Oct. 9, 1962 M. H. FLOYD 3,057,638

AMBULATORY SEATING DEVICE

Filed May 19, 1960 2 Sheets-Sheet 1

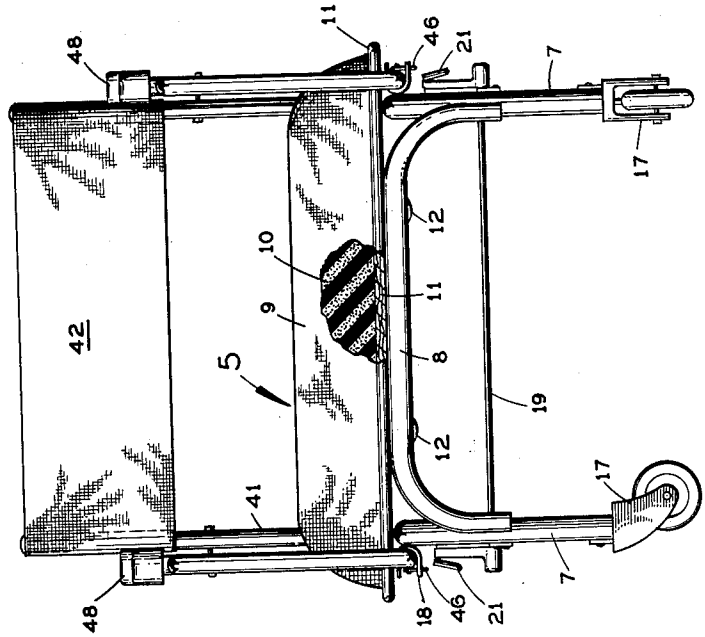


FIG. 2

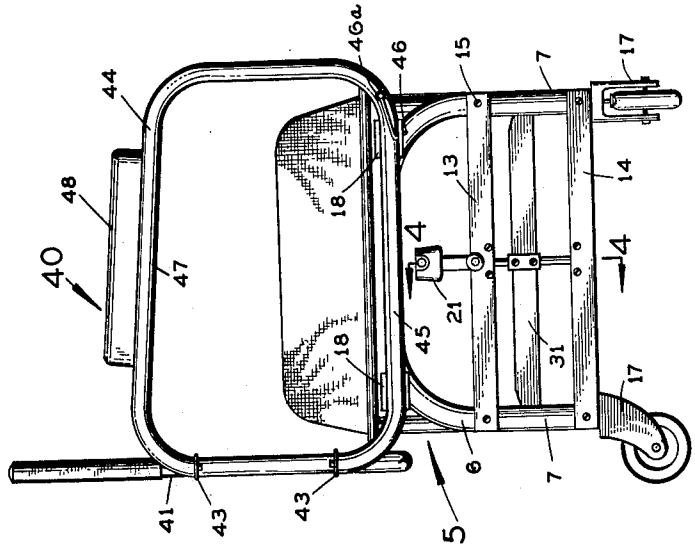


FIG. 1

INVENTOR.
MARGIT H. FLOYD
BY
ATTORNEY

Oct. 9, 1962 M. H. FLOYD 3,057,638

AMBULATORY SEATING DEVICE

Filed May 19, 1960 2 Sheets-Sheet 2

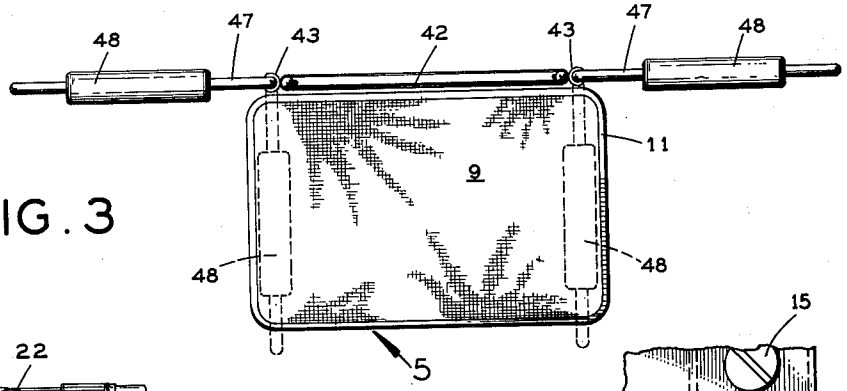


FIG. 3

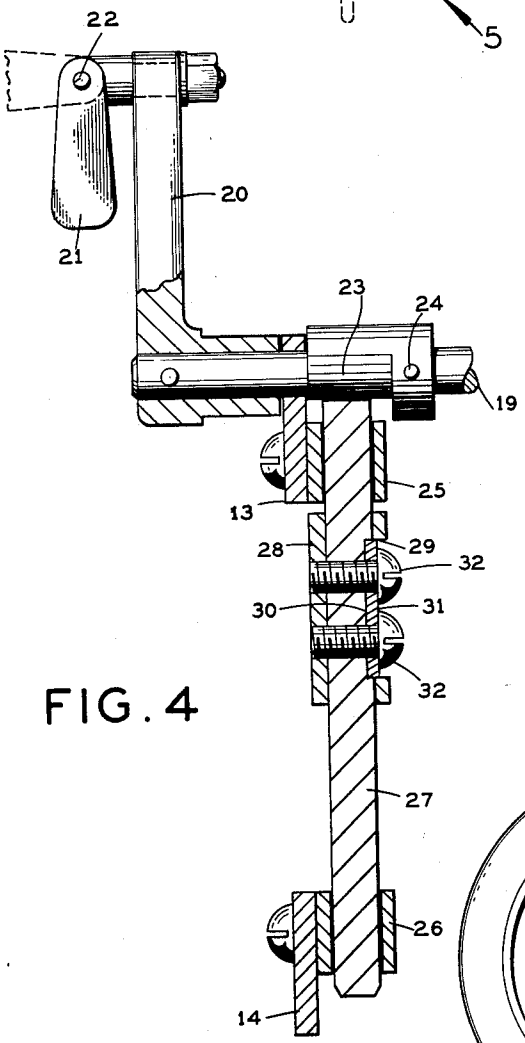


FIG. 4

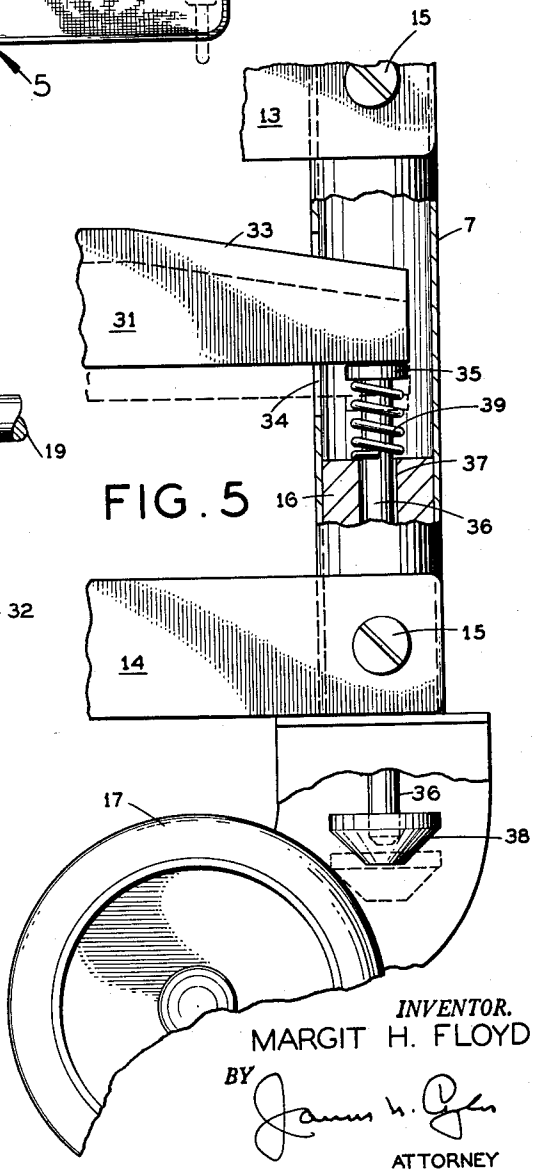


FIG. 5

INVENTOR.
MARGIT H. FLOYD
BY
James H. Lyon
ATTORNEY

United States Patent Office

3,057,638

Patented Oct. 9, 1962

3,057,638

AMBULATORY SEATING DEVICE

Margit H. Floyd, 2417 NW. 103rd St., Miami 47, Fla.

Filed May 19, 1960, Ser. No. 30,114

1 Claim. (Cl. 280—79.2)

The present invention relates generally to ambulatory seating devices particularly adapted for invalids or for persons having relatively little control of the legs.

The invention also contemplates an ambulatory bench having a cushioned top portion and a detachable arm and back rest and with the bench being provided with casters to facilitate the movement of the device in any direction with slight exertion of the legs of the user.

