US00RE42698E

(19) **United States**

(12) **Reissued Patent**

**Kuo et al.**

(10) **Patent Number: US RE42,698 E**

(45) **Date of Reissued Patent: Sep. 13, 2011**

(54) **TREADMILL HAVING DUAL TREADS FOR STEPPING EXERCISES**

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(21) Appl. No.: **10/962,256**

(22) Filed: **Oct. 8, 2004**

**Related U.S. Patent Documents**

Reissue of:

(64) Patent No.: **6,461,279**
Issued: **Oct. 8, 2002**
Appl. No.: **09/912,664**
Filed: **Jul. 25, 2001**

(51) **Int. Cl.**
***A63B 22/02*** (2006.01)

(52) **U.S. Cl.** ..... **482/54**; 482/52

(58) **Field of Classification Search** ..... 482/51–54, 482/71, 72, 74, 111, 112, 70, 79, 80; 104/25; 198/324, 817; 292/246, 247
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

| | | | | | |
|---|---|---|---|---|---|
| 219,439 | A | | 9/1879 | Blend | |
| 321,388 | A | | 6/1885 | Ruebsam | |
| 347,101 | A | * | 8/1886 | Ferry | 292/247 |
| 625,905 | A | | 5/1899 | Souder | |
| 663,486 | A | | 12/1900 | Boren | |
| 683,124 | A | | 9/1901 | Lange | |
| 782,010 | A | | 2/1905 | Dodge | |
| 783,769 | A | | 2/1905 | Wright | |
| 834,461 | A | * | 10/1906 | Fair | 292/247 |
| 881,521 | A | | 3/1908 | Wilson | |
| 931,394 | A | | 8/1909 | Day | |
| 956,681 | A | | 5/1910 | Clarke | |
| 1,015,071 | A | | 1/1912 | Reach | |
| 1,020,777 | A | | 3/1912 | Peterson | |
| 1,166,304 | A | | 12/1915 | Albert | |
| 1,239,077 | A | | 9/1917 | Begg | |
| 1,587,749 | A | | 6/1926 | Bierly | |
| 1,652,102 | A | * | 12/1927 | Elmer et al. | 403/95 |
| 1,715,870 | A | | 6/1929 | Spain | |
| 1,824,406 | A | | 9/1931 | Petersime | |
| 1,850,530 | A | | 3/1932 | Brown | |
| 1,870,244 | A | | 8/1932 | Elston | |

(Continued)

FOREIGN PATENT DOCUMENTS

| | | | |
|---|---|---|---|
| AU | 233194 | 8/1959 | |

(Continued)

OTHER PUBLICATIONS

"A Brief Look At Airpot", Catalog, Airpot Corp., pp. 1-15 (1982).

(Continued)

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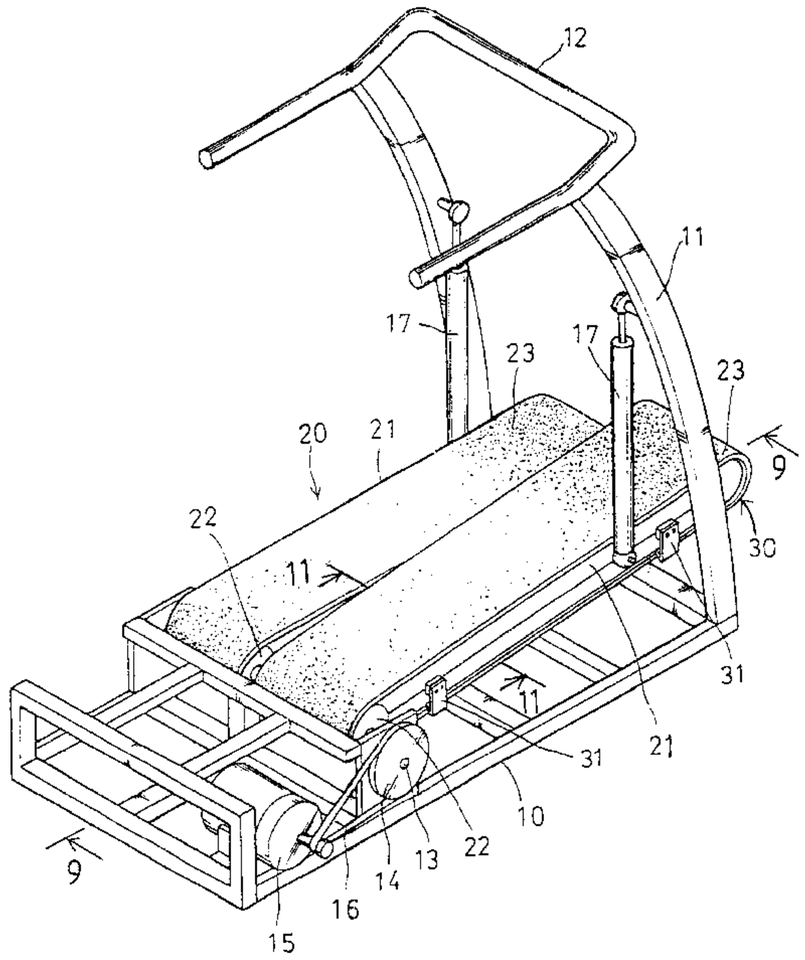
(57) **ABSTRACT**

A treadmill device includes two treadmills disposed above a base and each having a tread supported around a platform and each has one end rotatably supported on the base with a shaft which may be driven by a motor. An arm has a middle portion pivotally supported on the base and has two ends located below and coupled to the treadmills, for elevating one of the treadmills when the other treadmill is lowered, such that the two treadmills may be operated as a stepping exerciser. A latch may be used to lock the treadmills together.

**34 Claims, 14 Drawing Sheets**



U.S. PATENT DOCUMENTS

| | | | | | |
|---|---|---|---|---|---|
| 1,902,694 | A | | 3/1933 | Edwards | |
| 1,928,089 | A | | 9/1933 | Blickman | |
| 1,969,901 | A | | 8/1934 | Pilates | |
| 1,973,945 | A | | 9/1934 | Chavin et al. | |
| 2,209,034 | A | | 7/1940 | Paul | |
| 2,239,076 | A | | 4/1941 | Biedess | |
| 2,239,687 | A | | 4/1941 | Parker | |
| 2,374,730 | A | | 5/1945 | Catlin | |
| 2,380,221 | A | | 7/1945 | Cundall | |
| 2,399,915 | A | | 5/1946 | Drake | |
| 2,425,860 | A | | 8/1947 | Brady | |
| 2,434,760 | A | | 1/1948 | Eggleston | |
| 2,603,486 | A | | 7/1952 | Hughes | |
| 2,661,973 | A | * | 12/1953 | Sweger | 292/246 |
| 2,855,200 | A | | 10/1958 | Blickman | |
| 2,866,538 | A | | 12/1958 | Goldberg | |
| 2,941,834 | A | * | 6/1960 | Appleton et al. | 292/341.19 |
| 2,969,060 | A | | 1/1961 | Swanda et al. | |
| 3,022,433 | A | | 2/1962 | Ferranti | |
| 3,127,171 | A | | 3/1964 | Noland et al. | |
| 3,295,847 | A | | 1/1967 | Matt, Sr. | |
| 3,312,466 | A | | 4/1967 | Melchiona | |
| D207,541 | S | | 5/1967 | Hesen | |
| 3,316,898 | A | | 5/1967 | Brown | |
| 3,316,899 | A | | 5/1967 | Raeder | |
| 3,319,767 | A | | 5/1967 | Breternitz et al. | |
| 3,348,678 | A | | 10/1967 | Flowers | |
| 3,378,259 | A | | 4/1968 | Kupchinski | |
| D211,801 | S | | 7/1968 | Quinton | |
| 3,427,019 | A | | 2/1969 | Brown | |
| 3,444,830 | A | | 5/1969 | Doetsch | |
| 3,473,843 | A | | 10/1969 | Hart | |
| 3,497,215 | A | | 2/1970 | Harrison et al. | |
| 3,501,040 | A | | 3/1970 | Martelee | |
| 3,501,140 | A | | 3/1970 | Eichorn | |
| 3,511,500 | A | | 5/1970 | Dunn | |
| 3,525,522 | A | | 8/1970 | Piller | |
| 3,529,474 | A | | 9/1970 | Olson et al. | |
| 3,559,986 | A | | 2/1971 | Ehrmantraut | |
| 3,586,322 | A | | 6/1971 | Kverneland | |
| 3,589,715 | A | | 6/1971 | Mark | |
| 3,590,980 | A | | 7/1971 | Bengtsson | |
| 3,592,466 | A | | 7/1971 | Parsons | |
| 3,602,502 | A | | 8/1971 | Hampl | |
| 3,614,097 | A | | 10/1971 | Blickman | |
| 3,627,313 | A | | 12/1971 | Schonfeld | |
| 3,628,654 | A | | 12/1971 | Haracz | |
| 3,638,941 | A | | 2/1972 | Kulkens | |
| 3,642,279 | A | | 2/1972 | Cutter | |
| 3,643,943 | A | | 2/1972 | Erwin, Jr. et al. | |
| 3,647,209 | A | | 3/1972 | La Lanne | |
| 3,659,845 | A | | 5/1972 | Quinton | |
| 3,689,066 | A | | 9/1972 | Hagen | |
| 3,703,284 | A | | 11/1972 | Hesen | |
| 3,709,487 | A | | 1/1973 | Walker | |
| 3,711,812 | A | | 1/1973 | Cherry | |
| 3,731,917 | A | | 5/1973 | Townsend | |
| 3,741,538 | A | | 6/1973 | Lewis et al. | |
| 3,741,540 | A | | 6/1973 | Shimizu | |
| 3,747,924 | A | | 7/1973 | Champoux | |
| 3,759,511 | A | | 9/1973 | Zinkin et al. | |
| 3,770,267 | A | | 11/1973 | McCarthy | |
| 3,792,860 | A | | 2/1974 | Selnes | |
| 3,814,420 | A | | 6/1974 | Encke | |
| 3,824,994 | A | | 7/1974 | Soderberg, Sr. | |
| 3,826,491 | A | | 7/1974 | Elder | |
| 3,870,297 | A | | 3/1975 | Elder | |
| 3,874,657 | A | | 4/1975 | Niebojewski | |
| 3,892,404 | A | | 7/1975 | Martucci | |
| 3,896,925 | A | | 7/1975 | Mitsui et al. | |
| 3,918,710 | A | | 11/1975 | Niebojewski | |
| 3,948,351 | A | | 4/1976 | Baumann | |
| 3,956,976 | A | | 5/1976 | Vogel et al. | |
| 3,962,595 | A | | 6/1976 | Eddens | |
| 3,963,101 | A | | 6/1976 | Stadelmann et al. | |
| 3,966,182 | A | | 6/1976 | Stadelmann et al. | |
| 3,970,302 | A | | 7/1976 | McFee | |
| 4,023,466 | A | | 5/1977 | Strassheimer | |
| 4,026,545 | A | | 5/1977 | Schonenberger | |
| 4,066,257 | A | | 1/1978 | Moller | |
| 4,072,309 | A | | 2/1978 | Wilson | |
| 4,085,344 | A | | 4/1978 | Eddens | |
| 4,093,196 | A | | 6/1978 | Bauer | |
| 4,131,266 | A | | 12/1978 | Carter | |
| 4,140,312 | A | | 2/1979 | Buchmann | |
| 4,151,988 | A | | 5/1979 | Nabinger | |
| 4,157,179 | A | | 6/1979 | Ecklor, Jr. | |
| 4,185,622 | A | | 1/1980 | Swenson | |
| 4,194,442 | A | | 3/1980 | Martelli | |
| 4,204,673 | A | | 5/1980 | Speer, Sr. | |
| 4,240,627 | A | | 12/1980 | Brentham | |
| 4,248,476 | A | | 2/1981 | Phelps | |
| 4,270,749 | A | | 6/1981 | Hebern | |
| 4,300,761 | A | | 11/1981 | Howard | |
| 4,316,609 | A | | 2/1982 | Silberman | |
| 4,319,747 | A | | 3/1982 | Rogers | |
| D263,978 | S | | 4/1982 | Brentham | |
| 4,334,676 | A | | 6/1982 | Schonenberger | |
| 4,344,616 | A | | 8/1982 | Ogden | |
| 4,350,336 | A | | 9/1982 | Hanford | |
| 4,350,913 | A | | 9/1982 | Eddens | |
| 4,358,105 | A | | 11/1982 | Sweeney, Jr. | |
| 4,363,480 | A | | 12/1982 | Fisher et al. | |
| 4,364,556 | A | | 12/1982 | Otte | |
| 4,369,966 | A | | 1/1983 | Silberman et al. | |
| 4,370,766 | A | | 2/1983 | Teague, Jr. | |
| 4,374,587 | A | | 2/1983 | Ogden | |
| 4,383,714 | A | | 5/1983 | Ishida | |
| 4,411,342 | A | | 10/1983 | Katsumori et al. | |
| 4,422,635 | A | | 12/1983 | Herod et al. | |
| 4,423,864 | A | | 1/1984 | Wiik | |
| 4,445,683 | A | | 5/1984 | Ogden | |
| 4,452,448 | A | | 6/1984 | Ausherman | |
| 4,462,252 | A | | 7/1984 | Smidt et al. | |
| 4,470,597 | A | | 9/1984 | McFee | |
| 4,477,071 | A | | 10/1984 | Brown et al. | |
| 4,480,832 | A | | 11/1984 | Bulmash et al. | |
| 4,492,375 | A | | 1/1985 | Connelly | |
| 4,502,679 | A | | 3/1985 | De Lorenzo | |
| 4,509,510 | A | | 4/1985 | Hook | |
| 4,509,742 | A | | 4/1985 | Cones | |
| 4,521,013 | A | | 6/1985 | Dofel | |
| D280,224 | S | | 8/1985 | Wilson | |
| 4,563,001 | A | | 1/1986 | Terauds | |
| 4,566,689 | A | | 1/1986 | Ogden | |
| 4,572,500 | A | | 2/1986 | Weiss | |
| 4,576,352 | A | | 3/1986 | Ogden | |
| D283,239 | S | | 4/1986 | Smith et al. | |
| 4,582,320 | A | | 4/1986 | Shaw | |
| 4,588,065 | A | | 5/1986 | Maiden et al. | |
| 4,591,147 | A | | 5/1986 | Smith et al. | |
| D284,597 | S | | 7/1986 | Smith et al. | |
| 4,600,187 | A | | 7/1986 | Schenker | |
| 4,600,196 | A | | 7/1986 | Jones | |
| 4,602,779 | A | | 7/1986 | Ogden | |
| 4,614,337 | A | | 9/1986 | Schonenberger | |
| 4,616,822 | A | | 10/1986 | Trulaske et al. | |
| 4,618,144 | A | | 10/1986 | Gibson | |
| 4,621,623 | A | | 11/1986 | Wang | |
| 4,625,962 | A | | 12/1986 | Street | |
| 4,627,619 | A | | 12/1986 | Rockwell et al. | |
| 4,629,062 | A | | 12/1986 | Silverthorn et al. | |
| 4,632,385 | A | | 12/1986 | Geraci | |
| 4,635,927 | A | | 1/1987 | Shu | |
| 4,635,928 | A | | 1/1987 | Ogden et al. | |
| 4,643,418 | A | | 2/1987 | Bart | |
| 4,645,197 | A | | 2/1987 | McFee | |
| 4,645,200 | A | | 2/1987 | Hix | |
| 4,659,077 | A | | 4/1987 | Stropkay | |
| D289,668 | S | | 5/1987 | Gremonprez et al. | |
| 4,664,371 | A | | 5/1987 | Viander | |
| 4,664,646 | A | | 5/1987 | Rorabaugh | |
| 4,679,787 | A | | 7/1987 | Guilbault | |
| 4,681,316 | A | | 7/1987 | DeCloux | |
| 4,687,195 | A | | 8/1987 | Potts | |
| 4,690,398 | A | | 9/1987 | Smith | |
| 4,708,337 | A | | 11/1987 | Shyu | |

