

US00D547017S

(12) **United States Design Patent** (10) **Patent No.:** **US D547,017 S**  
**Van Landingham, Jr.** (45) **Date of Patent:** **\*\* Jul. 17, 2007**

(54) **MOP HANDLE** 3,101,500 A \* 8/1963 Paolantonio ..... 15/118  
3,145,406 A 8/1964 Lay  
(75) Inventor: **Alfred Reneau Van Landingham, Jr.,** 3,187,363 A 6/1965 Auwarter  
Stephens City, VA (US) D204,662 S 5/1966 Benjamin  
D206,933 S 2/1967 Gibbs  
(73) Assignee: **Rubbermaid Commercial Products** 3,341,876 A 9/1967 Campbell  
**LLC, Winchester, VA (US)** 3,358,313 A 12/1967 Grimes, Sr.  
3,407,424 A 10/1968 Lanzarone et al.  
(\*\*) Term: **14 Years** 3,440,677 A 4/1969 Flomerfelt  
3,465,377 A 9/1969 Thomas  
3,562,841 A 2/1971 Royalty

(21) Appl. No.: **29/229,593**

(22) Filed: **May 10, 2005**

(51) **LOC (8) Cl.** ..... **04-01**  
(52) **U.S. Cl.** ..... **D32/51**  
(58) **Field of Classification Search** ..... D4/134,  
D4/137, 138; D8/6, 11; D32/35, 38, 39,  
D32/40, 50, 51, 52; 15/146, 147.1  
See application file for complete search history.

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

1,184,543 A 5/1916 Lepak  
1,234,721 A 7/1917 Boggess  
1,486,284 A 3/1924 Eiffé  
1,816,861 A 8/1931 Mancuso  
1,929,848 A 10/1933 Neely  
1,932,099 A 10/1933 Cabana  
1,955,445 A 4/1934 Wenger  
2,021,977 A 11/1935 Allen et al.  
2,023,134 A 12/1935 Gringer  
2,123,813 A 7/1938 Stiles  
2,134,301 A 10/1938 Guggenbuehler  
2,137,944 A \* 11/1938 Macleod ..... 401/140  
2,252,436 A 8/1941 MacGraham  
2,262,334 A 11/1941 Rugaard  
2,277,676 A 3/1942 Blanchard  
2,753,579 A 7/1956 Kussmann  
2,764,774 A \* 10/1956 Belsky et al. .... 15/228  
2,793,383 A 5/1957 Nomiya  
2,870,475 A 1/1959 Scheuer et al.  
2,932,047 A 4/1960 Johnston  
2,969,120 A \* 1/1961 Randolph ..... 172/371  
3,099,028 A \* 7/1963 Ardito ..... 15/50.1  
3,099,855 A 8/1963 Nash

(Continued)

**FOREIGN PATENT DOCUMENTS**

BE 523195 1/1956

(Continued)

*Primary Examiner*—Alan P. Douglas  
*Assistant Examiner*—Barbara Fox  
(74) *Attorney, Agent, or Firm*—Foley & Lardner LLP

