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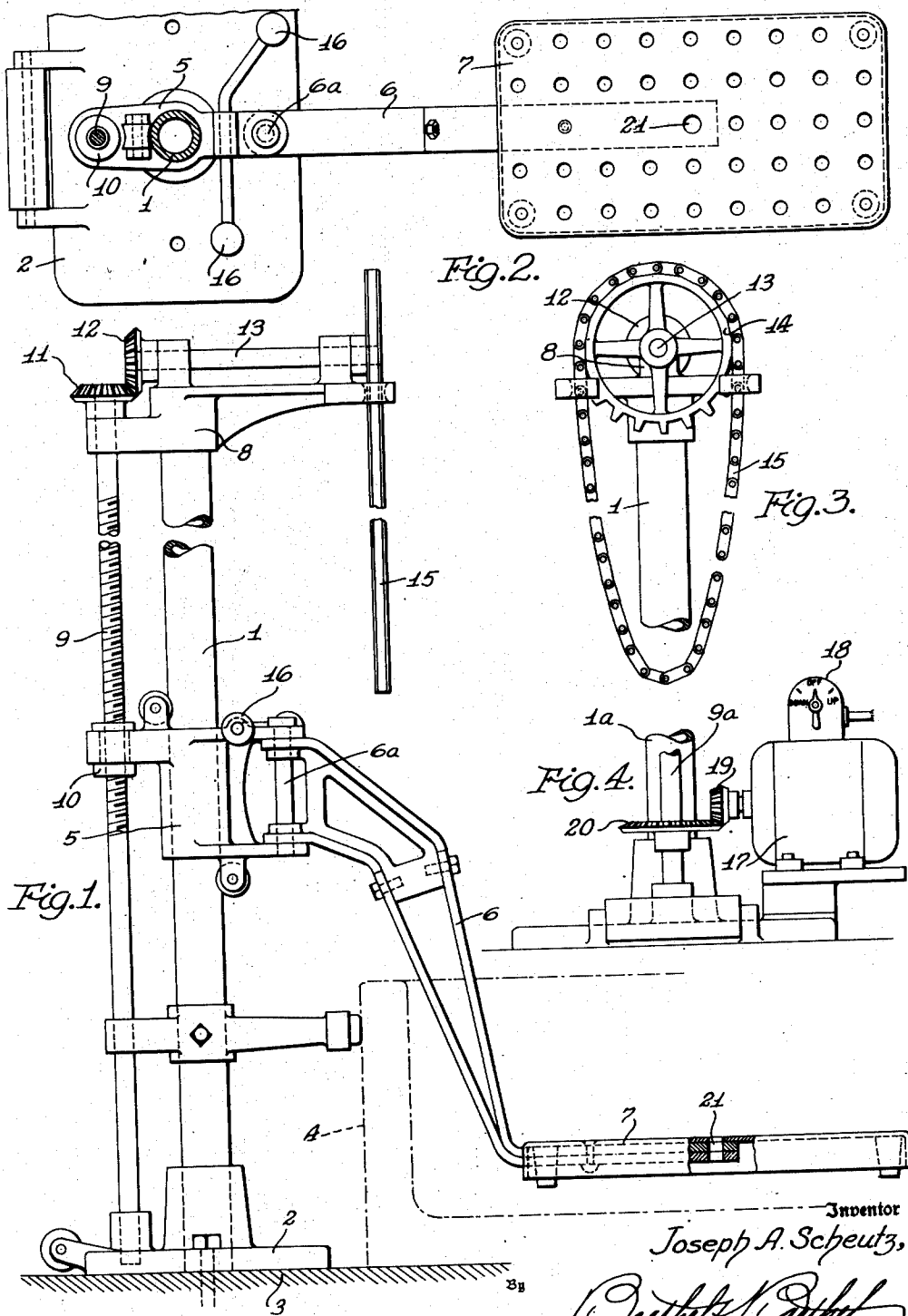
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2,187,283

