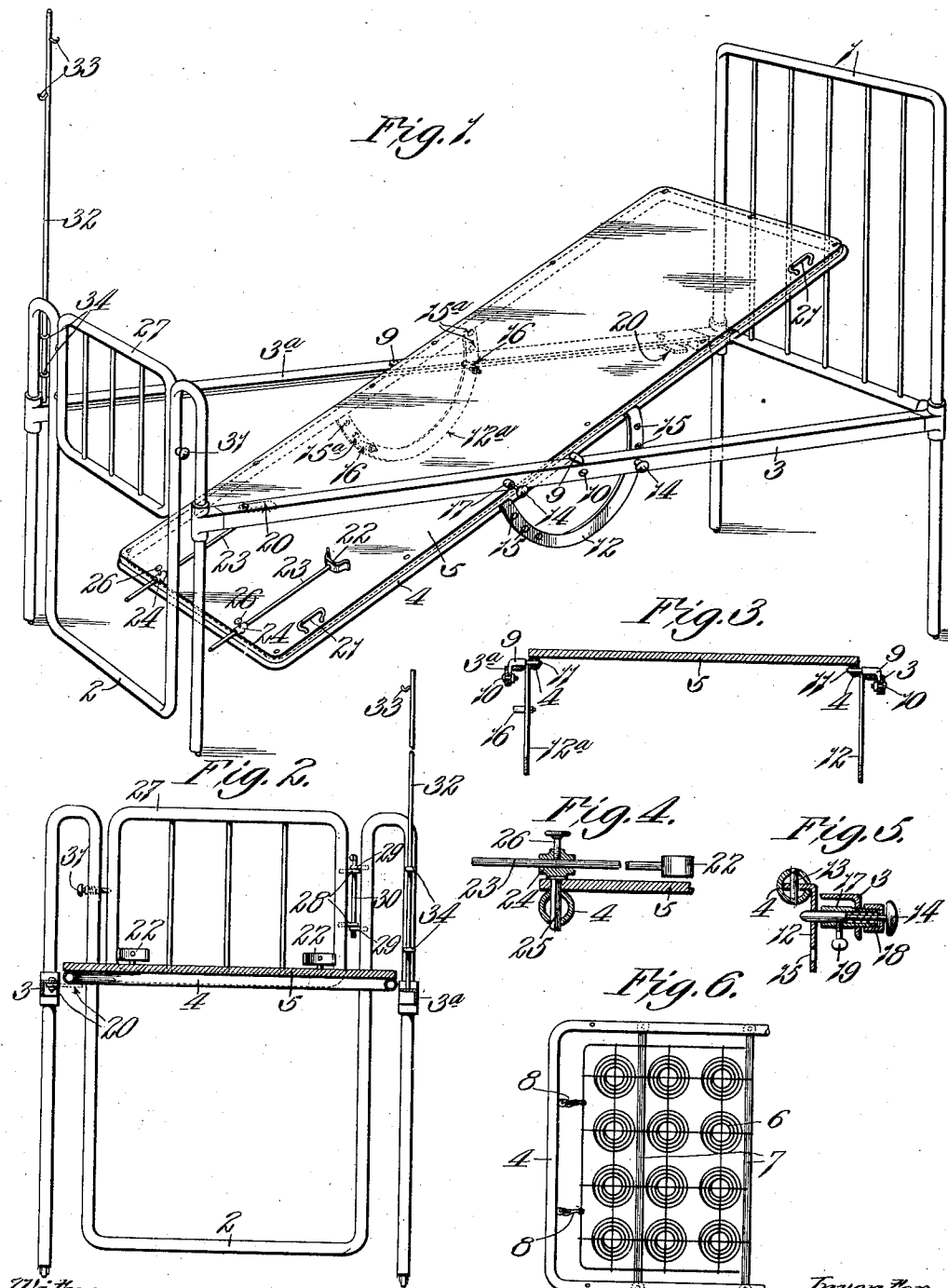


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INVALID BED.
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1,043,517.

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UNITED STATES PATENT OFFICE.

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INVALID-BED.

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To all whom it may concern:

Be it known that I, MICHAEL D. GAVAN, a citizen of the United States, residing at St. Louis, Missouri, have invented a certain new and useful Improvement in Invalid-Beds, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to invalid beds, and has for its object to provide a bed having a support for the patient that can be used as an operating table for the patient.

Other objects and desirable features of my invention will be hereinafter pointed out.

Figure 1 of the drawings is a perspective view of a bed constructed in accordance with my invention; Fig. 2 is a transverse sectional view of same; Fig. 3 is a detail transverse sectional view taken through the center of the bed; Fig. 4 is a sectional view illustrating in detail the foot-rest; Fig. 5 is a sectional view illustrating in detail the latch that governs the tilt of the bed bottom; and Fig. 6 is a detail view of a portion of the bed bottom illustrating the application of an ordinary bed spring thereto.

Briefly stated, my invention consists in a bed provided with a rigid supporting portion that is pivotally mounted on the side rails of the bed, and means for locking the supporting portion at any desired angle.