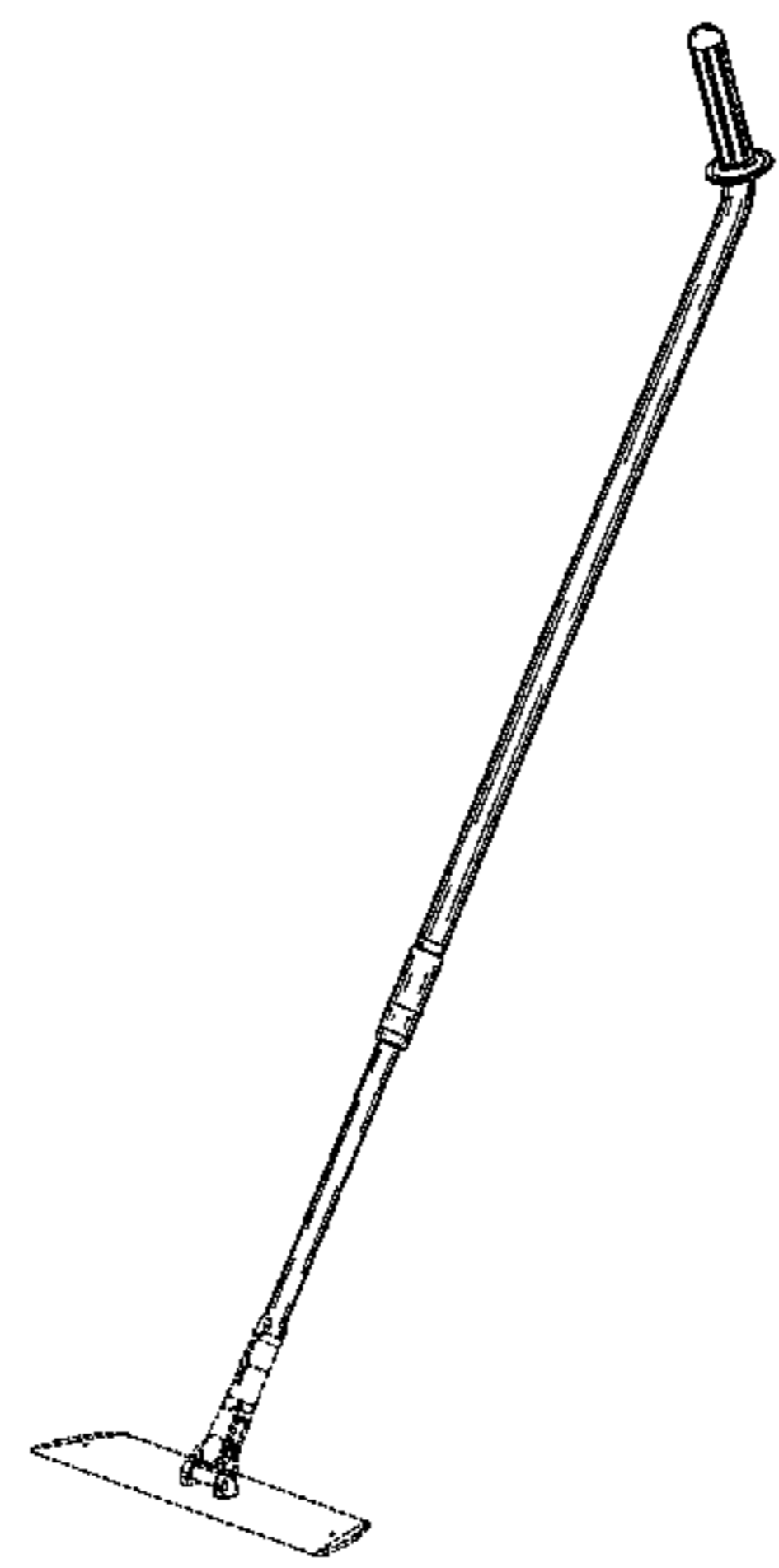
(57) **CLAIM**

The ornamental design for a mop handle, as shown and described.

**DESCRIPTION**

FIG. 1 is a top frontal perspective view of a mop handle according to my new design;  
FIG. 2 is a front view of the mop handle shown in FIG. 1;  
FIG. 3 is a back view of the mop handle shown in FIG. 1;  
FIG. 4 is a left side view of the mop handle shown in FIG. 1;  
FIG. 5 is a right side view of the mop handle shown in FIG. 1;  
FIG. 6 is a top view of the mop handle shown in FIG. 1; and,  
FIG. 7 is a bottom view of the mop handle shown in FIG. 1.  
The broken lines in the drawings are for illustrative purposes only and form no part of the claimed design.

**1 Claim, 7 Drawing Sheets**



# US D547,017 S

U.S. PATENT DOCUMENTS					
3,593,359	A	7/1971	Strauss	4,850,075	A 7/1989 Kresse et al.
3,699,606	A	10/1972	Ribas	4,852,207	A 8/1989 Yamane
3,737,938	A	6/1973	Saltzstein	4,852,210	A 8/1989 Krajicek
3,747,154	A	7/1973	O'Neil	D304,630	S 11/1989 Jones et al.
3,773,375	A	11/1973	Nehls	4,912,804	A 4/1990 Pasbol
D230,127	S *	1/1974	Banner ..... D8/11	D307,517	S 5/1990 Mallory et al.
3,792,505	A	2/1974	Saltzstein	D308,140	S * 5/1990 Klamm ..... D4/118
3,850,533	A	11/1974	Thielen	D308,741	S * 6/1990 Tsukamoto ..... D32/51
3,866,257	A	2/1975	Cansdale, Sr.	4,962,561	A 10/1990 Hamilton
3,877,103	A	4/1975	Nash	D320,295	S 9/1991 Delmerico
3,896,518	A	7/1975	Von Post et al.	5,071,489	A 12/1991 Silvenis et al.
3,909,870	A	10/1975	Leland	5,099,539	A 3/1992 Forester
3,921,247	A	11/1975	Cook	5,109,637	A 5/1992 Calafut et al.
3,996,639	A	12/1976	Griffin	5,133,101	A 7/1992 Hauser et al.
4,070,726	A	1/1978	Joffre	5,207,754	A 5/1993 Harrah
D248,081	S	6/1978	Epstein	5,220,707	A 6/1993 Newman, Sr. et al.
D248,610	S	7/1978	Schwartz	5,228,202	A 7/1993 Liao
4,114,223	A	9/1978	Buchanan	5,242,362	A 9/1993 Talamantez
D250,245	S	11/1978	Bebb	D344,379	S 2/1994 Clark, Jr.
4,132,489	A	1/1979	Berg, Jr. et al.	D345,236	S 3/1994 Chen
4,161,799	A	7/1979	Sorrells	D348,550	S 7/1994 Cox et al.
4,165,550	A	8/1979	Burke	5,333,347	A 8/1994 Stranders
4,184,224	A	1/1980	Joffre	5,333,353	A 8/1994 Taylor
4,225,998	A	10/1980	Thielen	5,343,589	A 9/1994 Davenport
4,247,216	A	1/1981	Pansini	D353,752	S * 12/1994 Page ..... D8/11
D262,936	S *	2/1982	Nishiyama et al. .... D32/40	5,375,286	A 12/1994 Harrah
4,315,342	A	2/1982	Ash	5,390,746	A * 2/1995 Page ..... 172/371
4,325,157	A	4/1982	Balint et al.	5,402,559	A 4/1995 Allison et al.
D264,424	S *	5/1982	Clark ..... D8/13	D358,238	S 5/1995 Barnett
4,344,201	A	8/1982	Trisolini	5,419,015	A 5/1995 Garcia