The invention further contemplates an ambulatory bench having leg portions that are provided with casters and with the bench being provided with braking mechanism that may be conveniently actuated from either end of the bench and with the braking mechanism when actuated from either end of the bench functioning to apply brakes to all of the casters to immobilize the bench.

Novel features of construction and operation of the device will be more clearly apparent during the course of the following description, reference being had to the accompanying drawings wherein has been illustrated a preferred form of the device and wherein like characters of reference are employed to denote like parts throughout the several figures.

In the drawings:

FIGURE 1 is an end elevational view of a bench constructed in accordance with the invention,

FIGURE 2 is a front elevational view thereof,

FIGURE 3 is a plan view of the device,

FIGURE 4 is an enlarged transverse section taken substantially on line 4—4 of FIGURE 1, and

FIGURE 5 is an enlarged fragmentary side elevation of the lower portion of one leg, parts being broken away for purpose of illustration.

Referring specifically to the drawings, the numeral 5 designates the bench as a whole. The bench embodies U-shaped end frames 6 constituting the legs 7 for the bench. The U-shaped frames are preferably formed of extruded aluminum tubing. The frames 7 are rigidly held in upright spaced apart relation by tubular U-shaped frame members 8, the legs of which are welded or otherwise rigidly connected with the end frames 6. Supported in overlying relation to the frames is a cushion element 9 being formed of any desirable material and having the usual cushion filling 10. The cushion 9 is connected with a base board 11, that is connected to the frame member 8 by screws 12.

Each of the end frames 6 are provided with upper and lower bars 13 and 14, and with the bars being disposed upon the outer side of the frame 6 and secured against displacement by screws 15, that have threaded engagement into suitable openings formed in the legs 7. Fitted within the lower open ends of the legs 7 are stem portions 16 of caster assemblies 17. The stems 16 have frictional binding engagement into the lower ends of the legs 7 to prevent accidental displacement of the casters. Welded or otherwise connected to the horizontal flight of the end frame 6, are U-shaped sockets 18. The sockets 18 are outwardly opening and are adapted to detachably support a combined arm and back rest, to be described.

Journaled in the upper bars 13 at each end of the bench, is a shaft 19. The shaft 19 extends beyond the outer sides of the bars 13 and has fixedly connected thereto at its outer ends, crank members 20. The crank members at their end portions are provided with flat handle extensions 21, pivoted at 22 and whereby the handles 21 after use of the device, may fall downwardly

by gravity to be disposed out of the way with respect to any objectionable projections on the bench. Inwardly of the bars 13, the shaft 19 is provided with cam elements 23, pinned or otherwise fixedly connected with the shaft 19, as illustrated at 24. The handle 21 and the shaft 19, with the cams 23 constitute actuating means at the opposite ends of the bench to facilitate the actuation of brake devices, to be described.

Fixedly connected to the inner faces of the bars 13 and 14, are upper and lower guide brackets 25 and 26. The brackets 25 and 26 support the vertical movement of push rods 27. Each of the push rods 27 below the upper bracket 25 is provided with sleeves 28 that are notched upon their inner sides as at 29, while the rods 27 are also notched at 30 for the seating reception of horizontally disposed operator bars 31. The bars 31 and the sleeve 28 are fixedly held with respect to the rods 27 by threaded screw devices 32. The bars 31 are tapered at their opposite ends as at 33 to have vertical traverse engagement in the legs 7, through slots 34. The terminal ends of the bars 31 overlie and have engagement with head portions 35 of push rods 36 that have traverse engagement within axial cylindrical openings 37, formed in the stem portions 16 of the casters 17. The openings 37 extend entirely through the stem portions and communicate with the caster mechanism. The lower ends of the rods 36 are provided with brake shoes 38, that are adapted to engage the circumferential tread of the caster wheels 17. The rod 36 is biased upwardly by a compression spring 39 that bears between the head 35 and the top of the stem 16. The bars 31 constitute equalizer bars for the several brake devices disposed in each leg of the bench.

