

(12) **United States Patent**  
**Bors**

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(54) **SPHERICAL HAULING DEVICE**

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4,098,281 A \* 7/1978 Bonfilio ..... E04H 15/38  
135/118

4,160,495 A 7/1979 Conard

4,181,235 A \* 1/1980 Baysinger ..... B65D 88/04  
114/74 A

4,247,117 A \* 1/1981 Reichert ..... A63B 69/0086  
473/424

4,287,840 A \* 9/1981 Weidner ..... A01G 23/04  
111/101

4,291,417 A \* 9/1981 Pagano ..... A42B 1/201  
2/202

4,355,650 A \* 10/1982 Beaudry ..... E04H 15/38  
135/118

5,159,947 A \* 11/1992 Chuang ..... E04H 15/38  
135/132

5,234,833 A 8/1993 Artis

5,377,626 A \* 1/1995 Kilsby ..... A01K 27/004  
119/796

(Continued)

FOREIGN PATENT DOCUMENTS

WO WO8403821 10/1984  
WO WO9520553 8/1995  
WO WO0238000 5/2002

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(56) **References Cited**

U.S. PATENT DOCUMENTS

546,429 A 9/1895 O'Neill

2,080,786 A \* 5/1937 Robles ..... B65D 43/00  
160/132

3,190,300 A \* 6/1965 Wear ..... E04H 15/003  
135/126

3,604,671 A \* 9/1971 Walker ..... H01M 6/48  
220/489

3,708,803 A \* 1/1973 Teaff ..... A42B 1/201  
2/171.01

3,794,054 A \* 2/1974 Watts ..... E04H 15/28  
135/117

3,802,451 A \* 4/1974 Morris ..... A45B 19/02  
135/20.2

3,844,301 A \* 10/1974 Harrell ..... A45B 19/00  
135/15.1

3,873,119 A \* 3/1975 Koch ..... A63B 47/007  
280/47.131

4,063,637 A \* 12/1977 Danforth ..... A42B 3/006  
206/8

(57) **ABSTRACT**

A spherical hauling device for moving foliage and waste. The device includes an operably expandable and collapsible frame generally spherical in shape when in an expanded position, and nearly flat when collapsed. The frame includes a pair of directly opposing hubs having coaxial hub axes of rotation, and a plurality of ribs exiting each hub radially and arching towards the opposing hub. Each hub has at least one track within which the ribs rotate between the expanded and collapsed positions. The device further includes an outer shell spanning the frame for containing the foliage and waste when the device is expanded. The outer shell can include a plurality of panels operably coupled to and extending between adjacent ribs. A yoke is operably coupled to each hub and includes at least one of a shaft and a retractable cord for rolling the device over variable terrain.

**11 Claims, 10 Drawing Sheets**