| | | | | | |
|---|---|---|---|---|---|
| 4,708,338 | A | | 11/1987 | Potts | |
| 4,720,093 | A | | 1/1988 | Del Mar | |
| 4,726,583 | A | | 2/1988 | Olsen et al. | |
| 4,729,558 | A | | 3/1988 | Kuo | |
| 4,749,181 | A | | 6/1988 | Pittaway et al. | |
| 4,750,735 | A | | 6/1988 | Furgerson et al. | |
| 4,757,987 | A | | 7/1988 | Allemand | |
| 4,759,540 | A | | 7/1988 | Yu et al. | |
| 4,766,996 | A | | 8/1988 | Gibson | |
| 4,786,050 | A | | 11/1988 | Geschwender | |
| 4,792,134 | A | | 12/1988 | Chen | |
| 4,796,881 | A | | 1/1989 | Watterson | |
| 4,799,676 | A | | 1/1989 | Sheppard et al. | |
| 4,805,901 | A | | 2/1989 | Kulick | |
| 4,819,583 | A | | 4/1989 | Guerra | |
| 4,826,153 | A | | 5/1989 | Schalip | |
| 4,830,362 | A | * | 5/1989 | Bull | 482/53 |
| 4,836,543 | A | | 6/1989 | Holzer | |
| 4,838,543 | A | | 6/1989 | Armstrong et al. | |
| 4,842,266 | A | | 6/1989 | Sweeney, Sr. et al. | |
| 4,844,449 | A | | 7/1989 | Truslaske | |
| 4,848,737 | A | | 7/1989 | Ehrenfield | |
| 4,852,874 | A | | 8/1989 | Sleichter, III et al. | |
| 4,854,577 | A | | 8/1989 | Sims | |
| D303,414 | S | | 9/1989 | Armstrong et al. | |
| 4,869,494 | A | | 9/1989 | Lambert, Sr. | |
| 4,881,934 | A | | 11/1989 | Harston et al. | |
| 4,886,266 | A | | 12/1989 | Trulaske | |
| 4,905,330 | A | | 3/1990 | Jacobs | |
| 4,913,396 | A | | 4/1990 | Dalebout et al. | |
| 4,913,423 | A | | 4/1990 | Farran et al. | |
| 4,918,766 | A | | 4/1990 | Leonaggeo, Jr. | |
| 4,921,247 | A | | 5/1990 | Sterling | |
| 4,927,138 | A | | 5/1990 | Ferrari | |
| 4,938,473 | A | | 7/1990 | Lee et al. | |
| 4,944,518 | A | | 7/1990 | Flynn | |
| 4,949,954 | A | | 8/1990 | Hix | |
| 4,949,993 | A | | 8/1990 | Stark et al. | |
| 4,958,830 | A | | 9/1990 | Huggins et al. | |
| 4,959,040 | A | | 9/1990 | Gardner et al. | |
| 4,974,831 | A | | 12/1990 | Dunham | |
| D313,826 | S | | 1/1991 | Birrell et al. | |
| 4,984,810 | A | | 1/1991 | Stearns et al. | |
| 4,989,858 | A | | 2/1991 | Young et al. | |
| 4,998,725 | A | | 3/1991 | Watterson et al. | |
| 5,000,440 | A | | 3/1991 | Lynch | |
| 5,002,271 | A | | 3/1991 | Gonzales | |
| 5,007,630 | A | | 4/1991 | Real et al. | |
| 5,013,031 | A | | 5/1991 | Bull | |
| 5,019,029 | A | | 5/1991 | Calvert | |
| 5,026,046 | A | | 6/1991 | DeCloux | |
| 5,028,801 | A | | 7/1991 | Gerdt | |
| 5,029,801 | A | | 7/1991 | Dalebout et al. | |
| 5,039,088 | A | | 8/1991 | Shifferaw | |
| 5,040,786 | A | | 8/1991 | Jou | |
| 5,048,821 | A | * | 9/1991 | Kuo-Liang | 482/53 |
| 5,054,770 | A | | 10/1991 | Bull | |
| 5,058,881 | A | | 10/1991 | Measom | |
| 5,058,882 | A | | 10/1991 | Dalebout et al. | |
| 5,061,231 | A | | 10/1991 | Dietrich et al. | |
| D321,734 | S | | 11/1991 | Dunham et al. | |
| 5,062,627 | A | | 11/1991 | Bingham | |
| 5,067,937 | A | | 11/1991 | Aschaber et al. | |
| 5,071,115 | A | | 12/1991 | Welch | |
| 5,072,928 | A | | 12/1991 | Stearns et al. | |
| 5,078,389 | A | | 1/1992 | Chen | |
| 5,078,669 | A | | 1/1992 | Dietrich et al. | |
| 5,081,991 | A | | 1/1992 | Chance | |
| 5,085,426 | A | | 2/1992 | Wanzer et al. | |
| 5,088,729 | A | | 2/1992 | Dalebout | |
| 5,090,690 | A | | 2/1992 | Huang | |
| 5,100,127 | A | | 3/1992 | Melnick et al. | |
| 5,102,380 | A | | 4/1992 | Jacobson et al. | |
| 5,102,385 | A | | 4/1992 | Calvert | |
| 5,105,931 | A | | 4/1992 | Lashyro | |
| D326,491 | S | * | 5/1992 | Dalebout | D21/670 |
| 5,109,778 | A | | 5/1992 | Berkowitz et al. | |
| 5,110,117 | A | | 5/1992 | Fisher et al. | |
| 5,114,388 | A | | 5/1992 | Trulaske | |
| 5,114,389 | A | | 5/1992 | Brentham | |
| 5,129,872 | A | | 7/1992 | Dalton et al. | |
| 5,129,873 | A | | 7/1992 | Henderson et al. | |
| 5,131,895 | A | | 7/1992 | Rogers, Jr. | |
| D328,770 | S | | 8/1992 | Henderson et al. | |
| 5,135,216 | A | | 8/1992 | Bingham et al. | |
| 5,135,447 | A | | 8/1992 | Robards, Jr. et al. | |
| 5,139,470 | A | | 8/1992 | Wang | |
| 5,141,479 | A | | 8/1992 | Vanjani et al. | |
| 5,160,302 | A | | 11/1992 | Li | |
| 5,163,885 | A | | 11/1992 | Wanzer et al. | |
| 5,163,888 | A | | 11/1992 | Stearns | |
| 5,180,353 | A | | 1/1993 | Snyderman | |
| 5,183,449 | A | | 2/1993 | DeCloux | |
| 5,184,988 | A | | 2/1993 | Dunham | |
| 5,188,577 | A | | 2/1993 | Young et al. | |
| 5,190,505 | A | | 3/1993 | Dalebout et al. | |
| 5,192,255 | A | | 3/1993 | Dalebout et al. | |
| 5,199,932 | A | | 4/1993 | Liao | |
| 5,199,934 | A | * | 4/1993 | Lin | 482/79 |
| 5,203,800 | A | | 4/1993 | Meredith | |
| 5,205,800 | A | | 4/1993 | Grant | |
| 5,207,621 | A | | 5/1993 | Koch et al. | |
| 5,207,622 | A | | 5/1993 | Wilkinson et al. | |
| 5,207,628 | A | | 5/1993 | Graham | |
| 5,209,714 | A | | 5/1993 | Sainte et al. | |
| 5,215,515 | A | | 6/1993 | Bershadsky | |
| 5,232,421 | A | | 8/1993 | Chen et al. | |
| 5,236,407 | A | | 8/1993 | Wang | |
| 5,238,462 | A | | 8/1993 | Cinke et al. | |
| 5,242,343 | A | | 9/1993 | Miller | |
| 5,246,410 | A | | 9/1993 | Fun | |
| 5,251,742 | A | | 10/1993 | Campbell | |
| 5,254,067 | A | | 10/1993 | Habing et al. | |
| 5,256,117 | A | | 10/1993 | Potts et al. | |
| 5,263,910 | A | | 11/1993 | Yang | |
| 5,267,923 | A | | 12/1993 | Piaget et al. | |
| 5,277,677 | A | | 1/1994 | Terauds | |
| 5,279,528 | A | | 1/1994 | Dalebout et al. | |
| 5,282,776 | A | | 2/1994 | Dalebout | |
| 5,282,992 | A | | 2/1994 | Reichgott | |
| 5,290,204 | A | | 3/1994 | Lee | |
| 5,290,205 | A | | 3/1994 | Densmore et al. | |
| 5,290,211 | A | | 3/1994 | Stearns | |
| 5,299,992 | A | | 4/1994 | Wilkinson | |
| 5,299,993 | A | | 4/1994 | Habing | |
| 5,302,162 | A | | 4/1994 | Pasero | |
| 5,304,105 | A | | 4/1994 | Hsieh | |
| 5,318,490 | A | | 6/1994 | Henderson et al. | |
| 5,320,588 | A | | 6/1994 | Wanzer et al. | |
| 5,322,491 | A | | 6/1994 | Wanzer et al. | |
| 5,323,784 | A | | 6/1994 | Shu | |
| 5,330,397 | A | | 7/1994 | Prince et al. | |
| 5,330,401 | A | | 7/1994 | Walstead | |
| 5,335,146 | A | | 8/1994 | Stucke | |
| 5,336,144 | A | | 8/1994 | Rodden | |
| 5,336,146 | A | * | 8/1994 | Piaget et al. | 482/54 |
| 5,338,271 | A | | 8/1994 | Wang | |
| 5,344,371 | A | | 9/1994 | Wang | |
| 5,346,452 | A | | 9/1994 | Ku | |
| 5,352,167 | A | | 10/1994 | Ulicny | |
| 5,352,169 | A | | 10/1994 | Eschenbach | |
| 5,368,532 | A | | 11/1994 | Farnet | |
| 5,372,559 | A | | 12/1994 | Dalebout et al. | |
| 5,372,560 | A | | 12/1994 | Chang | |
| 5,374,227 | A | | 12/1994 | Webb | |
| 5,382,207 | A | | 1/1995 | Skowronski et al. | |
| 5,383,829 | A | | 1/1995 | Miller | |
| 5,401,226 | A | | 3/1995 | Stearns | |
| RE34,959 | E | | 5/1995 | Potts | |
| 5,411,454 | A | | 5/1995 | Chang | |
| 5,429,563 | A | | 7/1995 | Engel et al. | |
| D360,915 | S | | 8/1995 | Bostic et al. | |
| 5,441,467 | A | | 8/1995 | Stevens | |
| 5,441,468 | A | | 8/1995 | Deckers et al. | |
| 5,445,583 | A | | 8/1995 | Habing | |
| 5,454,772 | A | | 10/1995 | Rodden | |
| 5,480,365 | A | | 1/1996 | Lundin et al. | |
| 5,484,362 | A | | 1/1996 | Skowronski et al. | |