The operation of the device so far described is as follows:

With the cranks 20 in the upstanding position, the springs 39 have shifted the bars 31 upwardly, carrying with them the push rods 27 to the point where the brake shoes 38 are released from engagement with the caster wheels and with the upper ends of the push rods 27 being in contacting engagement with the reduced surface of the cam 23. The bench is now free to be shifted along the floor by the legs of the operator. When the bench is to be immobilized, the operator engages either one of the handles 21, swinging them outwardly, forming a hand grip for the rotation of the cranks 20. When the cranks 20 are rotated, the cams 23 engage the rods 27, forcing them downwardly and carrying with them the bars 31, forcing the push rods 36 downwardly to engage the brake shoes 38 with the caster wheels. When the cranks 20 have been rotated 180 degrees, the cams will be on a dead center and maintain the braking mechanism locked against accidental movement. The braking of the device is highly desirable at such times as an individual is being shifted thereon and to prevent movement of the bench during the engagement by the person. After the brakes have been released, the persons seated thereon may propel the device with the legs to any desirable location after which, the brakes are again actuated to a locking position. The braking device is simple in construction and functions to apply the brake shoes to the four casters carried by the legs 7. The use of the casters permit movement of the bench in any direction and the application of the brakes is substantially identical in any rotative position of the casters.

Adapted to be detachably engaged with the bench, is a combined back rest and arm rest, indicated as a whole by the numeral 40. The back rest comprises a U-shaped and preferably tubular member 41, having its upstanding legs provided with a generally flexible fabric back panel 42, connected to the legs of the back at their upper portions in any desirable manner. Hingedly connected to

the back frame **41**, as at **43**, are a pair of open frame members **44**, formed of a continuous section of aluminum tubing. A lower rail **45** of the frame **44** is adapted to have a seating engagement into the U-shaped sockets **18** and with a hook or other desirable connecting means **46** being swung into a suitable opening formed in a lower leg of a forward bracket **18** whereby to hold the frame **44** against accidental displacement from the bench. The upper rail **47** of the arm frame **44** carries a suitable arm rest **48**, that may be of any desirable construction. The back and arm rest **40** may be conveniently attached or detached from the bench **5** and when attached, may be folded together through the medium of the hinge elements **43**. However, the back and arm rest is a desirable accessory and may or may not be employed. The hooks **46** at the opposite ends of the bench are pivotally connected at **46***a* to the frame **44**.

It is to be understood that the invention is not limited to the precise construction shown, but that changes are contemplated as readily fall within the spirit of the invention as shall be determined by the scope of the subjoined claim.

Having described my invention, what I claim as new and desire to secure by Letters Patent is:

An ambulatory chair for invalids comprising, a seat-supporting base including first and second identical U-shaped side frames disposed in spaced relation, the said frames being of tubular form and each of said frames including a pair of tubular legs open at their lower ends, inverted U-shaped front and rear frame members rigidly connected to the side frames with the several frames and frame members co-operating to form the seat-supporting base that is open at the front between the side frames to thereby provide for leg-movement space of a seated patient, caster devices having cylindrical stem portions fitted in the open ends of the legs of the side frames, brake means arranged in each leg and adapted to have braking engagement with the several casters simultaneously at any degree of horizontal angularity of the casters, each of the legs of the side frames being connected by upper and lower spaced-apart bars, the uppermost of said bars being provided with a journal bearing, a rotative shaft extending across the seat base below the seat thereon and through the journal bearings, said shaft inwardly of the journal bearings being provided with a cam device, push rods vertically moved by the cam devices, a brake bar extending between the legs of each of the side frames and attached to the push rods, the said legs having slots through which end portions of the brake bars extend for operative engagement with the brake means in said legs, the connecting bars being provided, intermediate of their length with bearings for the vertical guidance of the push rods, the said shaft at points beyond the journal bearings having crank devices positioned below the seat and located for operation by a seated patient and whereby the shaft may be rotated by said patient at either side of the seat for the simultaneous movement of the brake bars, each of the brake means including a brake rod operable through an opening of the caster stems, and with the brake rods having a brake shoe at their lower ends for frictional engagement with the tread portions of the casters, the brake rods extending upwardly beyond the caster stems to terminate in head portions engaged by the opposite ends of the brake bars, and spring means for biasing the brake rods upwardly when the push rods are released by the cams, the rotation of the shaft from either end actuating the push rods at opposite ends of the seat to simultaneously apply all of the brake shoes against the tension of the spring means.

References Cited in the file of this patent

UNITED STATES PATENTS

2,110,227	Koenigkramer et al.	Mar. 8, 1938
2,262,288	Klipstein et al.	Nov. 11, 1941
2,437,778	Ames	Mar. 16, 1948
2,798,232	Ericsson	July 9, 1957

FOREIGN PATENTS

76,729	Norway	Apr. 24, 1950
244,558	Switzerland	Apr. 16, 1947