4,345,351	A	8/1982	Moss et al.	D359,605	S 6/1995 Janikowski
4,381,766	A	5/1983	Avolio	5,423,621	A * 6/1995 Russell ..... 401/9
D270,961	S	10/1983	Hawkins et al.	5,426,809	A 6/1995 Muta
4,455,705	A	6/1984	Graham	5,440,778	A 8/1995 De Guzman
D274,856	S	7/1984	Smith et al.	5,461,749	A 10/1995 Ahlberg et al.
4,466,377	A	8/1984	Kolb et al.	5,467,830	A * 11/1995 Watson ..... 172/378
4,477,972	A *	10/1984	Testa, Jr. .... 30/172	5,469,594	A 11/1995 Nolte
D277,039	S	1/1985	Miyoshi et al.	D366,740	S 1/1996 Clausen et al.
4,516,360	A	5/1985	Gringer et al.	5,487,202	A 1/1996 Cowan
4,524,484	A	6/1985	Graham	D368,561	S 4/1996 Hodges et al.
D279,932	S	7/1985	Bergstrom	5,502,864	A 4/1996 Sorenson
4,603,450	A	8/1986	Osberghaus et al.	5,515,574	A 5/1996 Larson
D285,736	S	9/1986	Seely	5,548,865	A 8/1996 Pagani
D286,096	S	10/1986	Jaros et al.	5,553,344	A 9/1996 Rosenkrantz
4,620,340	A	11/1986	Bohacek	D374,321	S 10/1996 Mandell et al.
D287,173	S	12/1986	Libman	D376,742	S * 12/1996 Filowiak et al. .... D8/13
4,625,356	A	12/1986	Meili	5,579,557	A 12/1996 Boden
4,656,686	A	4/1987	Moss et al.	5,579,558	A 12/1996 Newman, Jr. et al.
4,659,125	A	4/1987	Chuan	D377,140	S * 1/1997 Bair ..... D8/89
4,663,796	A	5/1987	Helling et al.	5,603,138	A 2/1997 Bonis
4,663,798	A	5/1987	Sacks et al.	5,611,104	A 3/1997 De Mars
4,667,846	A	5/1987	Marceau	5,625,923	A 5/1997 Huang
4,673,307	A	6/1987	Prestele et al.	D380,303	S 7/1997 Wolfenden
4,685,167	A	8/1987	Murray	5,655,250	A 8/1997 Warrell
4,704,758	A	11/1987	Hoffman	D383,580	S 9/1997 Bolster et al.
4,704,763	A	11/1987	Sacks et al.	5,666,685	A 9/1997 von Grolman et al.
4,707,877	A	11/1987	Griffin	D384,818	S 10/1997 Wolfenden
4,713,859	A	12/1987	Smith, Jr.	5,682,641	A 11/1997 Newman, Jr. et al.
4,716,619	A	1/1988	Young	D388,934	S * 1/1998 Ames et al. .... D4/132
D295,914	S	5/1988	Moss et al.	5,720,071	A 2/1998 Hall
4,742,595	A	5/1988	Isaacs	D391,715	S 3/1998 Irwin et al.
D296,833	S	7/1988	Slattery et al.	5,729,865	A 3/1998 Stoddart
4,754,518	A	7/1988	Griffin	5,752,415	A 5/1998 Tsai
4,791,780	A *	12/1988	Phillips ..... 56/400.04	D395,530	S 6/1998 Mandell et al.
4,793,646	A	12/1988	Michaud, Jr.	D395,531	S 6/1998 Mandell et al.
4,794,663	A	1/1989	Vosbikian	5,771,535	A 6/1998 Blessing
4,798,307	A	1/1989	Evrard	5,774,929	A 7/1998 Jürgens et al.
4,811,449	A	3/1989	Kobayashi	5,779,291	A 7/1998 Forest
4,811,990	A	3/1989	Quearry et al.	5,791,006	A 8/1998 Anctil
4,829,622	A	5/1989	O'Sullivan et al.	5,791,805	A 8/1998 Lynch et al.
4,829,857	A	5/1989	Jones	5,813,567	A 9/1998 Mangano
				5,815,878	A 10/1998 Murakami et al.
				D401,703	S * 11/1998 Beechuk et al. .... D32/45