| | | | | |
|---|---|---|---|---|
| 5,489,250 | A | 2/1996 | Densmore et al. | |
| 5,492,517 | A | 2/1996 | Bostic et al. | |
| 5,499,956 | A | 3/1996 | Habing et al. | |
| 5,509,872 | A | 4/1996 | Chen | |
| 5,512,025 | A | 4/1996 | Dalebout et al. | |
| 5,514,068 | A | 5/1996 | Calvert et al. | |
| 5,518,470 | A | 5/1996 | Piaget et al. | |
| 5,518,473 | A | 5/1996 | Miller | |
| 5,527,245 | A | 6/1996 | Dalebout et al. | |
| 5,536,231 | A | 7/1996 | Nilsson | |
| 5,538,489 | A | 7/1996 | Magid | |
| 5,542,892 | A | 8/1996 | Buhler | |
| 5,545,112 | A | 8/1996 | Densmore et al. | |
| D373,805 | S | 9/1996 | Rawls et al. | |
| 5,558,604 | A | 9/1996 | Hopkins | |
| 5,562,574 | A | 10/1996 | Miller | |
| D376,828 | S | 12/1996 | Conley et al. | |
| 5,591,106 | A | 1/1997 | Dalebout et al. | |
| 5,595,554 | A | 1/1997 | Maresh | |
| 5,595,556 | A | 1/1997 | Dalebout et al. | |
| 5,599,259 | A | 2/1997 | Skowronski et al. | |
| 5,607,375 | A | 3/1997 | Dalebout et al. | |
| 5,611,758 | A | 3/1997 | Rodgers, Jr. | |
| 5,622,527 | A | 4/1997 | Watterson et al. | |
| 5,626,538 | A | 5/1997 | Dalebout et al. | |
| 5,626,539 | A | 5/1997 | Piaget et al. | |
| 5,645,512 | A | 7/1997 | Yu | |
| 5,649,882 | A | 7/1997 | Parikh et al. | |
| 5,650,709 | A | 7/1997 | Rotunda et al. | |
| 5,658,223 | A | 8/1997 | Habing et al. | |
| 5,662,557 | A | 9/1997 | Watterson et al. | |
| 5,665,033 | A | 9/1997 | Palmer | |
| 5,669,856 | A | 9/1997 | Liu | 482/51 |
| 5,669,857 | A | 9/1997 | Watterson et al. | |
| 5,672,140 | A | 9/1997 | Watterson et al. | |
| 5,674,156 | A | 10/1997 | Watterson et al. | |
| 5,674,453 | A | 10/1997 | Watterson et al. | |
| 5,676,624 | A | 10/1997 | Watterson et al. | |
| 5,683,332 | A | 11/1997 | Watterson et al. | |
| 5,685,804 | A | 11/1997 | Whan-Tong et al. | |
| 5,702,305 | A | 12/1997 | Norman et al. | |
| 5,702,325 | A | 12/1997 | Watterson et al. | |
| 5,704,879 | A | 1/1998 | Watterson et al. | |
| 5,711,745 | A | 1/1998 | Yang | |
| 5,718,657 | A | 2/1998 | Dalebout et al. | |
| 5,722,922 | A | 3/1998 | Watterson et al. | |
| 5,741,205 | A | 4/1998 | Doll et al. | |
| 5,743,833 | A | 4/1998 | Watterson et al. | |
| 5,746,682 | A | 5/1998 | Hung | |
| 5,747,955 | A | 5/1998 | Rotunda et al. | |
| 5,749,807 | A | 5/1998 | Webb | |
| 5,752,897 | A | 5/1998 | Skowronski et al. | |
| 5,759,135 | A | 6/1998 | Chen | |
| 5,762,587 | A | 6/1998 | Dalebout et al. | |
| 5,762,588 | A | 6/1998 | Chen | |
| 5,772,560 | A | 6/1998 | Watterson et al. | |
| 5,779,599 | A | 7/1998 | Chen | |
| 5,782,723 | A | 7/1998 | Kuo | |
| 5,792,029 | A | 8/1998 | Gordon | |
| 5,803,870 | A | 9/1998 | Buhler | |
| 5,803,880 | A | 9/1998 | Allen | |
| 5,810,696 | A | 9/1998 | Webb | |
| 5,827,155 | A | 10/1998 | Jensen et al. | |
| D400,941 | S | 11/1998 | Allen | |
| 5,836,855 | A | 11/1998 | Eschenbach | |
| 5,853,352 | A | 12/1998 | Login | |
| 5,855,537 | A | 1/1999 | Coody et al. | |
| 5,856,736 | A | 1/1999 | Rotunda et al. | |
| 5,860,893 | A | 1/1999 | Watterson et al. | |
| 5,860,894 | A | 1/1999 | Dalebout et al. | |
| D406,621 | S | 3/1999 | Piaget | |
| 5,879,270 | A | 3/1999 | Huish et al. | |
| D407,771 | S | 4/1999 | Garza | |
| 5,897,459 | A | 4/1999 | Habing et al. | |
| 5,899,833 | A | 5/1999 | Ryan et al. | |
| 5,899,834 | A | 5/1999 | Dalebout et al. | |
| 5,908,373 | A | 6/1999 | Pitre | |
| 5,910,072 | A | 6/1999 | Rawls et al. | |
| 5,916,065 | A | 6/1999 | McBride et al. | |
| 5,921,894 | A | 7/1999 | Eschenbach | |
| 5,938,570 | A | 8/1999 | Maresh | |
| 5,947,872 | A | 9/1999 | Ryan et al. | |
| 5,951,441 | A | 9/1999 | Dalebout et al. | |
| 5,964,682 | A | 10/1999 | Sokol | |
| 5,967,944 | A | 10/1999 | Vittone et al. | |
| 6,013,011 | A | 1/2000 | Moore et al. | |
| D421,779 | S | 3/2000 | Piaget et al. | |
| 6,033,344 | A | 3/2000 | Trulaske et al. | |
| 6,033,347 | A | 3/2000 | Dalebout et al. | |
| 6,042,514 | A | 3/2000 | Abelbeck | |
| 6,042,518 | A | 3/2000 | Hildebrandt et al. | |
| 6,050,921 | A | 4/2000 | Wang | |
| 6,077,197 | A | 6/2000 | Stearns et al. | |
| D429,509 | S | 8/2000 | Garza | |
| 6,095,951 | A | 8/2000 | Skowronski et al. | |
| 6,106,439 | A | 8/2000 | Boland | |
| 6,113,518 | A | 9/2000 | Maresh et al. | |
| 6,117,053 | A | 9/2000 | Chiu | |
| 6,123,646 | A | 9/2000 | Colassi | |
| 6,132,340 | A | 10/2000 | Wang et al. | |
| 6,174,267 | B1 | 1/2001 | Dalebout et al. | |
| 6,179,753 | B1 | 1/2001 | Barker et al. | |
| 6,234,936 | B1 | 5/2001 | Wang | |
| 6,258,012 | B1 | 7/2001 | Yoshimura | |
| 6,280,362 | B1 | 8/2001 | Dalebout et al. | |
| 6,312,363 | B1 | 11/2001 | Watterson et al. | |
| 6,328,676 | B1 | 12/2001 | Alessandri | |
| 6,350,218 | B1 | 2/2002 | Dalebout et al. | |
| 6,413,195 | B1 | 7/2002 | Barzelay | |
| 6,436,008 | B1 | 8/2002 | Skowronski et al. | |
| 6,447,424 | B1 | 9/2002 | Ashby et al. | |
| 6,450,923 | B1 | 9/2002 | Vatti | |
| 6,458,060 | B1 | 10/2002 | Watterson et al. | |
| 6,461,279 | B1 | 10/2002 | Kuo | |
| 6,471,622 | B1 | 10/2002 | Hammer et al. | |
| 6,569,062 | B2 | 5/2003 | Wang et al. | |
| 6,572,513 | B1 | 6/2003 | Whan-Tong et al. | |
| 6,589,138 | B2 | 7/2003 | Dyer et al. | |
| 6,626,803 | B1 | 9/2003 | Oglesby et al. | |
| 6,743,153 | B2 | 6/2004 | Watterson et al. | |
| 6,811,519 | B2 | 11/2004 | Kuo | |
| 6,893,383 | B1 | 5/2005 | Chang et al. | |
| 7,097,593 | B2 | 8/2006 | Chang et al. | |
| D534,973 | S | 1/2007 | Flick et al. | |
| 7,306,546 | B2 | 12/2007 | Lo | |
| 7,316,632 | B2 | 1/2008 | Rodgers, Jr. | |
| 2001/0016542 | A1 * | 8/2001 | Yoshimura | 482/54 |
| 2002/0082146 | A1 | 6/2002 | Stearns | |
| 2003/0040405 | A1 | 2/2003 | Watterson et al. | |
| 2003/0073545 | A1 | 4/2003 | Liu et al. | |
| 2003/0125165 | A1 | 7/2003 | Trevino et al. | |
| 2003/0139261 | A1 | 7/2003 | Kuo | |
| 2004/0018916 | A1 | 1/2004 | Marin et al. | |
| 2004/0018917 | A1 | 1/2004 | Corbalis et al. | |
| 2004/0018918 | A1 | 1/2004 | Reyes et al. | |
| 2004/0132583 | A1 | 7/2004 | Ohrt et al. | |
| 2004/0192514 | A1 | 9/2004 | Piaget et al. | |
| 2004/0214693 | A1 | 10/2004 | Piaget et al. | |
| 2005/0202939 | A1 | 9/2005 | Lull et al. | |
| 2005/0209059 | A1 | 9/2005 | Crawford et al. | |
| 2005/0209060 | A1 | 9/2005 | Lull | |
| 2005/0209061 | A1 | 9/2005 | Crawford et al. | |
| 2005/0233864 | A1 | 10/2005 | Smith et al. | |
| 2005/0245359 | A1 | 11/2005 | Lo | |
| 2006/0223680 | A1 | 10/2006 | Chang | |
| 2008/0070758 | A1 | 3/2008 | Lull et al. | |

FOREIGN PATENT DOCUMENTS

| | | | |
|---|---|---|---|
| CA | 644774 | | 7/1962 |
| CA | 2018219 | C | 12/1990 |
| CA | 2016756 | C | 1/1991 |
| CA | 2061470 | C | 9/1992 |
| CA | 2143341 | C | 9/1995 |
| CN | 2510102 | Y | 9/2002 |
| CN | 2675190 | Y | 2/2005 |
| DE | 22 25 342 | | 12/1973 |
| DE | 24 08 052 | A | 8/1975 |
| DE | 24 08 055 | | 8/1975 |

| | | | |
|---|---|---|---|
| DE | 25 28 414 | A1 | 5/1976 |
| DE | 29 19 494 | A1 | 11/1980 |
| DE | 36 01 184 | A1 | 7/1987 |
| DE | 38 39 391 | A1 | 6/1989 |
| EP | 0 196 877 | A2 | 10/1986 |
| EP | 0 225 810 | A1 | 6/1987 |
| EP | 0 403 924 | A2 | 12/1990 |
| EP | 0 417 970 | A1 | 3/1991 |
| EP | 0 504 649 | A1 | 9/1992 |
| EP | 0 914 842 | A2 | 5/1999 |
| FR | 1 565 617 | | 3/1969 |
| FR | 2 616 132 | | 12/1988 |
| GB | 1 505 702 | | 3/1978 |
| GB | 2 152 825 | A | 8/1985 |
| GB | 2 272 167 | A | 5/1994 |
| JP | 51-10842 | | 3/1976 |
| SE | 58 213 | | 6/1995 |
| SE | 66 279 | | 10/2000 |
| SE | 66 280 | | 10/2000 |
| SU | 546523 | | 3/1977 |
| SU | 1 265 113 | A1 | 10/1986 |
| SU | 1 297 879 | A1 | 3/1987 |
| SU | 1 567 221 | A1 | 5/1990 |
| TW | 515306 | Y | 12/2002 |
| TW | 547102 | | 8/2003 |
| TW | 547102 | Y | 8/2003 |
| TW | M249682 | | 11/2004 |
| WO | WO 81/01960 | | 7/1981 |
| WO | WO 82/01138 | | 4/1982 |
| WO | WO 92/11905 | | 7/1992 |
| WO | WO 94/20170 | | 9/1994 |
| WO | WO 95/16502 | | 6/1995 |
| WO | WO 99/21620 | | 5/1999 |
| WO | WO 00/06256 | | 2/2000 |
| WO | WO 00/18472 | | 4/2000 |
| WO | WO 00/30717 | | 6/2000 |
| WO | WO 2004/108225 | A1 | 12/2004 |

## OTHER PUBLICATIONS

Damark International, Inc. Mail Order Catalog, dated Nov. 17, 1994, cover page and p. 6.
Treadmill Owner's Manual by Formula 22100 Manual Treadmill, date unknown.
Versatile Exercise System; Abstract from Recreation, Sports & Leisure, p. 10 (1986).
Instruction Booklet for "Body Shop 360" by Weslo International, Inc., pp. 1-30, (1984).
Owner's Manual for Weider Flex CTS Cross Training System for Model No. 870300, Weslo, Inc., a Weider Heal and Fitness, Inc. Company, pp. 1-12 (Mar. 1990).
Catalog, Diamond House International Inc., date unknown.
J.K. Exer, Catalog, Jih Kao Ent. Co., Ltd., Date unknown.
"Nautilus Home Health & Fitness Catalog", Nautilus, Inc., pp. 1-56 (2004).
Office Action, U.S. Appl. No. 10/789,294, mailed Dec. 9, 2004, 6 pgs.
Response, U.S. Appl. No. 10/789,294, dated Feb. 9, 2005, 3 pgs.
Office Action and PTO-892, U.S. Appl. No. 10/789,294, mailed May 18, 2005, 6 pgs.
Amendment and Response to Office Action, U.S. Appl. No. 10/789,294, dated Nov. 15, 2005, 11 pgs.
Office Action and PTO-892, U.S. Appl. No. 10/789,294, mailed Feb. 8, 2006, 5 pgs.
Amendment and Response to Office Action, U.S. Appl. No. 10/789,294, dated May 19, 2006, 10 pgs.
Office Action and PTO-892, U.S. Appl. No. 10/789,294, mailed Aug. 8, 2006, 10 pgs.
A Petition for Extension of Time and Response to Office Action, U.S. Appl. No. 10/789,294, dated Feb. 8, 2007, 40 pgs.
Notice of Allowance and PTO-892, U.S. Appl. No. 10/789,294, mailed May 8, 2007, 6 pgs.
Supplemental Notice of Allowance, U.S. Appl. No. 10/789,294, mailed Jun. 13, 2007, 2 pgs.
Preliminary Amendment, U.S. Appl. No. 10/637,628, dated Aug. 23, 2004, 10 pgs.
Office Action and PTO-892, U.S. Appl. No. 10/637,628, mailed Sep. 8, 2004, 6 pgs.
Amendment and Response to Sep. 8, 2004 Office Action, U.S. Appl. No. 10/637,628, mailed Feb. 8, 2005, 5 pgs.
Notice of Allowance, U.S. Appl. No. 10/637,628, mailed Mar. 8, 2005, 4 pgs.
Notice of Allowance, U.S. Appl. No. 10/637,628, mailed Sep. 8, 2005, 4 pgs.
Notice of Allowance, U.S. Appl. No. 10/637,628, mailed Feb. 27, 2006, 4 pgs.

