

(No Model.)

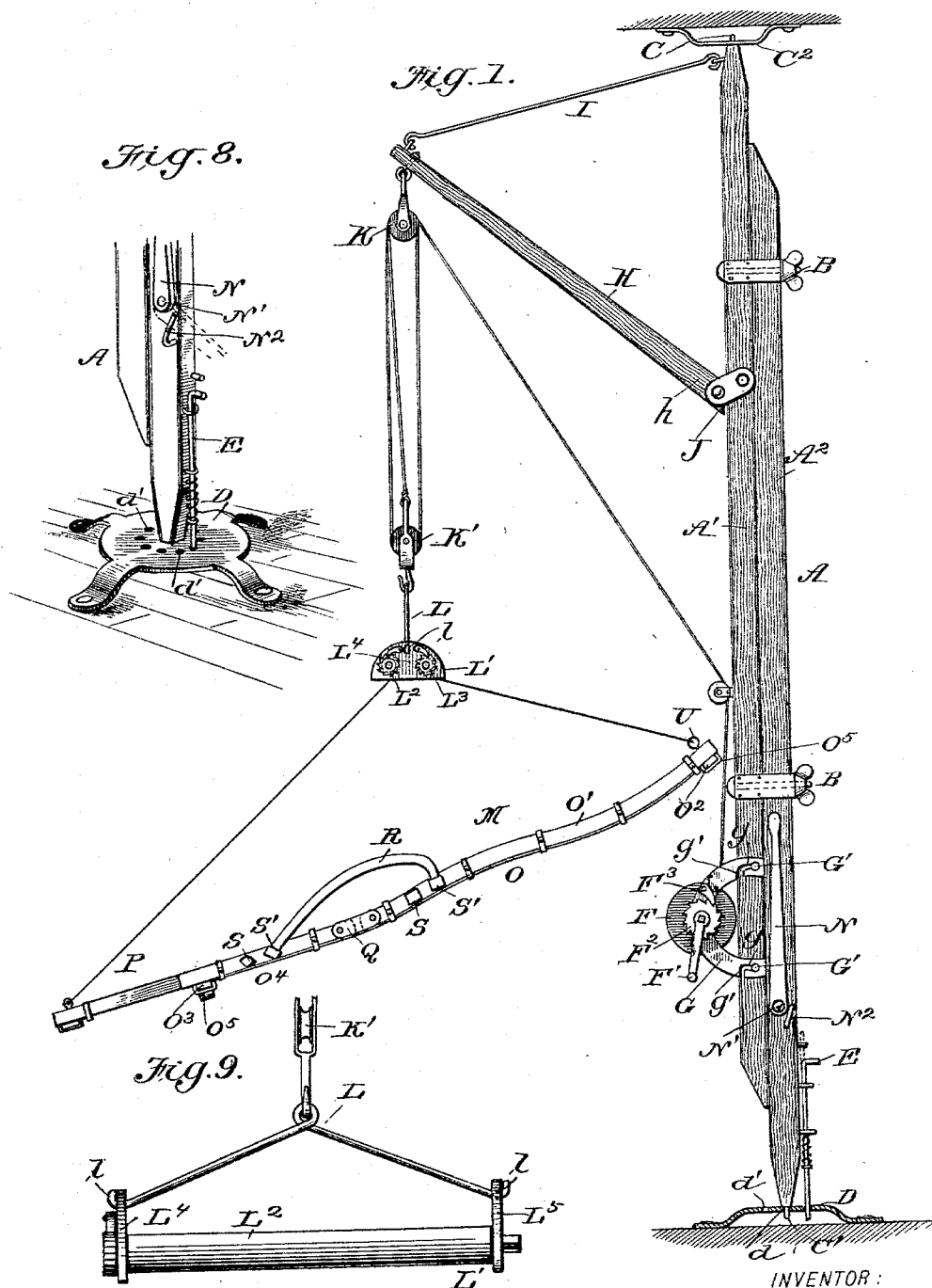
2 Sheets—Sheet 1.

S. S. HEPBURN.

APPARATUS FOR SUPPORTING AND MOVING INVALIDS.

No. 562,725.

Patented June 23, 1896.



WITNESSES:

Jos. A. Ryan
P. B. Turpin.

INVENTOR:
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Fig. 2.