# US D547,017 S

D402,776 S	12/1998	Carlson	6,378,159 B1	4/2002	Garrison et al.
5,842,810 A	12/1998	Morad	6,389,638 B1	5/2002	Dickinson et al.
5,845,361 A	12/1998	Murakami et al.	D458,427 S	6/2002	Kunkler et al.
5,845,917 A	12/1998	Huang	D458,721 S	6/2002	Clarke
D403,819 S	1/1999	Carlson	6,397,427 B1	6/2002	Bryngelsson
5,862,562 A	1/1999	Erken	6,405,403 B1	6/2002	McKay
D404,924 S	2/1999	Schmidt	6,412,138 B1	7/2002	MacMillan
D404,982 S *	2/1999	Fluent ..... D8/11	6,415,470 B1	7/2002	Ramrattan
5,864,913 A	2/1999	Robertson et al.	6,457,203 B1	10/2002	Williams et al.
D406,932 S	3/1999	Hodges	6,461,074 B2	10/2002	Taylor
5,887,315 A	3/1999	Rogers	D465,705 S *	11/2002	Hinden ..... D8/13
D407,878 S	4/1999	Carlson	D465,890 S	11/2002	Rivera et al.
D408,602 S	4/1999	Carlson	6,484,346 B2	11/2002	Kingry et al.
D409,343 S	5/1999	Kingry et al.	6,513,184 B1	2/2003	Brown et al.
D411,673 S	6/1999	Biggs et al.	6,523,220 B1	2/2003	Lynn
5,915,437 A	6/1999	Petner	6,530,124 B2	3/2003	Newman et al.
5,918,343 A	7/1999	Young	6,532,630 B1	3/2003	Newman et al.
5,920,944 A	7/1999	Biggs et al.	6,543,082 B2	4/2003	Dingert et al.
5,926,896 A	7/1999	Allemann et al.	6,546,596 B2	4/2003	Grote et al.
D413,234 S *	8/1999	Spear ..... D8/13	D476,123 S	6/2003	Debreczeni
5,941,410 A	8/1999	Mangano	D477,701 S *	7/2003	Kunkler et al. .... D32/45
5,960,508 A	10/1999	Holt et al.	6,588,065 B1	7/2003	Tucker, III
5,971,199 A	10/1999	Jackson	D478,257 S *	8/2003	Fredrickson ..... D8/14
5,983,441 A	11/1999	Williams et al.	6,601,261 B1	8/2003	Holt et al.
5,983,455 A	11/1999	Polzin et al.	6,606,757 B2	8/2003	Vosbikian et al.
5,987,685 A	11/1999	Lambert	D481,184 S	10/2003	Clare et al.
5,992,423 A	11/1999	Tevolini	D482,829 S	11/2003	Vosbikian et al.
D417,934 S	12/1999	Footer et al.	6,651,290 B2	11/2003	Kingry et al.
5,996,175 A	12/1999	Fusco	6,659,670 B1 *	12/2003	Blouse ..... 401/137
6,000,094 A	12/1999	Young	6,669,397 B1	12/2003	Christion
6,003,191 A	12/1999	Sherry et al.	6,671,923 B2	1/2004	Gromnicki
6,023,924 A	2/2000	Babineau	6,671,930 B2	1/2004	Lanz
6,029,308 A	2/2000	Smith	D486,616 S	2/2004	Hall et al.
D423,157 S	4/2000	Hodges	D487,174 S	2/2004	Colman et al.
D423,742 S	4/2000	Kingry et al.	6,684,446 B2	2/2004	Salmon
6,045,622 A	4/2000	Holt et al.	6,684,450 B2	2/2004	Dingert
6,048,123 A	4/2000	Holt et al.	6,687,943 B2	2/2004	Zorzo
D424,870 S *	5/2000	Thurlow ..... D7/395	D489,852 S	5/2004	Perelli
6,058,548 A	5/2000	Footer et al.	D490,952 S	6/2004	Ajluni
6,058,552 A	5/2000	Hanan	D496,512 S *	9/2004	Treacy ..... D32/51
6,061,864 A	5/2000	Ensson	6,785,927 B2 *	9/2004	Lesley et al. .... 15/119.1
D426,361 S	6/2000	Young	6,794,352 B2	9/2004	Svendsen
D427,401 S	6/2000	Kunkler	D501,971 S *	2/2005	Treacy ..... D32/51
D428,226 S	7/2000	Kunkler	2001/0013153 A1	8/2001	Zorzo
6,092,255 A	7/2000	Kim	2001/0029640 A1	10/2001	Cassar
D429,396 S	8/2000	Houry et al.	2001/0047559 A1	12/2001	Graham et al.
D429,862 S	8/2000	Houry et al.	2001/0047570 A1	12/2001	Lanz
6,098,239 A	8/2000	Vosbikian	2002/0021013 A1	2/2002	Newman et al.
6,101,661 A	8/2000	Policicchio et al.	2002/0026680 A1	3/2002	Kingry et al.
6,115,877 A	9/2000	Morad et al.	2002/0066163 A1	6/2002	Lomax
6,115,878 A	9/2000	McLaughlin et al.	2002/0073502 A1	6/2002	Gromnicki
6,119,298 A	9/2000	Kenmochi	2002/0078520 A1	6/2002	Salmon
6,128,803 A	10/2000	Dickinson et al.	2002/0083964 A1	7/2002	McKay
D433,890 S *	11/2000	Scaringella ..... D8/13	2002/0088091 A1	7/2002	Grote et al.
6,141,820 A	11/2000	Schmiedhoff et al.	2002/0088092 A1	7/2002	Cavalheiro
D434,911 S	12/2000	Lynch et al.	2002/0116780 A1	8/2002	Young
6,158,089 A	12/2000	Monahan et al.	2002/0120997 A1	9/2002	Alt
6,199,245 B1	3/2001	Blessing	2002/0144369 A1	10/2002	Biggs et al.
6,202,250 B1	3/2001	Kenmochi et al.	2002/0184726 A1	12/2002	Kingry et al.
6,213,672 B1	4/2001	Varga	2003/0003831 A1	1/2003	Childs et al.
6,237,182 B1	5/2001	Cassar	2003/0003832 A1	1/2003	Childs et al.
6,243,909 B1	6/2001	Graham et al.	2003/0009839 A1	1/2003	Streutker et al.
6,254,305 B1	7/2001	Taylor	2003/0024074 A1	2/2003	Hartman
6,260,230 B1	7/2001	Hunt	2003/0028988 A1	2/2003	Streutker et al.
6,260,238 B1	7/2001	MacMillan	2003/0044569 A1	3/2003	Kacher et al.
6,279,195 B1	8/2001	Biggs	2003/0046782 A1	3/2003	Kresse et al.
6,298,517 B1	10/2001	McKay	2003/0049407 A1	3/2003	Kacher et al.
6,305,046 B1	10/2001	Kingry et al.	2003/0056315 A1	3/2003	Salmon
6,311,368 B1	11/2001	Sartori	2003/0074756 A1	4/2003	Policicchio et al.
6,332,234 B1	12/2001	Graham et al.	2003/0084531 A1	5/2003	Dingert et al.
6,339,979 B1	1/2002	Chiang	2003/0106568 A1	6/2003	Keck et al.
D455,878 S	4/2002	Debreczeni	2003/0121116 A1	7/2003	Keck et al.
6,367,121 B1	4/2002	MacMillan	2003/0126709 A1	7/2003	Policicchio et al.

# US D547,017 S

Page 4

2003/0126710	A1	7/2003	Policicchio et al.	DE	195 21 341	A1	12/1996
2003/0135948	A1	7/2003	Holt et al.	DE	195 29 780	A1	2/1997
2003/0150478	A1	8/2003	Biggs	DE	9311098	U1	2/1997
2003/0167589	A1	9/2003	Dingert et al.	DE	296 20 863	U1	3/1997
2003/0200631	A1	10/2003	Clarke	DE	196 20 663	A1	11/1997
2004/0011382	A1	1/2004	Kingry et al.	DE	197 36 735	A1	2/1999
2004/0055099	A1	3/2004	Greenberg	DE	298 18 942	U1	2/1999
2004/0071490	A1	4/2004	Vosbikian et al.	DE	198 03 595	A1	8/1999
2004/0074520	A1	4/2004	Truong et al.	DE	198 27 865	A1	1/2000