* cited by examiner

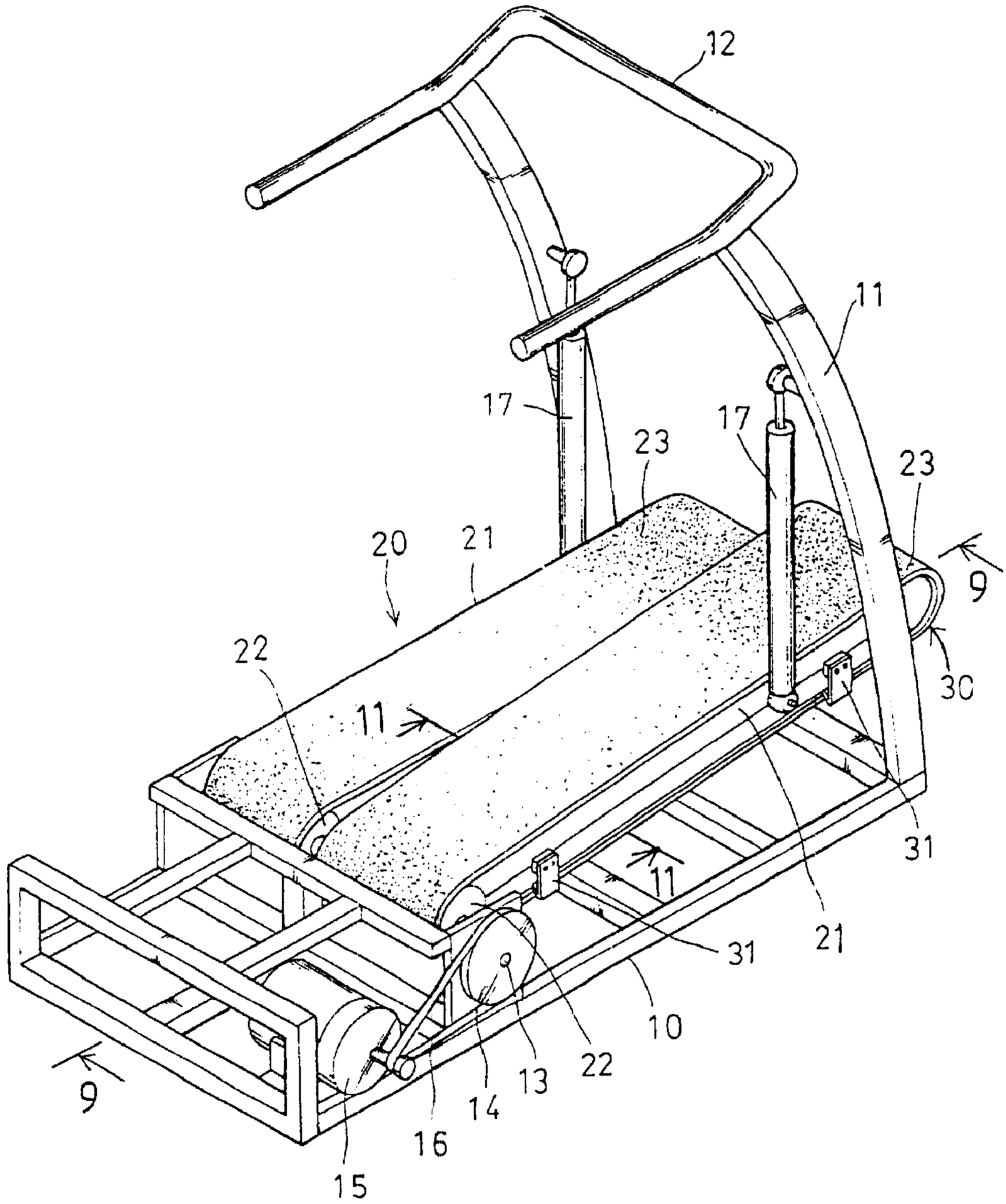



FIG. 1

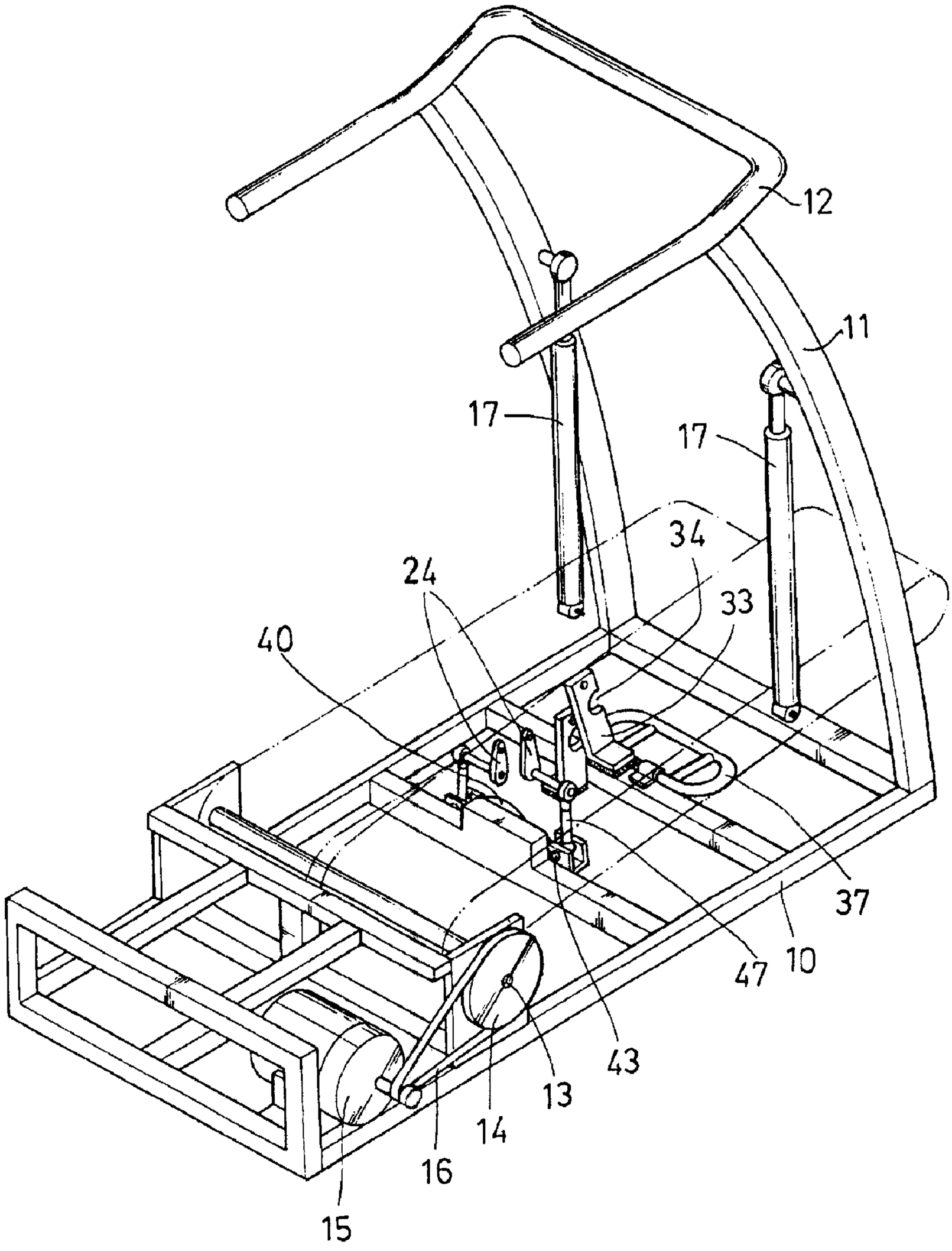



FIG. 2

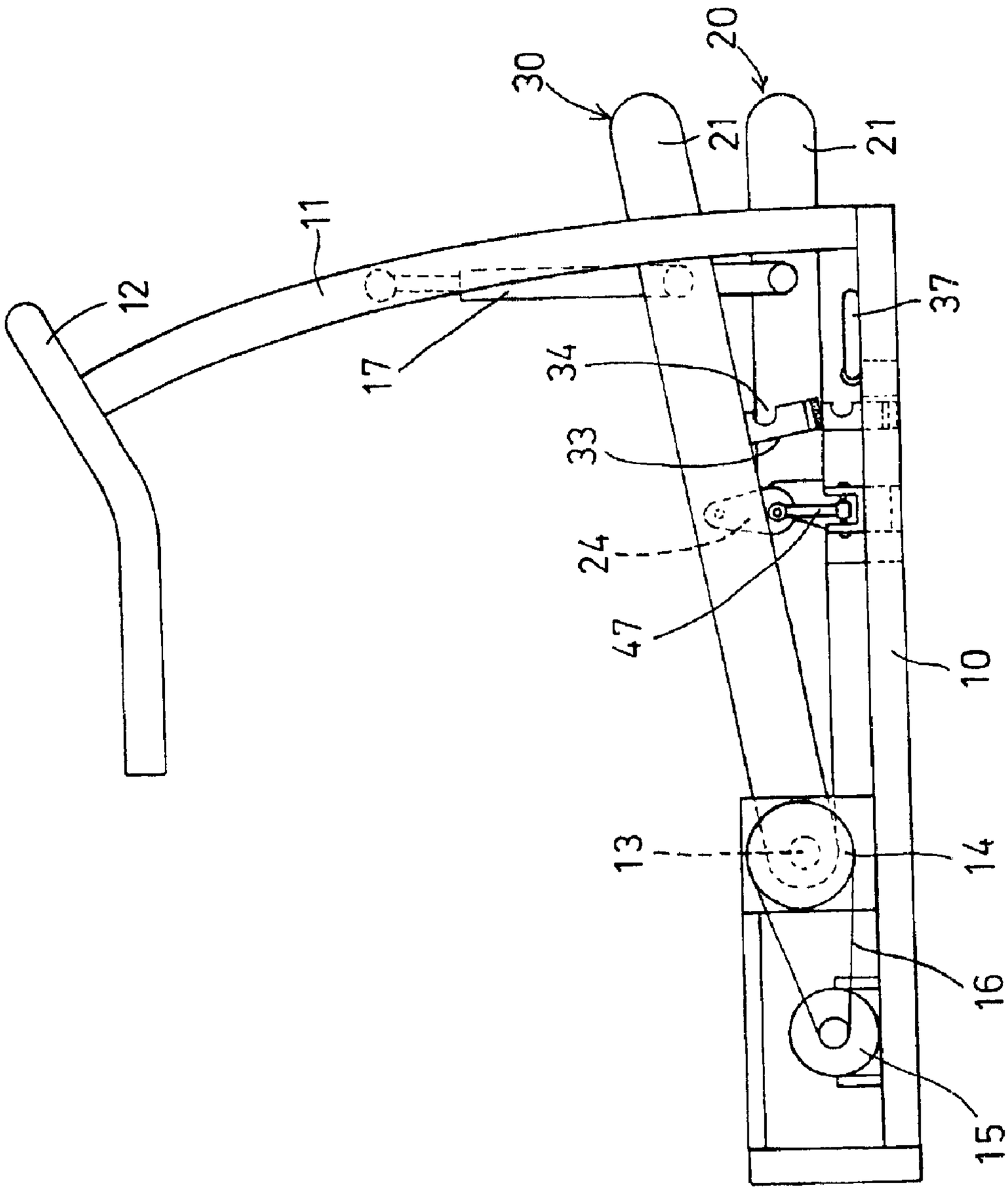



FIG. 3

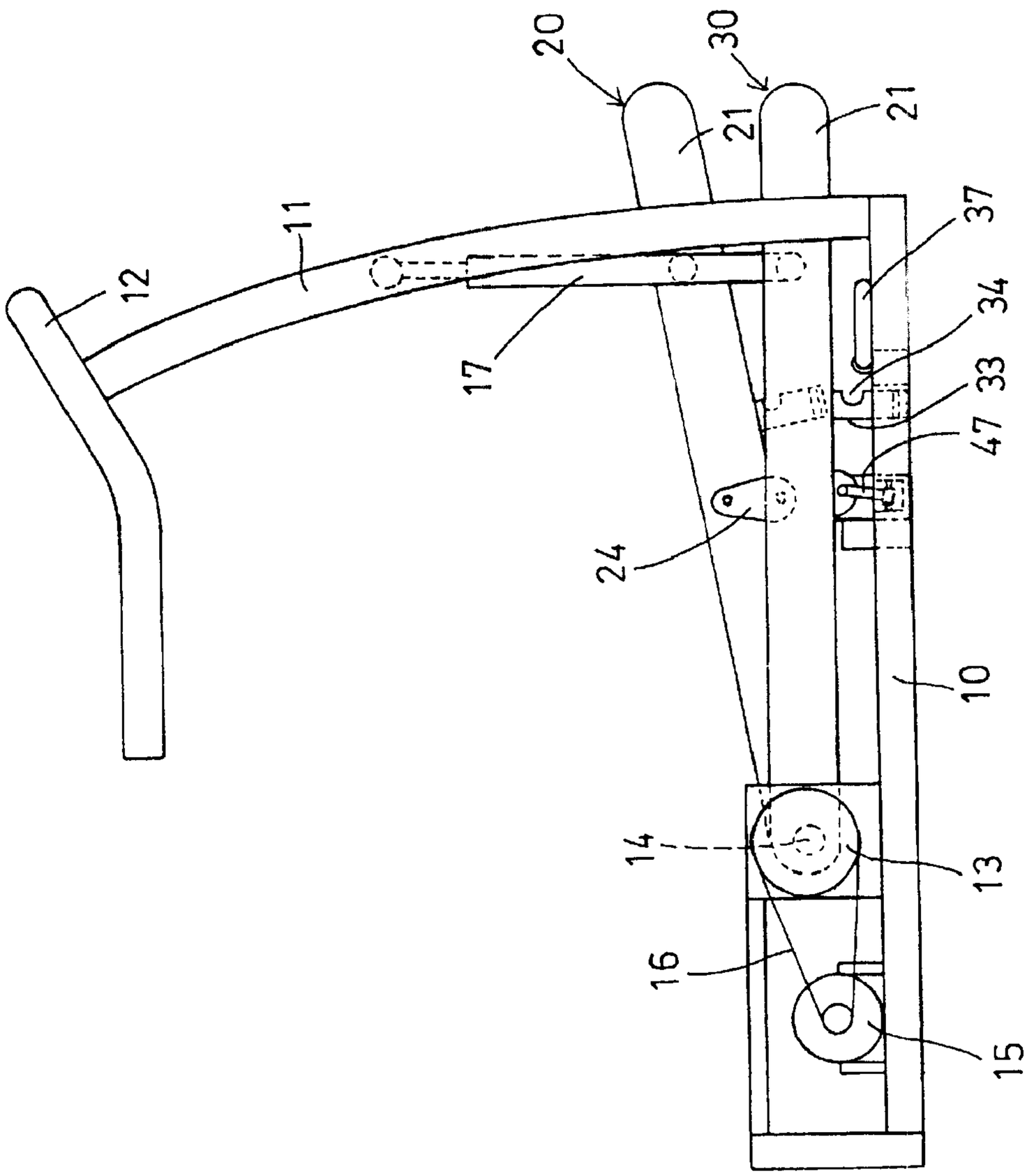



FIG. 4

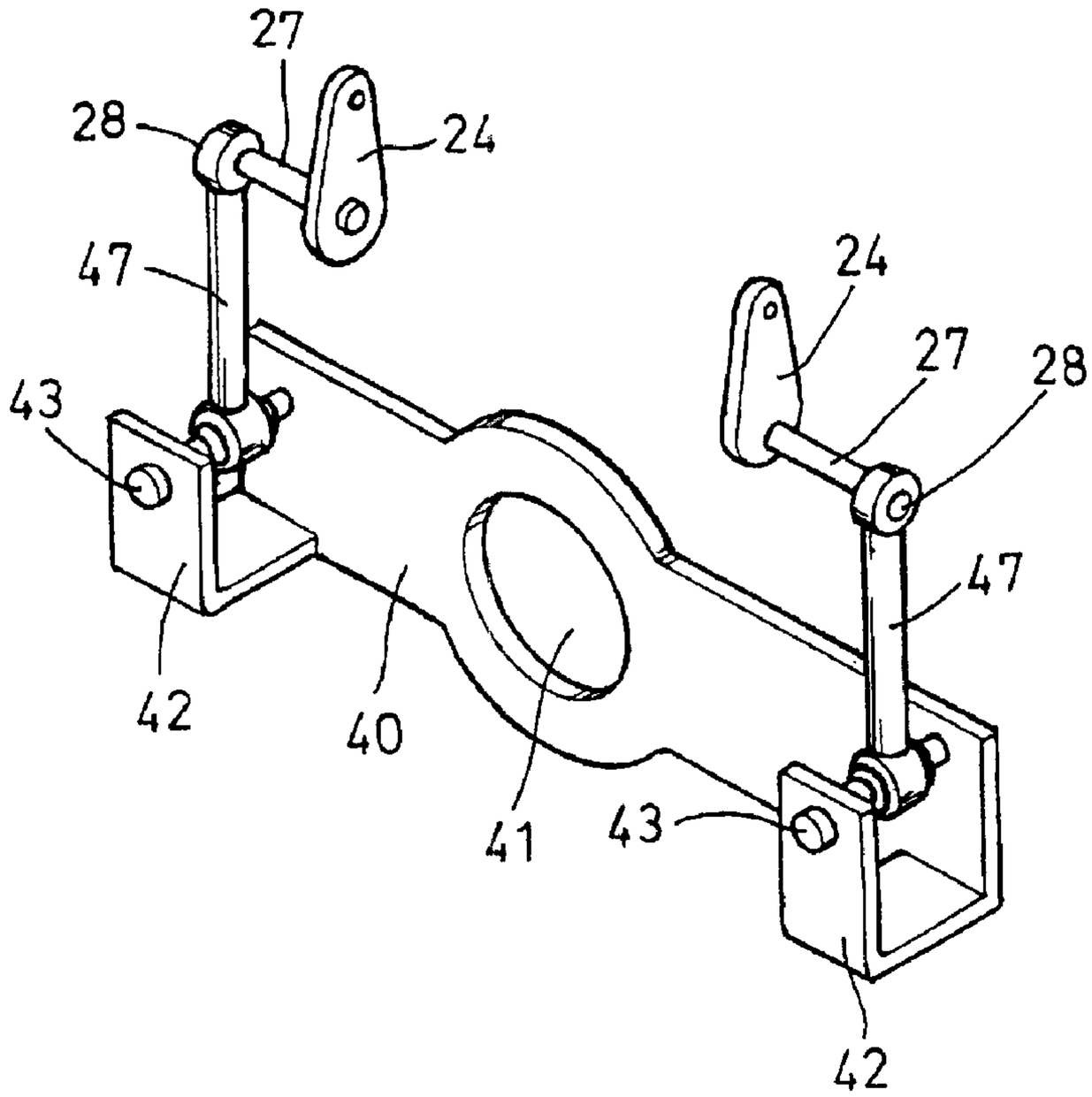



FIG. 5