Referring to Fig. 1 of the drawings which illustrates the preferred form of my invention, 1 designates the end frame at the head of the bed, and 2 designates the end frame at the foot of the bed, said end frames being connected together by the usual side rails, such as angle bars 3 and 3^a. The bed bottom consists of a rectangular frame 4 preferably tubular as shown, and a rigid slab or supporting portion 5 that may be either marble or wood and secured to said frame by suitable fastening devices. If desired, an ordinary bed spring 6 may be substituted for the slab 5, as illustrated in Fig. 6. The spring 6 is supported on cross slabs 7 secured to the frame 4, and said spring is held in place by any suitable means such as by snap-hooks 8 that engage eyes in said frame.

An angular bracket 9 is secured to each of the side rails 3 and 3^a at approximately the center thereof, each of said brackets having its vertical leg secured to the side rail by means of a bolt or other fastening device

10 and having its horizontal leg terminating in a trunnion 11, as shown particularly in Fig. 3. The trunnions 11 pass through horizontal openings in each side of the frame 4 at approximately the center thereof so as to pivotally support said frame between the side rails.

The means herein shown for tilting, and locking the supporting portion of the bed in its tilted position, comprises a pair of arc-shaped members 12 and 12^a that are arranged on the frame 4 concentrically with respect to the pivot point thereof, and that cooperate with devices on the side rails of the bed. The ends of the arc-shaped members are preferably bent inwardly at right angles, and pass through slots formed in the sides of the frame 4, and are held in place by means of screws or other fastening devices 13. The devices that cooperate with the arc-shaped member 12 so as to govern the movement of the supporting portion relatively to the side rails 3 and 3^a consist of spring-actuated plungers 14 that are adapted to engage any one of a series of apertures 15 in the arc-shaped member 12 so as to lock said supporting portion in any desired position. The member 12^a is also provided with a series of apertures 15^a that correspond with the apertures 15, and removable stop members 16 are arranged in any desirable hole in said series so as to engage the under side of the horizontal flange of the side rail 3^a when the supporting portion is tilted, and thus assist the plunger 14 in providing a support for the frame 4 at each side thereof when same is in an inclined position. Each of the plungers 14 is arranged inside of a housing 17 that is connected to the side rail 3, and a coiled expansion spring 18 is interposed between the end wall of the housing and an annular shoulder on the plunger so as to force the plunger toward the member 12 which it locks. A set screw 19 is provided for each of the housings 17 to bear against the plunger 14 and hold same retracted when it is not in use.

Buttons 20 (shown in Figs. 1 and 2) are pivoted adjacent opposite ends of the side rails 3 and 3^a, and are adapted to lie under the frame 4 to prevent same from moving whenever it is desired to maintain said frame in a horizontal position. Handles 21 are provided on the slab 5 at the ends thereof

adjacent the side rail 3 so as to facilitate tilting the bed.

In performing certain surgical operations it is desirable to tilt the slab to an inclined position, such as is shown in Fig. 1 of the drawings. Foot-rests 22 are provided on said slab so as to support the patient when the slab is in said inclined position. Each of the foot-rests 22, as shown in detail in Fig. 4, is provided with a shank 23 that is slidably mounted in a bracket 24, said bracket being provided with a non-circular extension 25 on its under side that engages a corresponding recess in the slab 5, and a set screw 26 on its upper side that bears against and holds the shank 23 in any desired position and permits adjustment of same. The end frame 2 is provided with a gate 27 that may be either opened or entirely removed to admit the entrance or exit of the patient and so as not to interfere with the work of the physician. The gate 27 is hinged to a vertical portion of the end frame 2 by means of eyes 28 and 29 that are arranged in one side of said gate and frame, respectively, through which a removable pin 30 passes. A spring-actuated latch 31 mounted in the frame 2 at the opposite side of said gate operates to lock said gate in a closed position. A vertical standard 32 provided at its upper end with hooks 33 for supporting certain appliances used in connection with surgical operations is removably held in position at the foot of the bed

by means of eyes 34 secured to the end frame 2. 35

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

An invalid's bed consisting of end frames and side rails securely fastened together, a rectangular-shaped rigid frame arranged between said side rails and provided with a supporting portion on which the patient rests, trunnions on the side rails that project into openings in the center portion of said rigid frame and thus pivotally connect said frame to the side rails, arc-shaped members depending from said frame and arranged concentric with said trunnions, a manually-operated device on one side rail that is adapted to cooperate with one of said arc-shaped members to hold the rigid frame in adjusted position, a stop in the other arc-shaped member that strikes against the under side of one of the side rails when said frame is tilted, and adjustable devices on the side rails arranged at the head and at the foot of the bed for engaging and locking said frame when it is arranged in a horizontal position. 40 45 50 55 60

In testimony whereof I hereunto affix my signature in the presence of two witnesses, this seventeenth day of February 1912.

MICHAEL D. GAVAN.

Witnesses:

WELLS L. CHURCH,
GEORGE R. LADSON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."