## FOREIGN PATENT DOCUMENTS

CA	1109654	A	9/1981	DE	100 20 366	A1	6/2001
CA	1287955	C	8/1991	DE	100 08 331	A1	9/2001
CA	2057085	A1	6/1992	DE	100 13 308	C1	9/2001
CA	1306590	C	8/1992	DE	100 19 211	A1	9/2001
CA	1307629	C	9/1992	DE	201 06 432	U1	9/2001
CA	2050980	A1	10/1992	DE	201 17 581	U1	2/2002
CA	1315502	C	4/1993	DE	202 07 465	U1	2/2002
CA	2138144	A1	12/1993	DE	100 49 334	A1	4/2002
CA	2114992	A1	8/1994	DE	101 23 522	C1	8/2002
CA	2181683	A1	7/1995	DE	101 23 522	C1	8/2002
CA	2189433	A1	12/1995	DE	202 20 311	U1	7/2003
CA	2203692	A1	4/1997	DE	102 23 074	C1	8/2003
CA	2201432	A1	10/1997	DE	102 10 569	A1	9/2003
CA	2263263		2/1998	DE	102 21 060	A1	11/2003
CA	2238091	A1	5/1998	DE	297 24 799	U1	4/2004
CA	2252819	A1	10/1998	EP	0 122 675	A1	10/1984
CA	2265139	A1	3/1999	EP	0 168 681	B1	1/1986
CA	2272405	A1	5/1999	EP	0 254 507	A1	1/1988
CA	2 376 800	A1	12/1999	EP	0 299 298	A1	1/1989
CA	2193045	C	12/1999	EP	0 625 329	A1	11/1994
CA	2 349 726	A1	5/2000	EP	0 697 269	A2	2/1996
CA	2170154	C	11/2000	EP	0 702 927	A1	3/1996
CA	2 377 579	A1	1/2001	EP	0 781 524	A	7/1997
CA	2 380 369	A1	2/2001	EP	0 782 835	A2	7/1997
CA	2 384 137	A1	4/2001	EP	0 783 866	A2	7/1997
CA	2 384 857	A1	4/2001	EP	568 110	B1	9/1997
CA	2 332 554	A1	8/2001	EP	0 808 601	A2	11/1997
CA	2 154 839	C	10/2001	EP	0 898 927	A1	3/1999
CA	2 342 010	A1	11/2001	EP	0 981 993	A2	3/2000
CA	2 413 519	A1	1/2002	EP	1 123 683	A2	8/2001
CA	2 353 287	A1	2/2002	EP	1 138 246	A2	10/2001
CA	2 426 042	A1	5/2002	EP	1 157 653	A2	11/2001
CA	2 426 546	A1	5/2002	EP	1 162 122	A2	12/2001
CA	2 426 628	A1	5/2002	EP	1 177 863	A2	2/2002
CA	2 209 147	C	8/2002	EP	1 181 887	A2	2/2002
CA	2 448 393	A1	1/2003	EP	1 234 537	A2	8/2002
CA	2 411 221	A1	5/2003	EP	1 234 538	A2	8/2002
CA	2 266 783	C	1/2004	EP	1 262 139	A	12/2002
CA	2 284 654	C	1/2004	EP	1 380 248	A2	1/2004
CA	2 266 541	C	3/2004	FR	786.764		9/1935
CA	2 282 149	C	3/2004	FR	1.084.131		1/1955
CA	2215574	C	3/2004	FR	1.347.916		11/1963
CA	2 300 393	C	5/2004	FR	2 354 743		1/1978
CA	2 193 044	C	12/2004	FR	2 495 530		6/1982
DE	597 084		5/1934	FR	2 769 204	A1	4/1999
DE	815036		9/1951	GB	660499		11/1951
DE	1 703 505		5/1968	GB	820753	A	9/1959
DE	1 503 872		7/1969	GB	945831		1/1964
DE	34 11 858	A1	8/1985	GB	1 501 316		2/1978
DE	9000477	U1	1/1990	GB	1 562 009		3/1980
DE	41 09 142	A1	9/1992	GB	2 197 185	A	5/1988
DE	9301615	U1	2/1993	GB	2 319 742	A	6/1998
DE	9307679	U1	9/1993	GB	2 331 694	A	6/1999
DE	43 29 848	A1	3/1994	GB	2 372 430	A	8/2002
DE	9408885	U1	10/1994	GB	2 372 437	A	8/2002
DE	9410791	U1	10/1994	LU	88 755		10/1996
DE	9411092	U1	10/1994	NL	6903297		9/1970
DE	43 18 792	A1	12/1994	PL	183974	B1	11/1997
DE	9415002	U1	12/1994	SE	470 475	B	5/1994
DE	94 16 565	U1	1/1995	SE	502 450	C2	10/1995
DE	94 21 373	U1	12/1995	WO	WO 89/12419	A1	12/1989
				WO	WO 92/14064	A1	8/1992
				WO	WO 92/18046	A1	10/1992
				WO	WO 92/19142	A1	11/1992



# US D547,017 S

Page 5

---

WO WO 93/26148 A1 12/1993  
WO WO 95/07044 A1 3/1995  
WO WO 95/20107 A1 7/1995  
WO WO 95/32661 A1 12/1995  
WO WO 97/01420 A1 1/1997  
WO WO 97/10742 A1 3/1997  
WO WO 97/18744 A1 5/1997  
WO WO 97/33510 A1 9/1997  
WO WO 97/35510 A1 10/1997  
WO WO 98/06316 A1 2/1998  
WO WO 98/11812 A1 3/1998  
WO WO 98/11813 A1 3/1998  
WO WO 98/12023 A1 3/1998  
WO WO 98/23199 A1 6/1998  
WO WO 98/36676 A1 8/1998  
WO WO 98/42246 A1 10/1998  
WO WO 99/07523 A1 2/1999  
WO WO 99/11171 A1 3/1999  
WO WO 99/63879 A1 12/1999