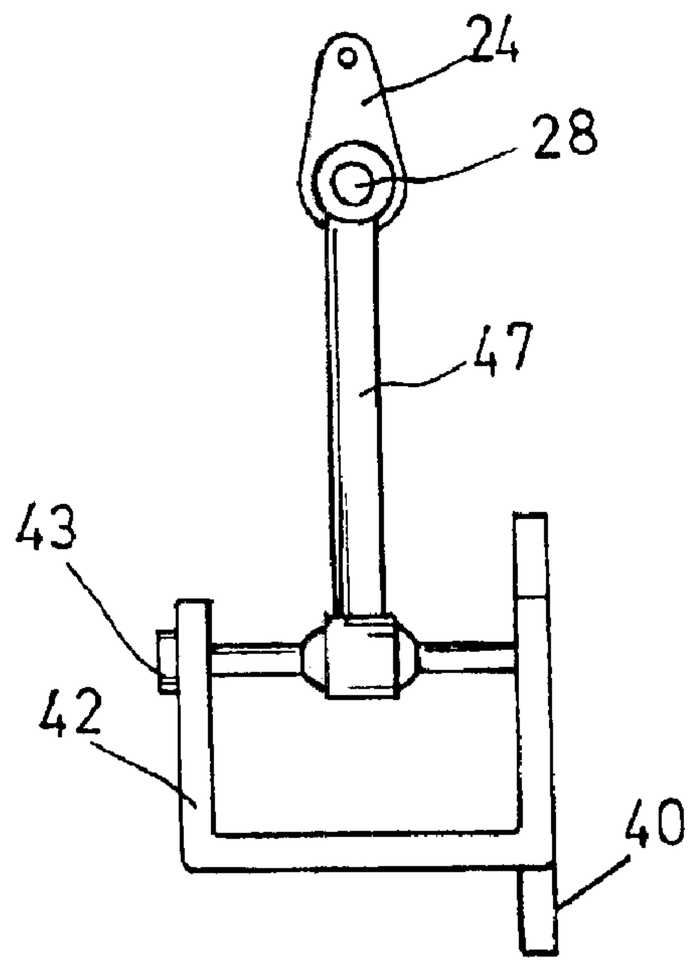
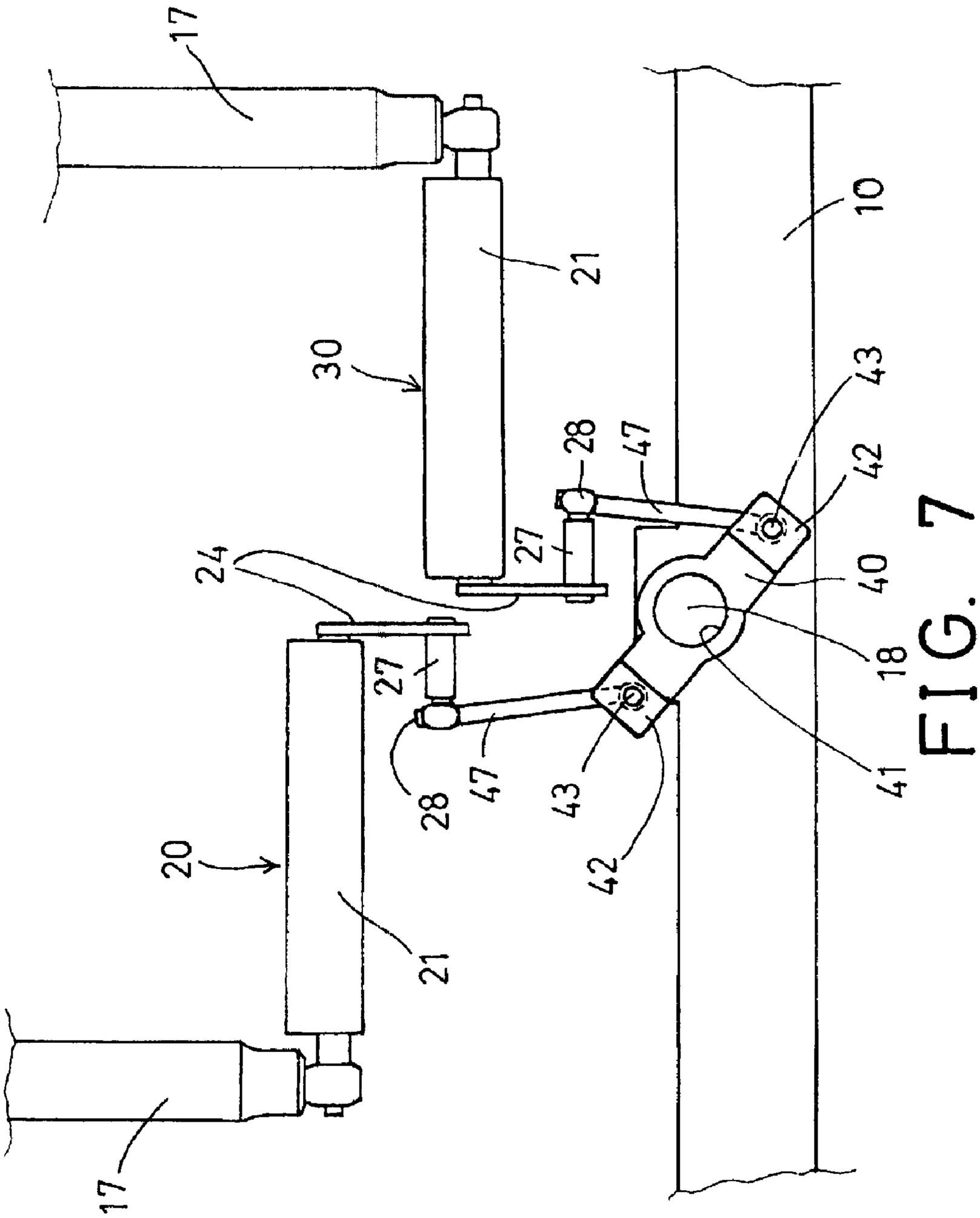



FIG. 6

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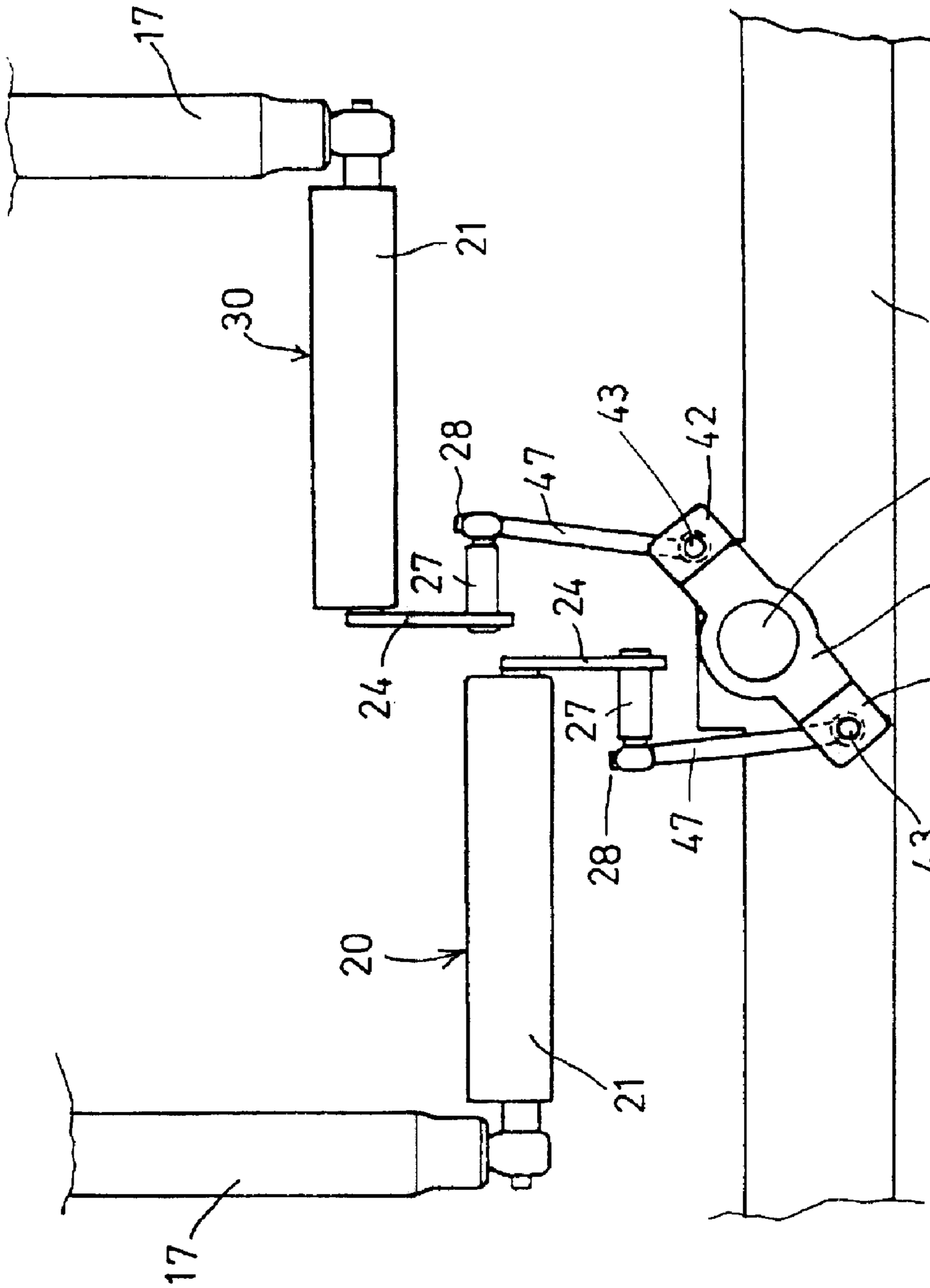


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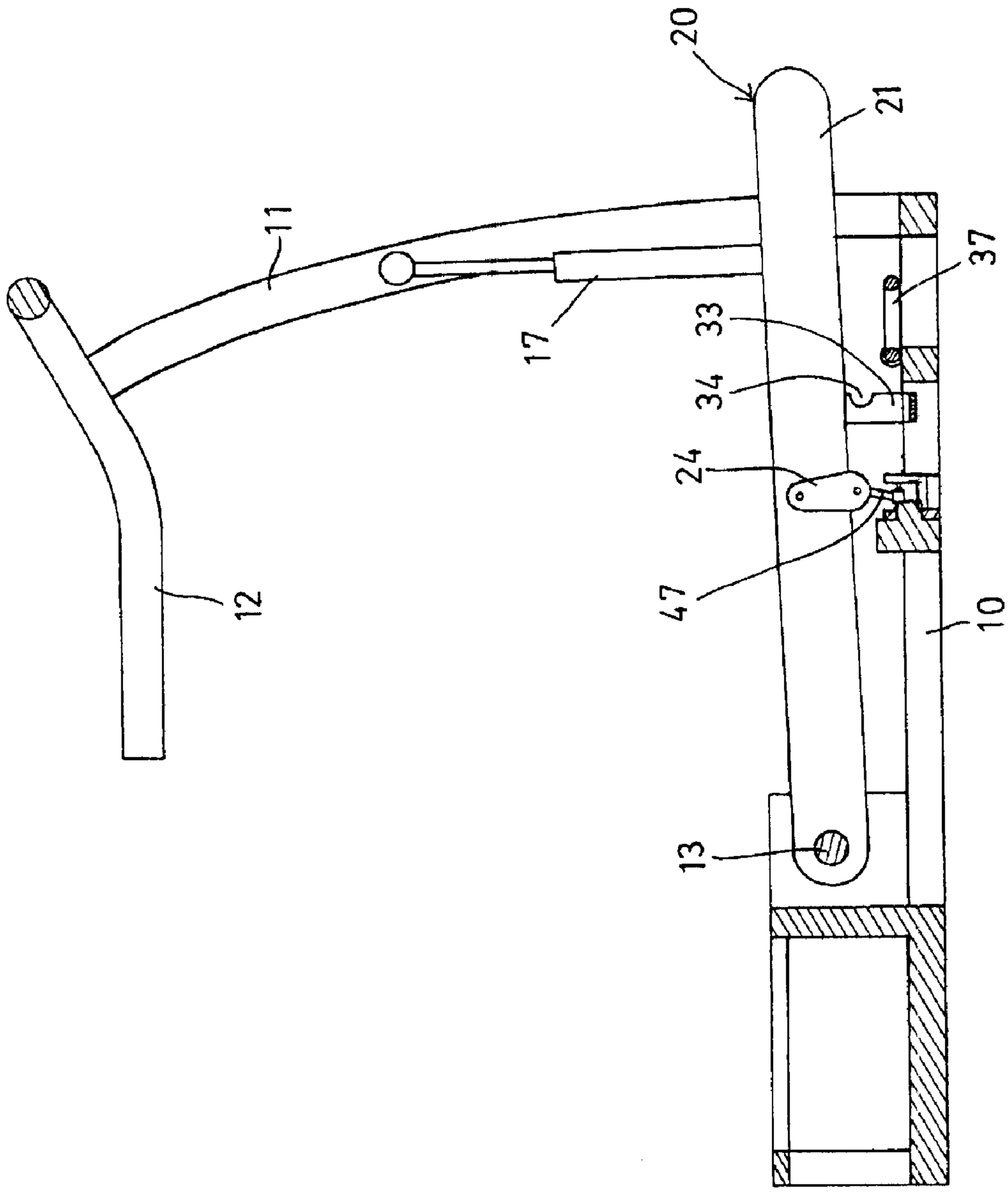


