth, tubular drive core, for example, is illustrated in FIG. 6B. For that purpose, alternative body shells are produced using a blank 11'-*n* of the kind shown in FIG. 6A.

The blank 11'-*n* is stamped from a single sheet of material with semi-circular edge notches 11*r* and interior mounting apertures 11*s*. The blank 11'-*n* illustratively has four notches on each edge and three aligned pairs of mounting apertures. It will be understood that the blank may be stamped with offset apertures where a skew effect of the kind shown in FIG. 5 is desired for the brush segments.

A body shell is formed from the blank 11'-*n* of FIG. 6A by bending it into a cylinder in the directions indicated by the arrows. The resultant shell can form one member of a casing, such as the member 11'-4 of FIG. 6B.

Since it has three sets of apertures 11*s*, the body shell 11'-4 illustratively mounts three support and guide members. Two of the members 12-1 and 12-2 are shown in phantom in FIG. 6B. They are attached to the body shell 11'-4, and the other body shells of the casing, with no interior protrusions. This result can be achieved with pop rivets by inserting them into the apertures 11s from the interiors of the body shells.

The edge notches of the body shell 11'-4 make it particularly suitable for a casing used with the tubular core 23 of FIG. 6B. The casing is fastened to the core 23 by bolts screwed into it at each set of four outside notch positions. Two of the outside notch screws 24-1 through 24-2 are shown in FIG. 6B. Another set of notch screws is employed at the other end of the casing. In general, an outside edge of the casing has at least one notch position when the broom is to be used with a smooth tubular core.

The edge position of the notches 11*r* facilitates replacement of the broom since only the screws at one end need to be removed; those of the other end are merely loosened. The core 23 is driven by a shaft 23*s*.

Another kind of drive for a broom in accordance with the invention is illustrated in FIG. 7. The broom of FIG. 7 employs a casing with four support and guide members 14-1 through 14-4. Each guide member has a flange 14f formed by a fold in the guide strip and is attached to the casing using rivets 14*r* which do not protrude into the interior. As in the case of FIG. 4, the tabs 14*t* initially extend outwardly. When the brush segments are in place, with their rims on the flanges, the tabs 14*t* are bent upwardly to the positions indicated in phantom to form the desired guide shoulders. In the particular embodiment of FIG. 7, each upwardly bent tab is bent downwardly at its end to enhance the support shoulder effect.

The embodiment of FIG. 7 employs a compression lock core 25 that is driven by a shaft 25*s*. The core includes an elastomeric gasket 27 that is sandwiched between inner and outer plates. The outer plate carries three bolts 26-1 through 26-3 which, when tightened, compress the gasket 27 against the inner plate and cause it to expand at its edges into contact with the inside rim of the casing, thus forming the desired engagement between the core 25 and the broom.

It will be understood that the foregoing detailed description is for illustration only, and that numerous changes in parts and the substitution for equivalents for what has been shown and described may be made without departing from the spirit and scope of the invention.

What is claimed is:

1. Apparatus for use with brush segments to form a rotary broom,
which comprises
an elongated casing having a plurality of support and guide members extending along said casing and positioned about the periphery thereof,
each support and guide member having positionable tabs for retaining the brush segments on said casing.

2. A rotary broom as defined in claim 1 wherein
said casing is formed by a plurality of body shells that are spaced from one another;
thereby to conserve on the material of said casing.

3. A rotary broom as defined in claim 1 wherein said casing includes a notch in an edge thereof for receiving a fastener to attach said casing to a core.

4. A rotary broom as defined in claim 1 wherein
said support and guide members comprise a plurality of longitudinally extending strips, each with a flange and spaced lateral tabs to provide guide shoulders for said brush segments;
said casing and said longitudinally extending strips are attached to each other, with said strips being distributed about the circumference of said carrier and laterally offset from one another; and
each of said brush segments has a ring that is positioned between the guide shoulders of said tabs.

5. Apparatus as defined in claim 1 wherein said casing and said guide members are separable to permit separate storage and shipment and facilitate assembly thereof.

6. Apparatus as defined in claim 1 wherein said positionable tabs are bendable to provide guide channels for the brush segments.

7. Apparatus as defined in claim 6 wherein said channels are offset from one member to another to produce a skewed orientation for the brush segments with respect to the casing.

8. Apparatus as defined in claim 1 wherein said brush segments are combined with said members and said casing to form said rotary broom.

9. Apparatus as defined in claim 1 wherein each of said support and guide members comprises a longitudinally extending strip of material and the tabs project laterally therefrom.

10. A rotary broom as defined in claim 9 wherein said tabs are bendable to form shoulders for guiding said brush segments.

11. A rotary broom as defined in claim 10 wherein the intervals between said tabs are occupied by said brush segments; and the material of said tabs is selectively removable to control the brush segments guided therebetween.

12. A rotary broom as defined in claim 9 wherein said strip of material includes longitudinal extensions that are bendable to provide outside support for said brush segments.

13. Apparatus as defined in claim 9 wherein said tabs are offset from one member to another.

14. Apparatus as defined in claim 9 wherein an edge of said strip is bent to form a flange for engaging the brush segments.

15. A rotary broom which comprises
a casing with a plurality of support and guide members thereon and positioned about the periphery thereof,
said members including channels therein which are offset from one member to another,
and a plurality of brush segments positioned in said channels to produce a skewed orientation of said brush segments with respect to said casing.

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