WO WO 99/66825 A1 12/1999  
WO WO 00/27271 A2 5/2000  
WO WO 00/69321 A 11/2000  
WO WO 01/06137 A1 1/2001  
WO WO 01/22860 A1 4/2001  
WO WO 01/22861 A2 4/2001  
WO WO 01/39653 A1 6/2001  
WO WO 01/45547 A1 6/2001  
WO WO 01/54867 A1 8/2001  
WO WO 01/67941 A1 9/2001  
WO WO 01/67942 A1 9/2001  
WO WO 02/00085 A2 1/2002  
WO WO 02/083370 A1 10/2002  
WO WO 03/075737 A2 9/2003  
WO WO 03/092965 A2 11/2003  
WO WO 03/099095 A1 12/2003

\* cited by examiner

Fig. 1

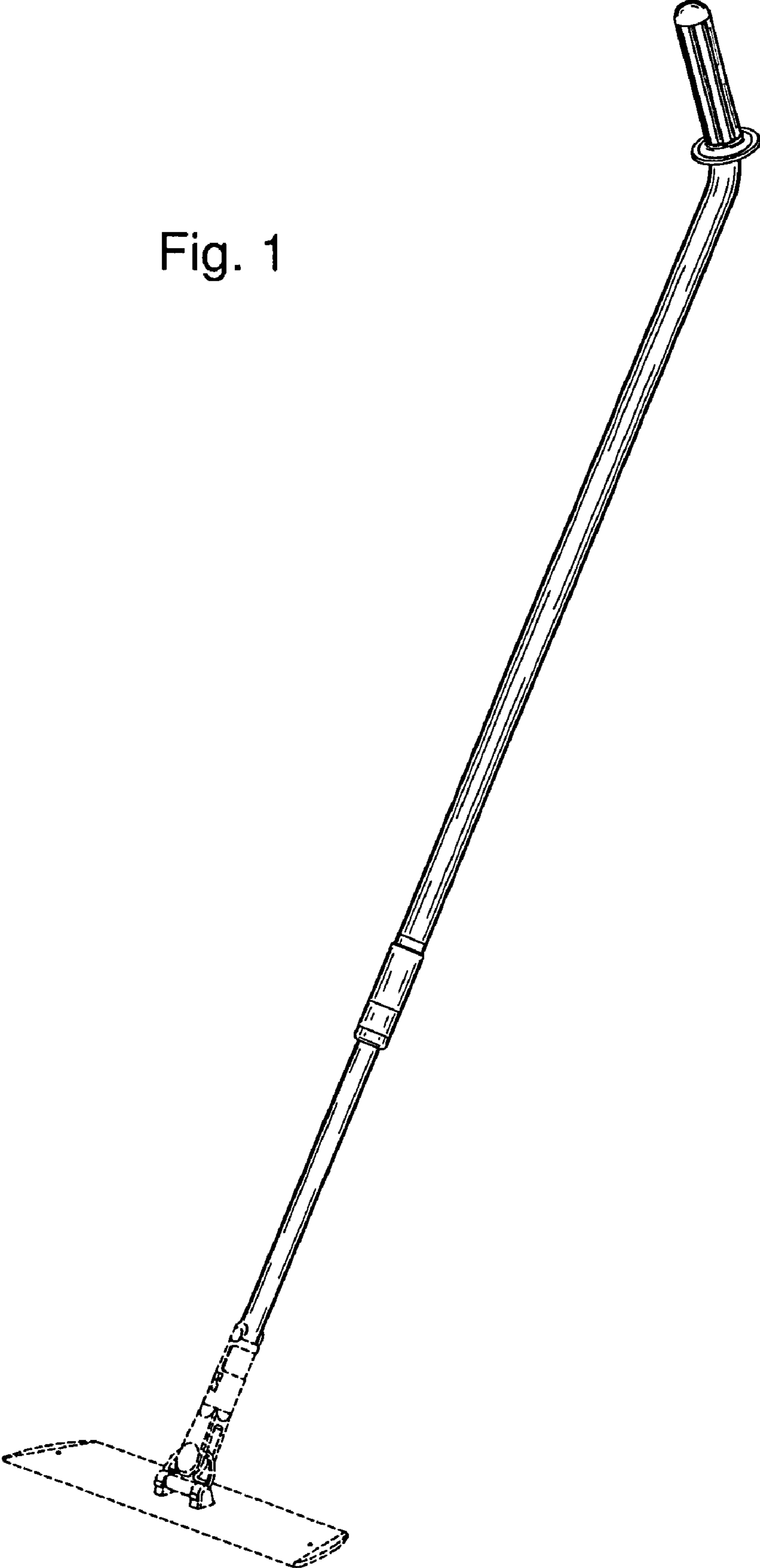