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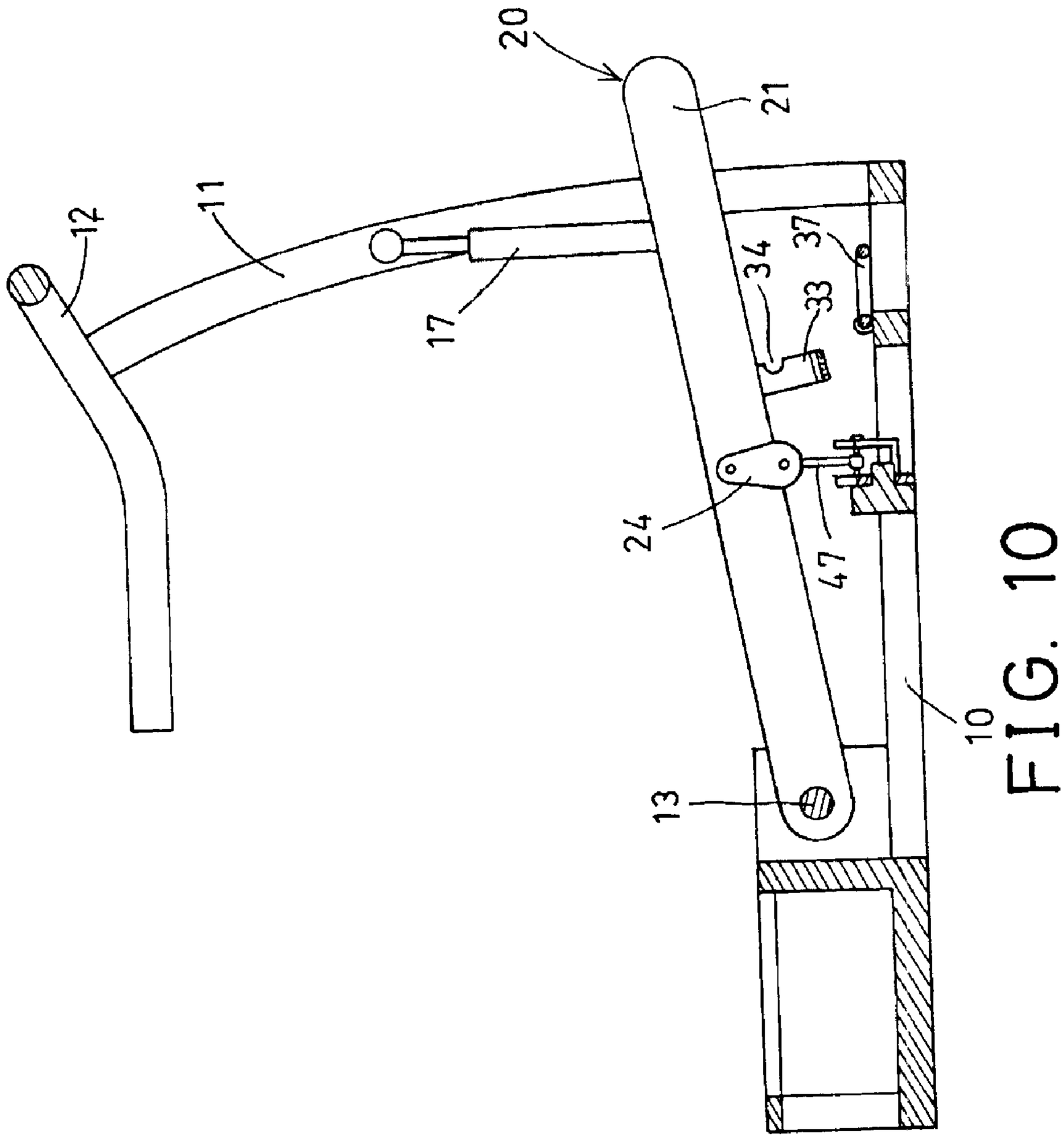


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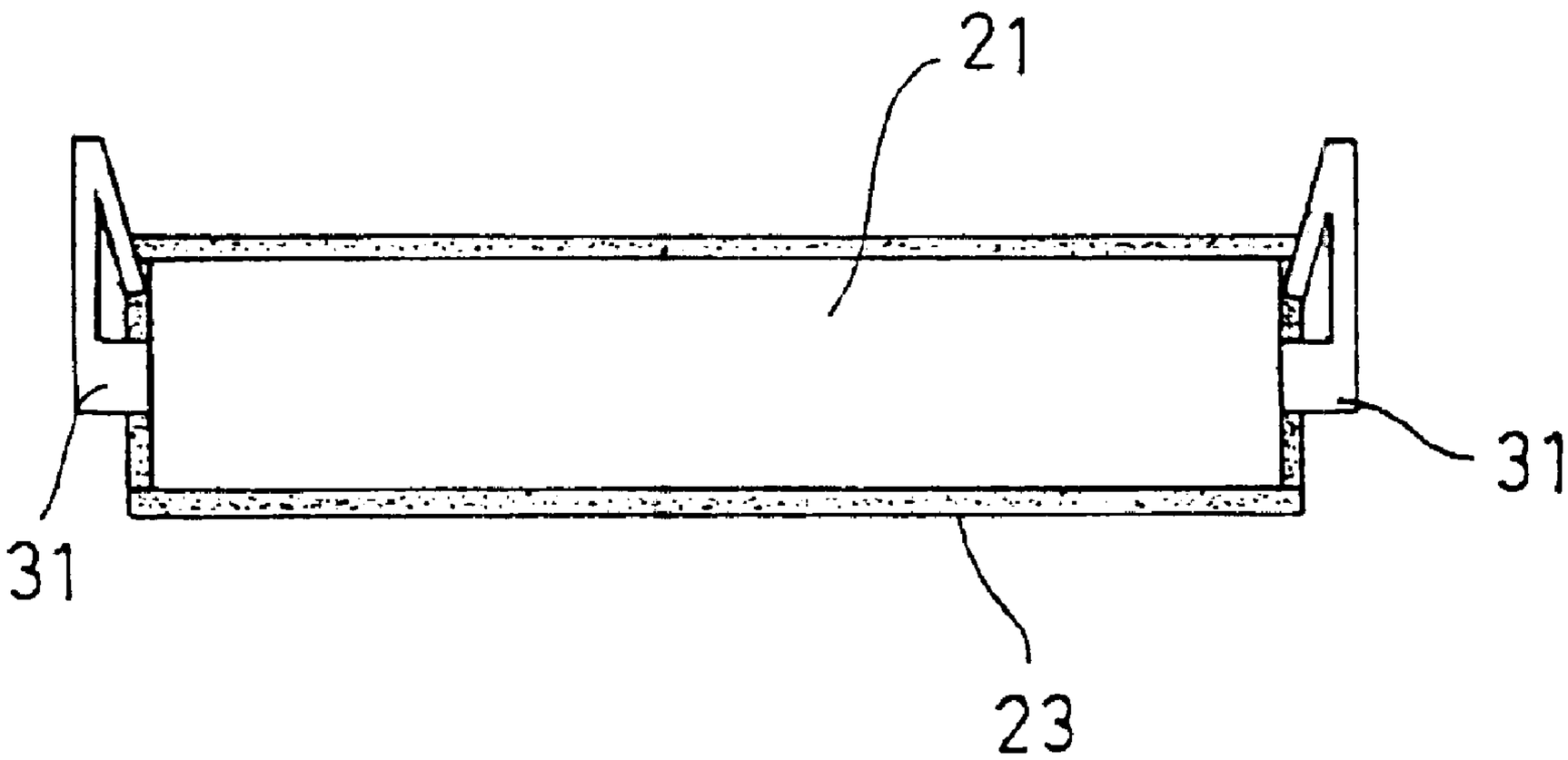


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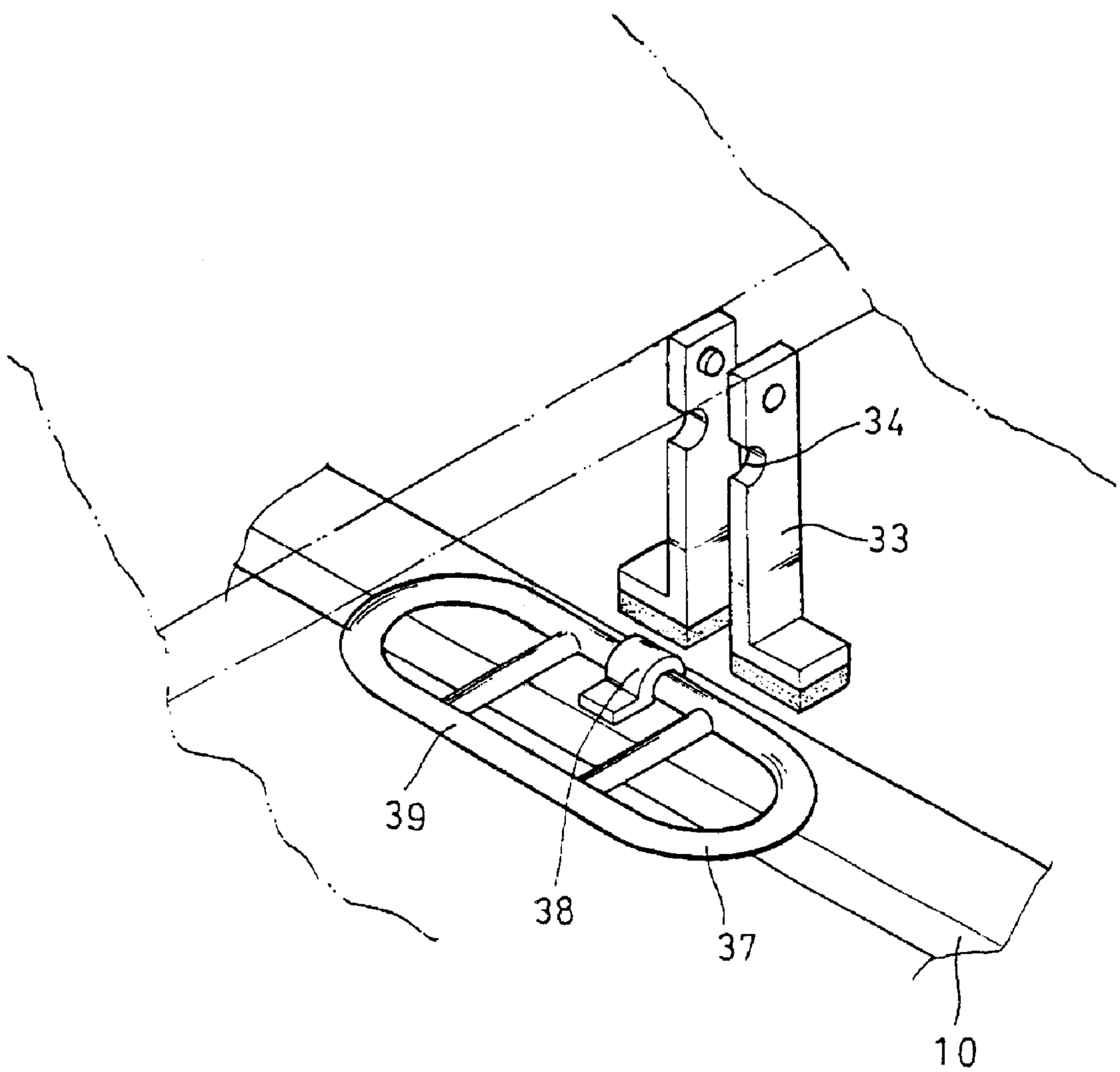