ELEVATOR APPARATUS

Filed Oct. 25, 1937

2 Sheets-Sheet 1



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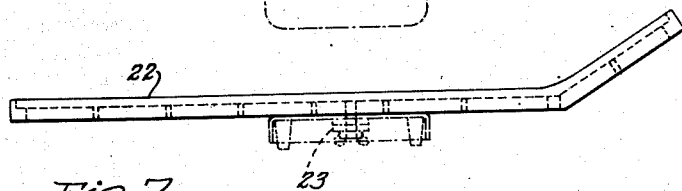
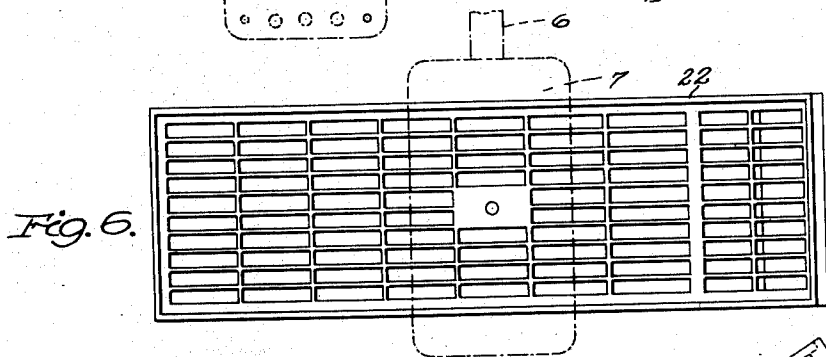
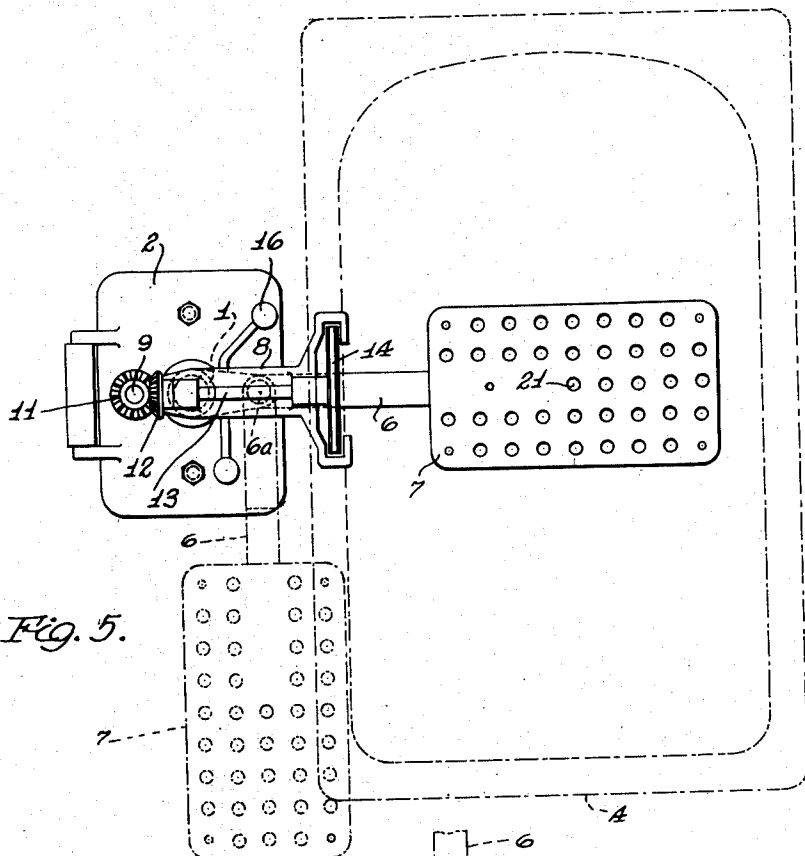
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ELEVATOR APPARATUS

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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

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ELEVATOR APPARATUS

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Application October 25, 1937, Serial No. 170,739

4 Claims. (Cl. 187-24)

The present invention relates to an elevator adapted for use in homes or institutions, such as hospitals, for the purpose of lifting and moving persons incapable of moving themselves, such as, for example, aged or crippled persons, invalids, and persons afflicted with rheumatism. It is particularly adapted for use in association with a bath for ordinary bathing purposes, sitz baths, or other health baths incurring partial immersion of the body.

The primary object of the invention is to provide an elevator apparatus for lifting persons from a position adjacent a tub or the like, for transferring them from such a position to a position over the tub, and for lowering them to the desired extent into the tub.

Another object is to provide such an apparatus with means for operating the same whereby the person to be so moved may control the operation of the apparatus. To this end, the apparatus is provided with manual means for operating the same whereby persons, incapacitated only as to the lower limbs, may raise or lower themselves from a position alongside a tub to a position over the tub, or vice versa.

Still another object of the invention is to provide an apparatus of the character above mentioned which may be actuated, if desired, by power means. The power actuating means is desirable in use of the apparatus in hospitals or such institutions inasmuch as it enables attendants to quickly and easily place incapacitated persons into and out of a bath.

Still another object of the invention is to provide apparatus of the type above referred to with means for supporting persons in either a sitting or reclining posture.