Fig. 2

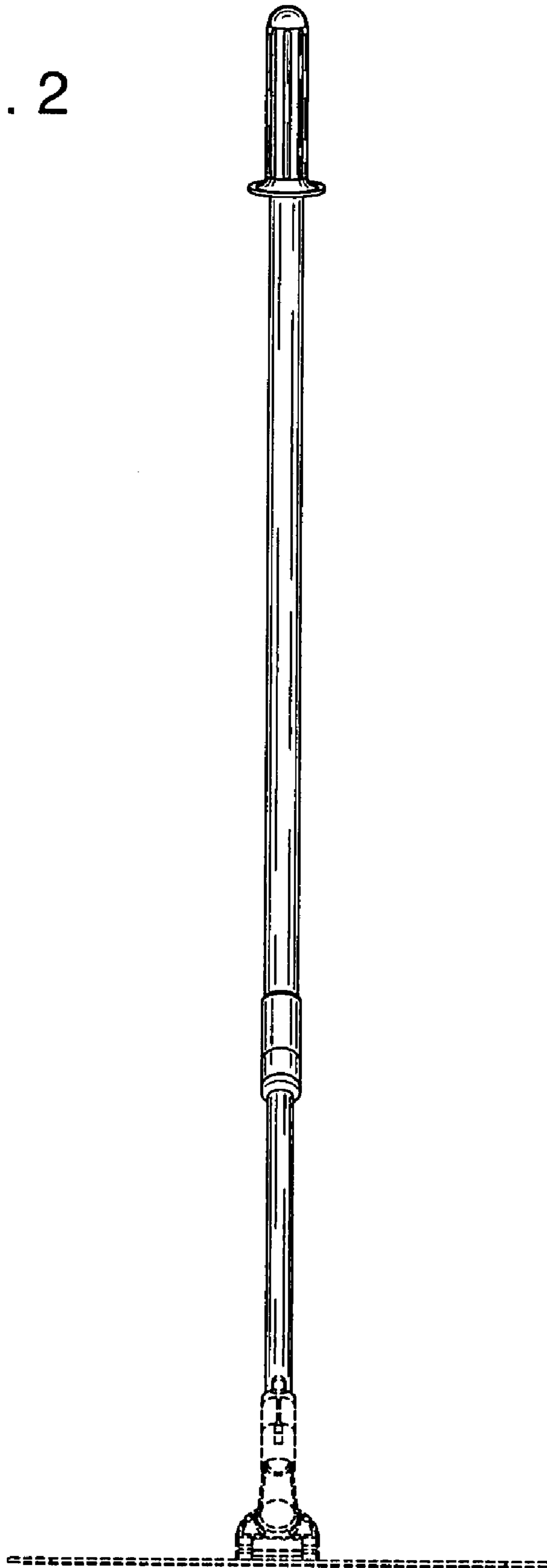


Fig. 3

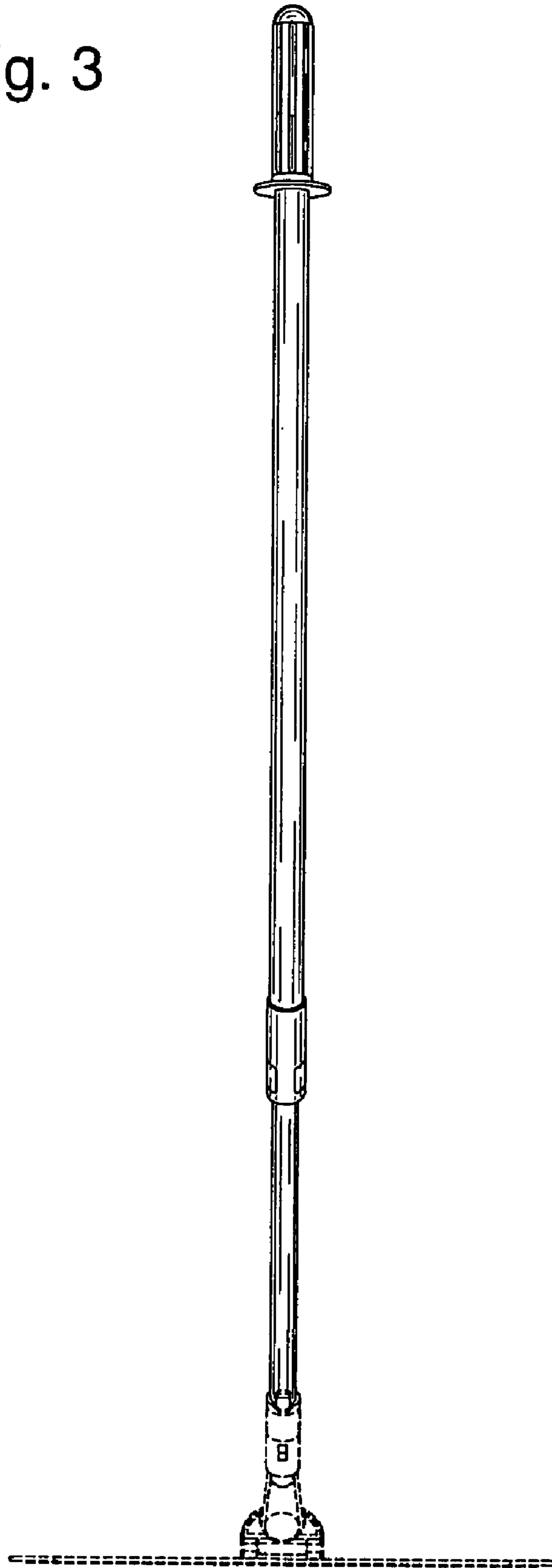




Fig. 4



Fig. 5

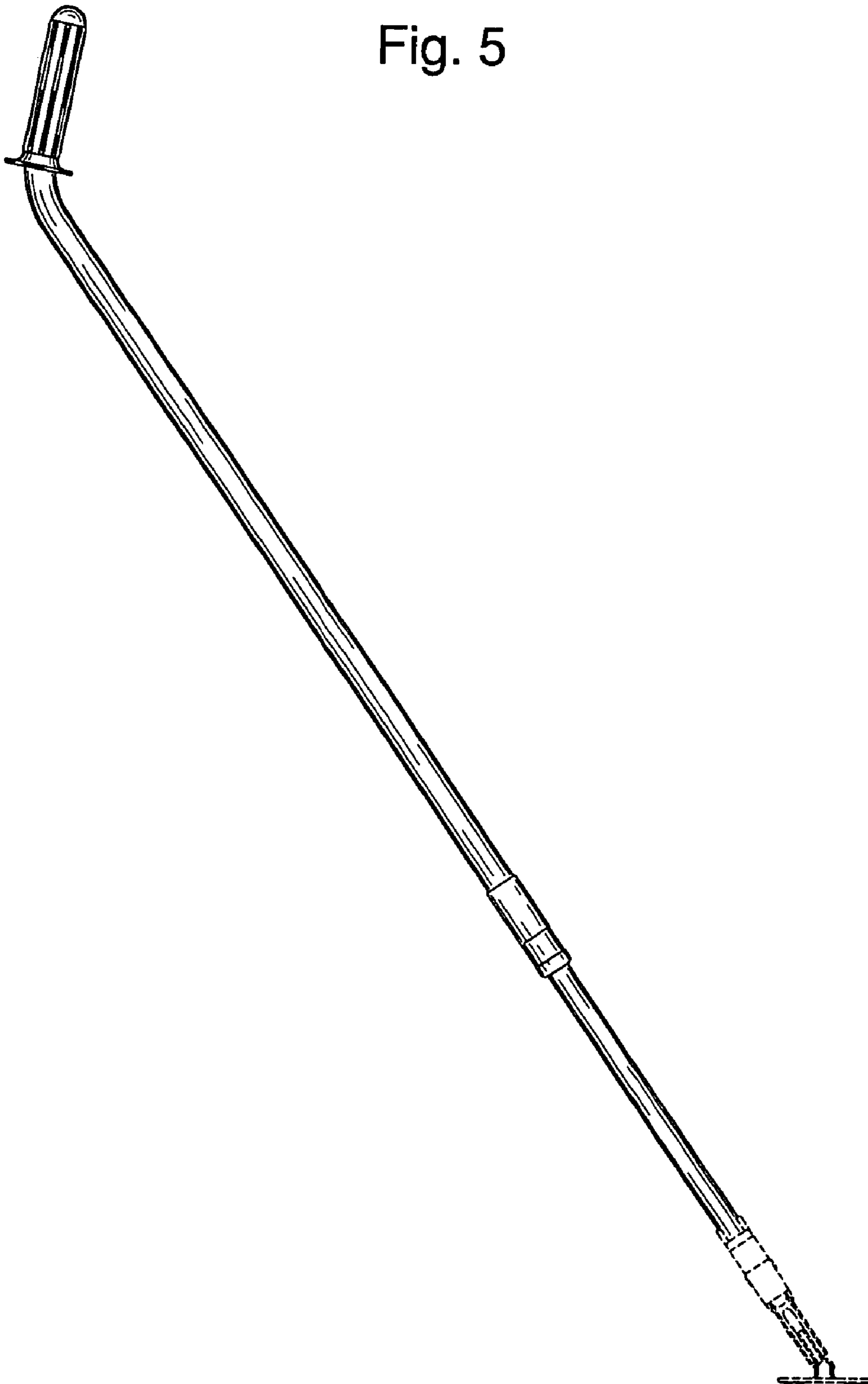


Fig. 6

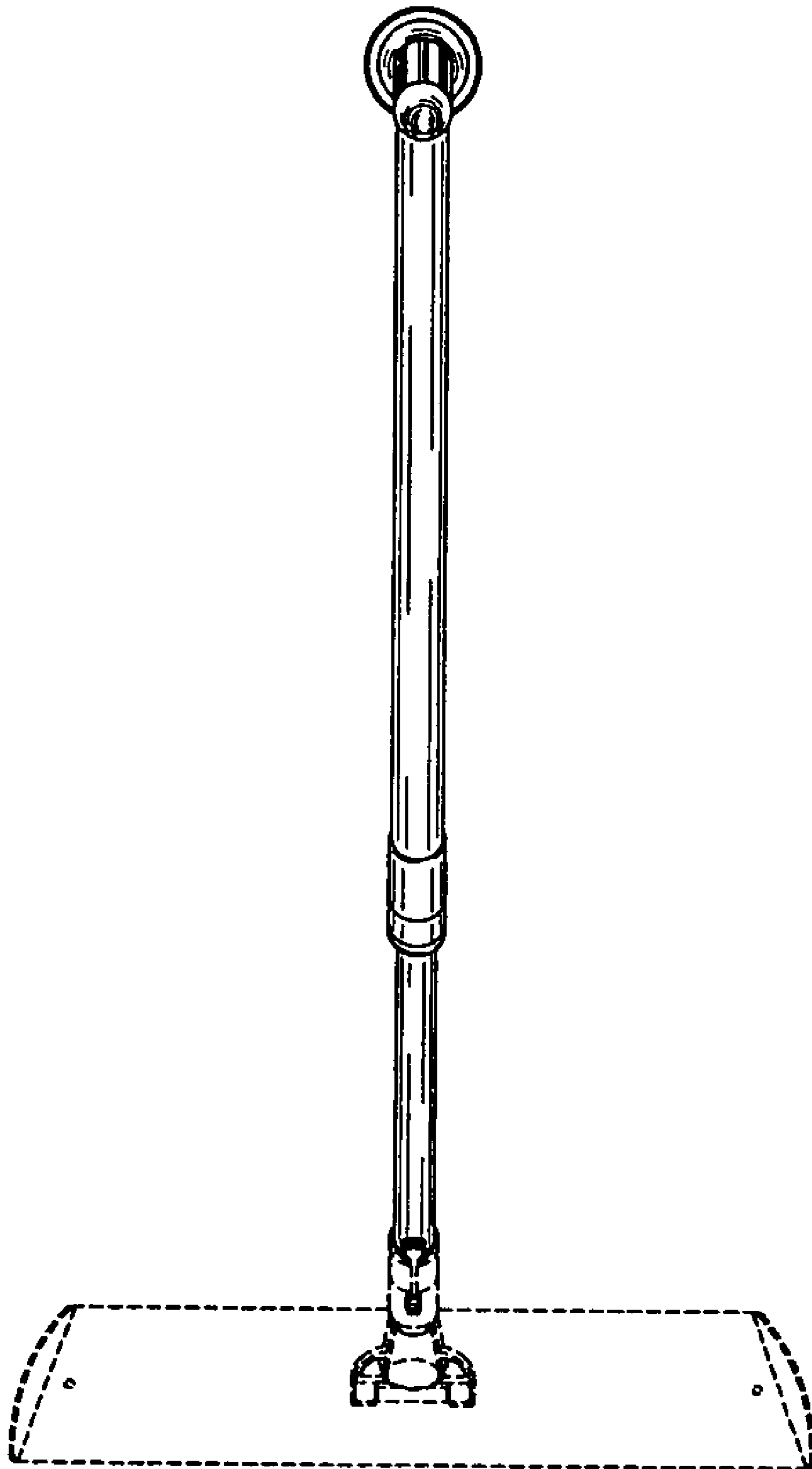




Fig. 7