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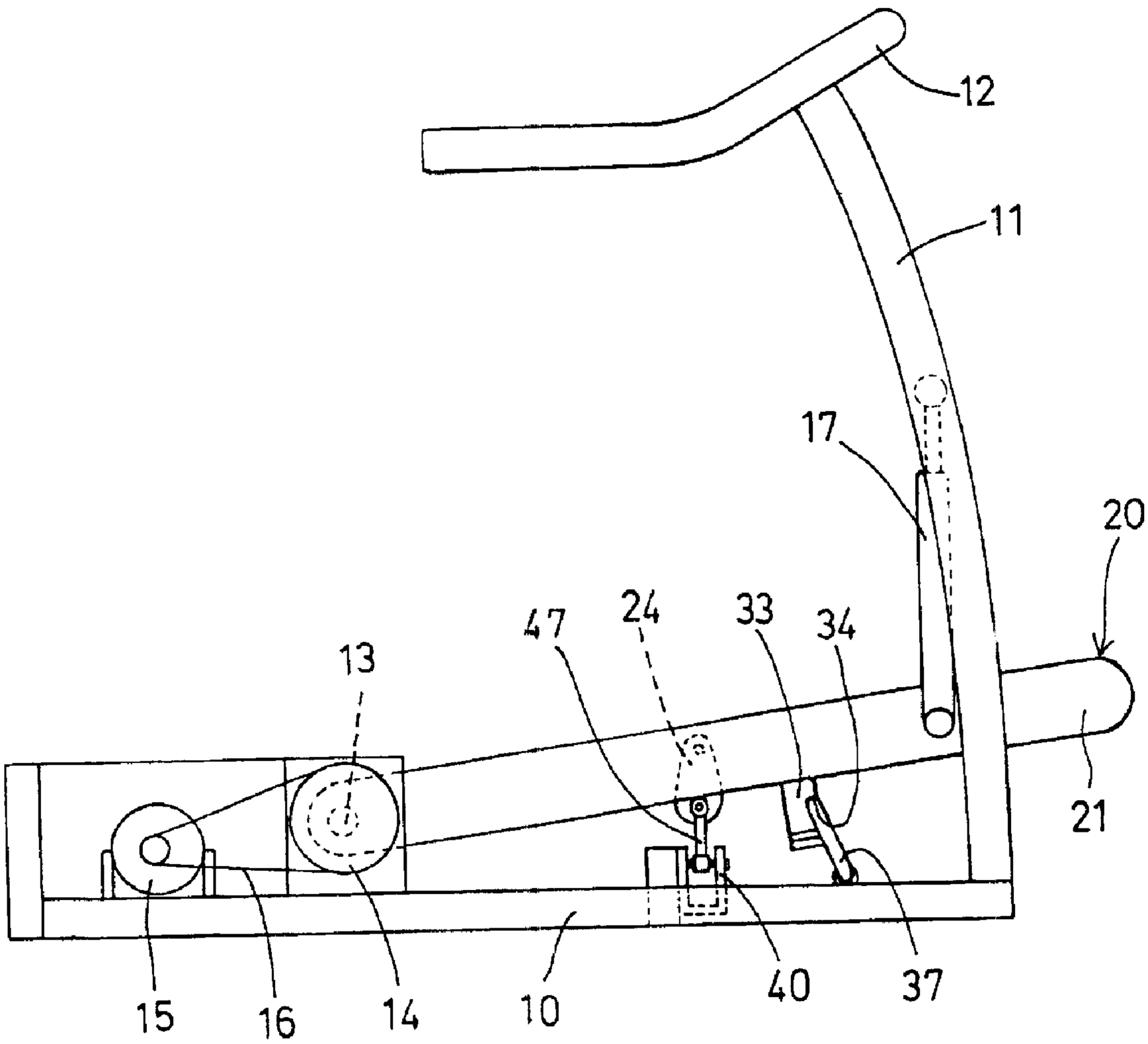


FIG. 13

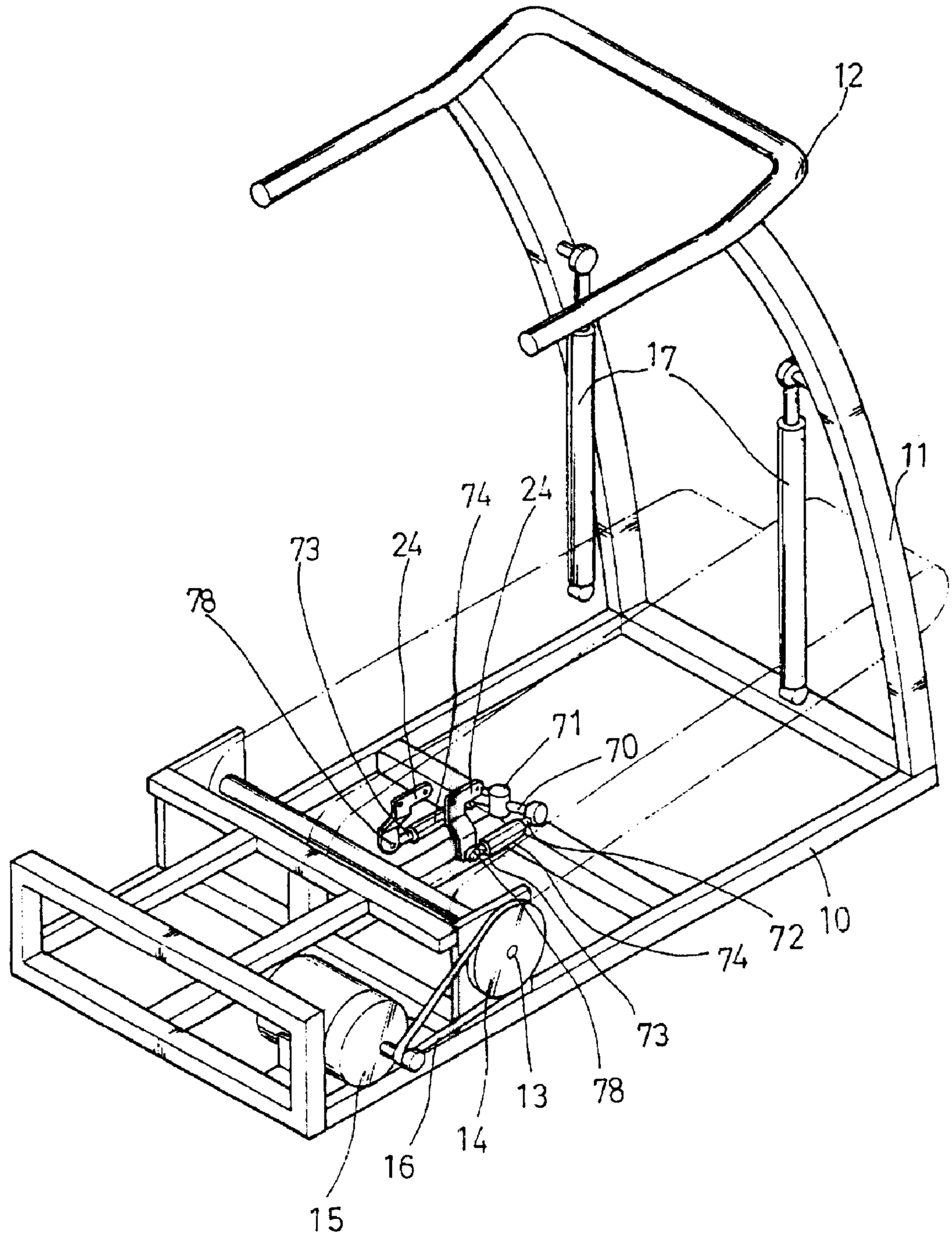


FIG. 14

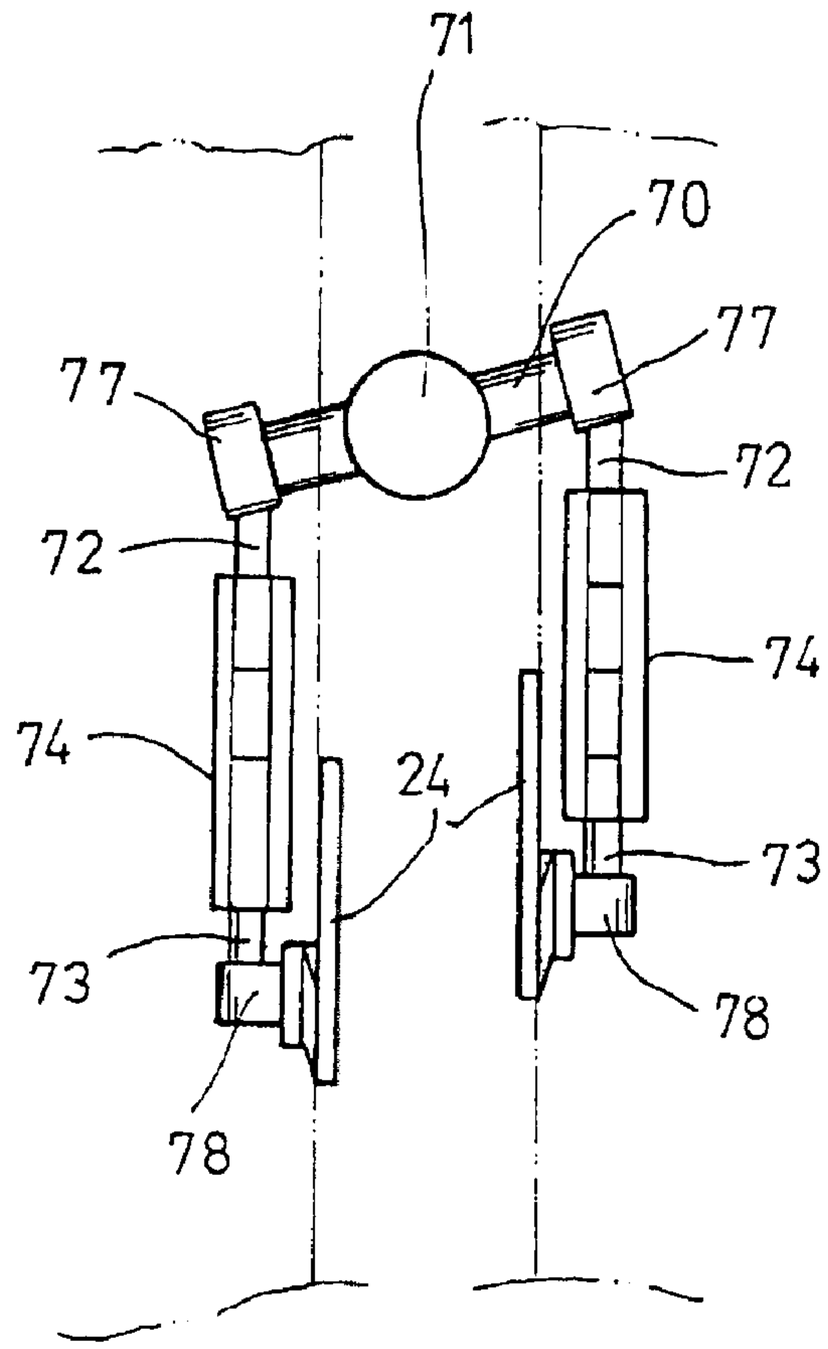


FIG. 16

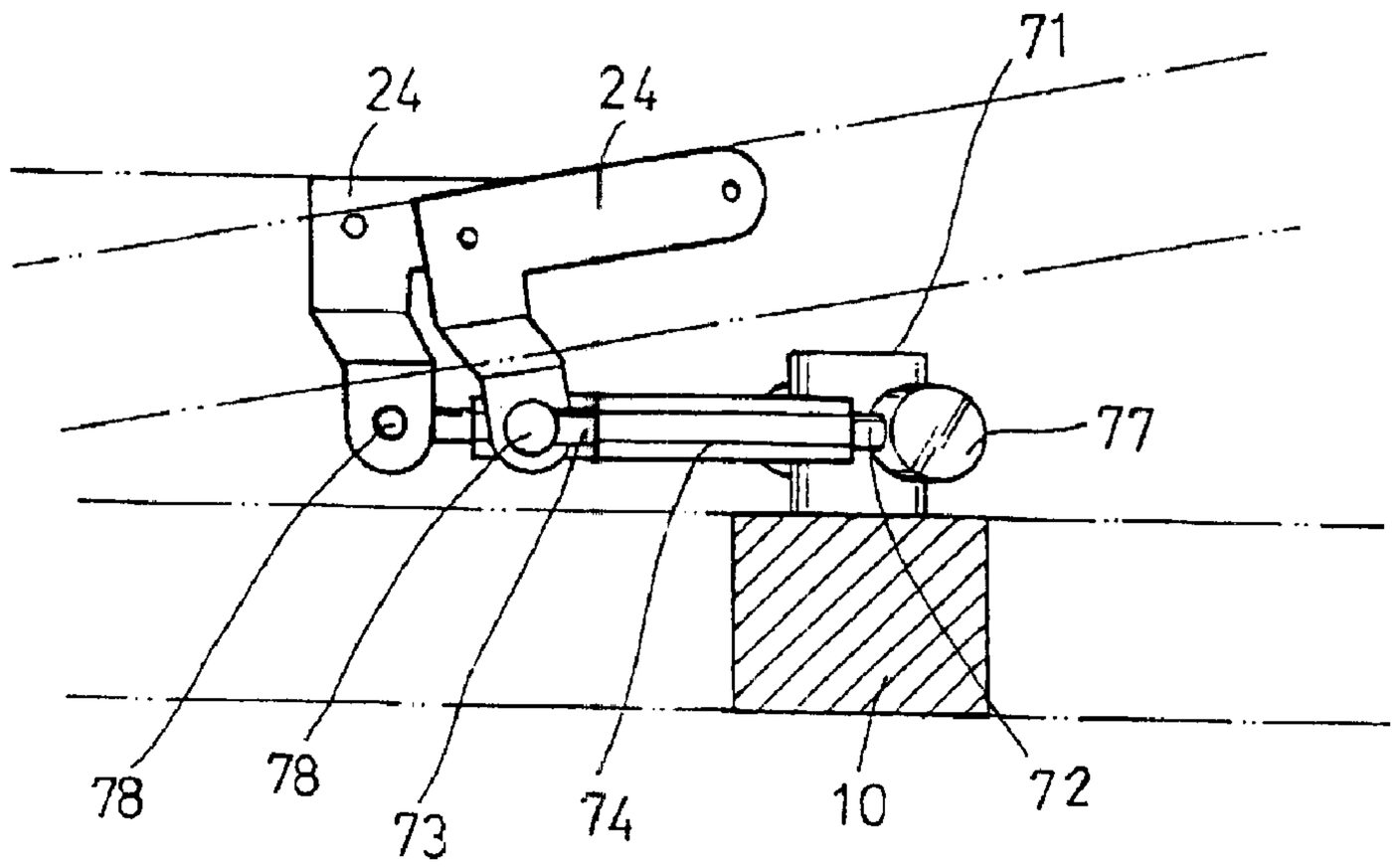


FIG. 15

# TREADMILL HAVING DUAL TREADS FOR STEPPING EXERCISES

**Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates the additions made by reissue.**

## *RELATED U.S. PATENT DOCUMENT*

*The present application is a broadening reissue application of and claiming priority to U.S. Pat. No. 6,461,279 titled "Treadmill Having Dual Treads For Stepping Exercises" issued on Oct. 8, 2002, application Ser. No. 09/912,664, filed Jul. 25, 2001, which is hereby incorporated by reference herein.*

## BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to a treadmill apparatus, and more particularly to a treadmill apparatus having dual treads for conducting both jogging and stepping exercises.

2. Description of the Prior Art

U.S. Pat. No. 5,336,146 to Piaget et al. discloses one of the typical treadmills including dual treads that may be alternatively pivot up and down as a user walks thereon. However, Piaget et al. fail to disclose a coupling device for coupling the two treads together, due to the continuous treads.