With the above and other ends in view, the invention consists in matters more particularly described with reference to the accompanying drawings, in which

Figure 1 is a side elevation of the apparatus;
Fig. 2 is a horizontal section;
Fig. 3 is an elevation of a detail;
Fig. 4 is a fragmental elevation illustrating a power device for operating the apparatus;
Fig. 5 is a plan view of the apparatus;
Fig. 6 is a plan view of an attachment for supporting persons in a reclining position, and
Fig. 7 is a side elevation of the attachment.

Like characters of reference are employed throughout to designate corresponding parts.

A vertical tubular standard 1 has a base 2 secured to the floor 3 adjacent to a tub 4. Movable upon the column 1 is a traveller 5 having an arm

6 pivotally connected thereto at 6a and extending outwardly and downwardly therefrom. On the extremity of the arm 5 is a platform or seat 7 adapted to receive and support a person.

At the upper end of the column 1 is a rigid bracket 8 and a screw 9 is rotatably supported in the base 2 and bracket 8, parallel to the column. An internally threaded bushing 10 is connected to the traveller 5 and received on the screw whereby rotation of the screw raises and lowers the traveller, according to its direction of rotation. On the upper end of the screw 9 is a bevelled gear 11 meshing with a bevelled gear 12 on a horizontal shaft 13 journaled in the bracket 8. The shaft 13 also carries a sprocket 14 and an endless chain 15, trained over the sprocket 14, extends to a point within reach of a person sitting upon the platform 7.

In using the apparatus above described, the arm 6 is swung to the position shown in broken lines, in Fig. 5, and the person to be moved is seated on the platform 7. The chain 15 is then operated to rotate the screw 9 and elevate the traveller, thereby lifting the person to a height enabling clearance of the sides of the tub 4. From the position alongside the tub, the arm 6 is then swung to carry the platform over the tub. This may be done by an attendant, or in case the apparatus is being operated by the person so moved, handle pieces 16 are provided. These handle pieces are mounted on the traveller 5 and extend within convenient reach of a person sitting upon the platform 7. After positioning the platform 7 is positioned over the tub, it is lowered to the desired extent by operating the chain 15.

In Fig. 4 there is shown power means for raising and lowering the traveller. This means comprises a reversible electric motor 17, having suitable controls 18, mounted adjacent the vertical column 1a, and having a bevelled gear 19 on its drive shaft meshing with a similar gear 20 on the screw 9a. The power means is more particularly adapted for use when the apparatus is used in hospitals and such institutions. It is not intended that the power means should be self operated, but it is obvious that it might be if the controls were placed within reach of a person on the platform 7.

The platform 7 has a bolt hole 21, in addition to the other apertures shown for the purpose of water drainage. An auxiliary platform 22, adapted to support a person in a reclining position, is adapted to be secured upon the platform 7 by a bolt 23, as shown in broken lines in Fig. 7.

Although specific embodiments of the invention have been illustrated and described, it will be understood that various changes may be made within the scope of the appended claims without departing from the spirit of the invention, and such changes are contemplated.

What I claim is:

1. In apparatus of the character described, an upright stationary post, a traveler surrounding said post and movably mounted thereon, a platform carried by and pivoted to said traveler, a vertically extending screw for raising and lowering said traveler, a shaft rotatably supported on the upper end of said post and having its axis transverse to said screw, gears operatively connecting said shaft and said screw, and manually operable means to rotate said shaft.
2. In apparatus of the character described, an upright post, a mounting supported on the upper end of said post and extending laterally therefrom, a shaft journaled in said mounting, a substantially vertical and rotatable screw, gears operatively connecting said shaft and said screw, a traveler movably mounted on said post and having a threaded aperture receiving said screw, a platform carried by and pivoted to said traveler for swivel movement and means for operating said shaft to raise and lower said platform.
3. In apparatus of the character described, an upright guide member, a screw parallel with said guide member, a traveler having an aperture

receiving said guide member and having a laterally positioned threaded aperture receiving said screw, said traveler having a pair of transversely positioned laterally extending spaced arms, a vertical pivot pin supported by said arms, a platform, a rigid arm for suspending said platform from said traveler and one end thereof having a yoke with aligning apertures to receive said pivot pin, and manually operable means to rotate said screw to raise and lower said traveler and platform carried thereby.

4. In a device of the character described for use with a bath tub, a vertical post, a vertical screw extending parallel and substantially coextensive with said post in spaced relation thereto, a lower guide member mounted on said post and apertured to receive said screw, a laterally extending mounting rigidly secured to the upper end of said post and apertured to receive and provide an upper guide for said screw, a traveler surrounding and slidably mounted on said post, said traveler having a threaded aperture to receive said screw, a platform swivelably connected to said traveler for positioning in the tub, a shaft rotatably supported on said mounting, gears operatively connecting said shaft and said screw, and manually operable means for rotating said shaft to raise and lower said traveler and platform.

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