The present invention has arisen to mitigate and/or obviate the afore-described disadvantages of the conventional treadmills.

## SUMMARY OF THE INVENTION

The primary objective of the present invention is to provide a treadmill apparatus including dual treads for conducting both jogging and stepping exercises.

In accordance with one aspect of the invention, there is provided a treadmill apparatus comprising a base including a first end, and including a second end having a shaft provided thereon, a pair of treadmills disposed above the base, and each including a platform having a roller provided on a first end thereof and attached to the shaft, and each including a tread supported around the platform, means for driving the shaft to actuate the treads, an arm including a middle portion pivotally supported on the base with a pivot axle, and including two ends located below the treadmills respectively, and means for coupling the ends of the arm to the treadmills to elevate a first of the treadmills when a second of the treadmills is lowered, and to elevate the second treadmill when the first treadmill is lowered. The treadmills may thus be moved up and down relative to each other by the arm, and may thus be actuated as a stepping exerciser.

The treadmills each includes a bar attached to the platform thereof and extended downward from the platform for coupling to the ends of the arm respectively.

The ends of the arm each includes a rod provided therein and perpendicular to the arm, and a column pivotally secured to the respective rod, the treadmills each includes a bar attached to the platform thereof and coupled to the column respectively.

A device may further be provided for locking the treadmills together.



A device is further provided for retaining the treads on the platforms respectively and for preventing the treads from being disengaged from the platforms.

Further objectives and advantages of the present invention will become apparent from a careful reading of a detailed description provided hereinbelow, with appropriate reference to accompanying drawings.

## BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a perspective view of a treadmill apparatus in accordance with the present invention;

FIG. **2** is a perspective view of the treadmill apparatus, in which the two treads are removed for showing the inner structure of the treadmill apparatus;

FIGS. **3** and **4** are side plane views illustrating the operation of the treadmill apparatus;

FIG. **5** is a partial perspective view illustrating a coupling device for coupling the treads of the treadmill apparatus together;

FIG. **6** is a cross sectional view taken along lines **6-6** of FIG. **5**;

FIGS. **7** and **8** are partial end schematic views illustrating the operation of the treadmill apparatus;

FIG. **9** is a cross sectional view taken along lines **9-9** of FIG. **1**;

FIG. **10** is a cross sectional view similar to FIG. **9**, illustrating the operation of the treadmill apparatus;

FIG. **11** is a partial cross sectional view taken along lines **11-11** of FIG. **1**;

FIG. **12** is a partial perspective view of the treadmill apparatus;

FIG. **13** is a side plane schematic view illustrating the device for locking the two treads of the treadmill apparatus;

FIG. **14** is a perspective view similar to FIG. **2**, illustrating the other embodiment of the treadmill apparatus;

FIG. **15** is a partial side plane schematic view of the treadmill apparatus as shown in FIG. **14**; and

FIG. **16** is a partial top plane schematic view of the treadmill apparatus as shown in FIGS. **14** and **15**.

## DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to the drawings. and initially to FIGS. **1-4**, a treadmill apparatus in accordance with the present invention comprises a base **10** including one or more posts **11** extended upward therefrom, such as extended upward from the front portion thereof, and including one or more handles **12** provided on top of the posts **11**, and including a shaft **13** rotatably provided on the middle or the rear portion thereof. A wheel **14** or the like is secured to the shaft **13** and rotated in concert with the shaft **13**. A motor **15** is disposed on the base **10** and coupled to the wheel **14** and/or the shaft **13** with a transmission device **16**, such as a pulley-and-belt or a sprocket-and-chain transmission device **16**, such that the shaft **13** may be rotated and driven by the motor **15**.

A pair of treadmills **20**, **30** are identical in construction, and each preferably includes a rigid treadmill platform **21** having a front end and a rear end, rollers **22** rotatably mounted at each of the front end and the rear end of the platform **21**, and a continuous tread **23** extended around the platform **21** and rotatably supported on or around the rollers **22**. The rollers **22** may be secured on the shaft **13**, such that the rollers **22** and thus the treads **23** may be rotated or driven by the motor **15**, and such that the treadmills **20** pivotally mounted on the base **10** in side-by-side adjacent relation by the shaft **13**. The

rollers **22** may also be separately coupled or secured on the shaft **13** by gearing transmission or the like, for allowing the treads **23** of the two treadmills **20** to be driven separately by the motor **15**. Two spring-return hydraulic cylinders or actuators **17** are coupled between the posts **11** and the treadmills **20** respectively for supporting the treadmills **20**, such as the front ends of the treadmills **20** in an inclined position. The actuators **17**, and/or the construction of the treadmills **20** is considered to be conventional in the art, and therefore no further description is thought to be necessary.

As shown in FIGS. **2-10**, the treadmill apparatus in accordance with the present invention further comprises a coupling device for coupling the treadmills together and for allowing the treadmills to be conducted with a stepping exercise. The coupling device includes an arm **40** having an orifice **41** formed in the middle portion thereof (FIGS. **5**, **7**, **8**), for receiving a pivot axle **18** which may rotatably or pivotally securing the arm **40** to the base **10**, and for allowing the ends of the arm **40** to be moved; up and down and to be disposed below the treadmills **20**, **30** respectively. The ends of the arm **40** each includes a frame **42** provided therein for supporting a rod **43** therein which is about parallel to the longitudinal direction of the base **10** and of the treadmills **20**, **30** and which is perpendicular to the arm **40**.

Two columns **47** have the lower portions pivotally or rotatably secured onto the respective rods **43** with such as a universal joint or the like. The treadmills **20** each includes a bar **24** secured to the middle portion of the platform **21** thereof and extended downward therefrom and having a lower end pivotally or rotatably secured to the upper end of the column **47** with a rod **27** and a joint **28**, such as a universal joint or the like. The treadmills **20** thus may be coupled to the ends of the arm **40** with the bars **24**, the rods **27**, the joints **28**, the columns **47**, the pivot rods **43**, and the frames **42**.

In operation, as shown in FIGS. **7** and **8**, when one of the treadmills **20** is depressed downward by the user (FIG. **8**), the other treadmill **30** will be moved upward by the arm **40**. On the contrary, when the treadmill **30** is depressed downward by the user (FIG. **7**), the other treadmill **20** will be moved upward by the arm **40**, such that the treadmills **20**, **30** may be actuated or operated as the stepping exercisers.

Referring next to FIGS. **1** and **11**, the treadmills **20**, **30** each includes one or more stops **31** attached to the side portions of the platforms **21** and engaged with the treads **23**, for stably retaining the treads **23** within the platforms **21** respectively, and for preventing the treads **23** from being disengaged from the platforms **21** respectively.

Referring next to FIGS. **12** and **13**, the treadmills **20**, **30** each further includes an extension **33** extended downward therefrom, such as extended downward from the platform **21** thereof. The extensions **33** each includes a notch **34** formed therein. A retaining or locking or latching device **37** is pivotally coupled to or secured to the base **10** with a bracket **38** or the like, and includes a lock member or a latch **39** for engaging into the notches **34** of the extensions **33** and for locking the treadmills **20**, **30** together, such that the treadmills **20**, **30** may not be moved up and down relative to each other and may be used for conducting the treadmill exercises only.

Referring next to FIGS. **14-16**, illustrated is another embodiment of the coupling device which also, includes an arm **70** rotatably secured to the base **10** with a pivot axle **71**. However, the ends of the arm **70** may be moved forward and rearward, instead of being moved up and down as that shown in FIGS. **2-10**. Two pairs of bolts **72**, **73** are pivotally secured to the ends of the arm **70** and to the bars **24** with a joint, such as a universal joint **24** respectively. A longitudinal nut **74** is threaded onto the pair of bolts **72**, **73** for moving or adjusting the bolts **72**, **73** toward or away from each other and for adjusting the bars **24** relative to the arm **70**, according to the configuration or the location of the treadmills **20**, **30**.



Accordingly, the treadmill apparatus in accordance with the present invention includes dual treads for conducting both jogging and stepping exercises.

Although this invention has been described with a certain degree of particularity, it is to be understood that the present disclosure has been made by way of example only and that numerous changes in the detailed construction and the combination and arrangement of parts may be resorted to without departing from the spirit and scope of the invention as hereinafter claimed.

We claim:

**1**. A treadmill apparatus comprising:

a base including a first end, and including a second end having a shaft provided thereon,

a pair of treadmills disposed above said base, and each including a platform having a roller provided on a first end thereof and attached to said shaft, and each including a tread supported around said platform,

means for driving said shaft to actuate said treads,

an arm including a middle portion pivotally supported on said base with a pivot axle, and including two ends located below said treadmills respectively, and

means for coupling said ends of said arm to said treadmills to elevate a first of said treadmills when a second of said treadmills is lowered, and to elevate said second treadmill when said first treadmill is lowered.

**2**. The treadmill apparatus according to claim **1**, wherein said **[**treadmills each includes**]** *means for coupling includes, for each of said treadmills,* a bar attached to said platform thereof and extended downward from said platform for coupling to said ends of said arm respectively.

**3**. The treadmill apparatus according to claim **1**, wherein said ends of said arm each includes a rod provided therein and perpendicular to said arm, a column pivotally secured on said rod respectively, said treadmills each includes a bar attached to said platform thereof and coupled to said column respectively.

**4**. The treadmill apparatus according to claim **1** further comprising means for locking said treadmills together.

**5**. The treadmill apparatus according to claim **1** further comprising means for retaining said treads on said platforms respectively.

*6. An exercise apparatus comprising:*

*a base;*

*a first treadmill assembly operatively coupled with the base and supported in pivotal relation with the base;*

*a second treadmill assembly operatively coupled with the base and supported in pivotal relation with the base;*

*a reciprocating coupling assembly interconnected between the first treadmill assembly and the second treadmill assembly, the reciprocating coupling assembly constraining the first treadmill assembly and the second treadmill assembly to move in opposite directions when reciprocating;*

*a shaft operatively supported by the base;*

*the first treadmill assembly pivotally supported at the shaft; and*

*the second treadmill assembly pivotally supported at the shaft.*

*7. The exercise apparatus of claim 6 wherein:*

*the first treadmill assembly further comprises a first roller supported on the shaft; and*

*the second treadmill assembly further comprises a second roller supported on the shaft.*

8. The exercise apparatus of claim 7 further comprising:

a motor supported on the base, the motor adapted to drive the first roller and the second roller.

9. The exercise apparatus of claim 8 wherein the motor is coupled with the shaft.

10. An exercise apparatus comprising:

a base;

a first treadmill assembly in pivotal relation with the base;

a second treadmill assembly in pivotal relation with the base;

a coupling device pivotally coupled with the base, the coupling device further coupled with the first treadmill assembly and the second treadmill assembly;

a shaft operatively supported by the base;

the first treadmill assembly pivotally supported at the shaft; and

the second treadmill assembly pivotally supported at the shaft, whereby the coupling device is adapted to elevate the first treadmill assembly when the second treadmill assembly is depressed, and to elevate the second treadmill assembly when the first treadmill assembly is depressed.

11. The exercise apparatus of claim 10 wherein:

the first treadmill assembly further comprises a first roller supported on the shaft; and

the second treadmill assembly further comprises a second roller supported on the shaft.

12. The exercise apparatus of claim 11 further comprising:

a motor supported on the base, the motor adapted to drive the first roller and the second roller.

13. The exercise apparatus of claim 12 wherein the motor is coupled with the shaft.

14. The treadmill apparatus according to claim 1, wherein the base includes a horizontal frame member extending parallel to the shaft, the middle portion of the arm pivotally supported on the horizontal frame member of the base with the pivot axle.

15. The treadmill apparatus according to claim 14, wherein the pivot axle is mounted to a side of the horizontal frame member of the base.

16. The exercise apparatus according to claim 6, wherein the base includes a horizontal frame member extending parallel to the shaft, the reciprocating coupling assembly pivotally supported on the horizontal frame member of the base.

17. The exercise apparatus according to claim 16, wherein the reciprocating coupling assembly is pivotally supported with a pivot axle mounted to a side of the horizontal frame member of the base.

18. The exercise apparatus according to claim 10, wherein the base includes a horizontal frame member extending parallel to the shaft, the coupling device pivotally coupled to the horizontal frame member of the base.

19. The exercise apparatus according to claim 18, wherein the coupling device is pivotally coupled with a pivot axle mounted to a side of the horizontal frame member of the base.

20. The treadmill apparatus according to claim 2, wherein the means for coupling includes, for each of the treadmills, a universal joint disposed between and coupling the respective bar to the arm.

21. The treadmill apparatus according to claim 20, wherein the means for coupling includes, for each of the treadmills:

a member coupled to and extending perpendicularly from the respective bar; and

a pivot rod pivotally coupled to the arm,

wherein the universal joints couple the members to the respective pivot rods.

22. The treadmill apparatus according to claim 21, wherein the means for coupling includes, for each of the treadmills, a rod spanning opposite sides of a respective one of the two ends of the arm, the respective pivot rod pivotally coupled to the rod.

23. The treadmill apparatus according to claim 22, wherein the opposite sides of the arm are parallel and the rods are perpendicular to the sides.

24. The treadmill apparatus according to claim 22, wherein one of the sides of the arm includes the middle portion pivotally supported on the base.

25. The treadmill apparatus according to claim 3, wherein the respective bar of each treadmill is coupled to the respective column by a universal joint.

26. The treadmill apparatus according to claim 3, wherein the ends of the arm each includes opposite sides with the respective rod coupled therebetween.

27. The treadmill apparatus according to claim 4, wherein each of the platforms of the treadmills includes an engagement member, and the means for locking includes a locking member pivotally coupled to the base to move into and out of engagement with the engagement members.

28. The treadmill apparatus according to claim 27, wherein the engagement members extend downwardly from the respective platforms below the respective treads.

29. The treadmill apparatus according to claim 27, wherein the engagement members are disposed on inner sides of the respective platforms.

30. The treadmill apparatus according to claim 27, wherein the base includes a horizontal frame member extending parallel to the shaft, the locking member pivotally supported on the horizontal frame member of the base.

31. The exercise apparatus according to claim 30, wherein the locking member is pivotally coupled to a top of the horizontal frame member of the base.

32. The treadmill apparatus according to claim 5, wherein the means for retaining includes, for each of the treadmills, at least one stop connected to the respective platform and extending downwardly so as to be configured to engage a portion of the respective tread beneath the respective platform.

33. The exercise apparatus according to claim 32, wherein the stops are connected to outer sides of the respective platforms.

34. The exercise apparatus according to claim 32, wherein the at least one stop connected to the respective platform comprises a plurality of stops disposed longitudinally along the respective platform.

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