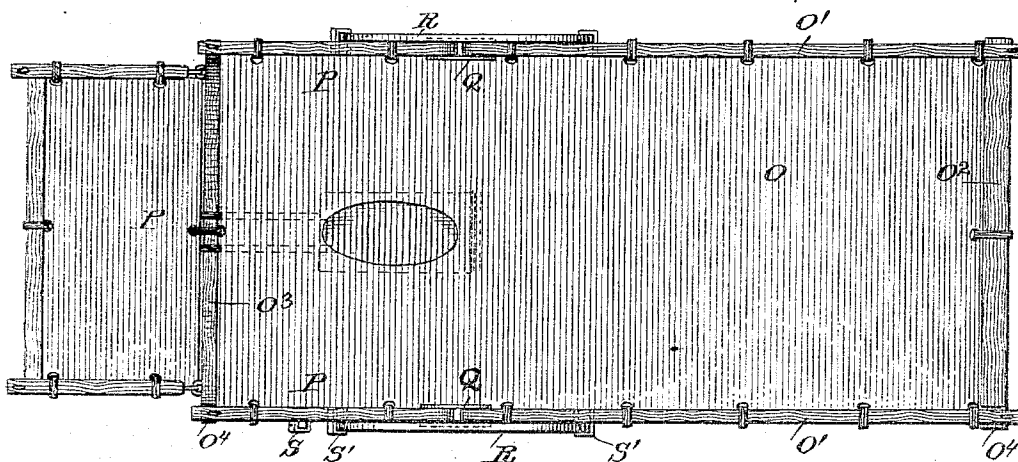


Fig. 3.

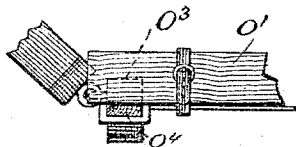


Fig. 4.

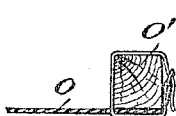


Fig. 5.

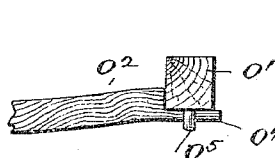


Fig. 6.

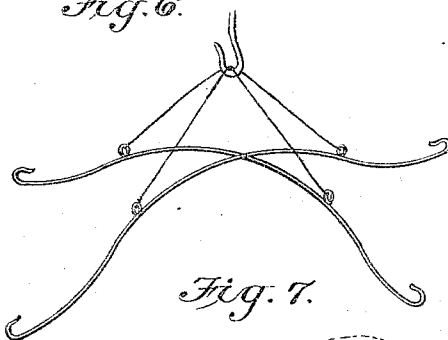
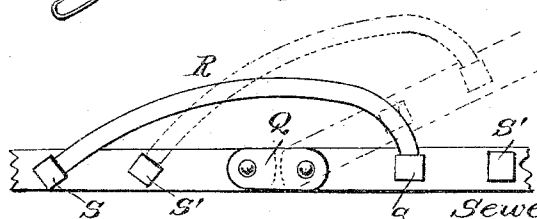


Fig. 7.



WITNESSES:

for A. Ryan
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INVENTOR:

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UNITED STATES PATENT OFFICE.

SEWELL S. HEPBURN, OF OLIVER, VIRGINIA.

APPARATUS FOR SUPPORTING AND MOVING INVALIDS.

SPECIFICATION forming part of Letters Patent No. 562,725, dated June 23, 1896.

Application filed July 18, 1895. Serial No. 556,419. (No model.)

To all whom it may concern:

Be it known that I, SEWELL S. HEPBURN, of Oliver, in the county of Hanover and State of Virginia, have invented a new and useful
5 Improvement in Apparatus for Supporting and Moving Invalids, of which the following is a specification.

My invention is an improved apparatus for supporting and moving invalids; and it consists in certain novel constructions, combinations, and arrangements of parts, as will be hereinafter described, and pointed out in the claims.

In the drawings, Figure 1 is a side elevation of the improved apparatus. Fig. 2 is a top plan view of the hammock. Figs. 3, 4, and 5 are detailed views illustrating parts of the hammock. Fig. 6 illustrates a somewhat modified form of hanger. Fig. 7 is a detail view
20 illustrating the joint between the sections of the main portion of the hammock. Fig. 8 is a detail perspective view of the lower portion of the upright and its bearing, and Fig. 9 is a detail view of the roller-frame.

The standard A is extensible, so it may be clamped between floors and ceilings of different heights, being to such end formed in sections A¹ and A², adjustable one upon the other, a suitable clamp B being provided by which
30 to clamp the sections in any desired adjustment. The clamp B may be in the form of bolts, as shown, or of other suitable construction.

At the upper and lower ends of the standard I provide pivot pins or studs C C', the upper one C journaling in a plate C², fixed to the ceiling, while the lower one C' journals in a bearing-plate D, fixed to the floor and provided with the central bearing d for the
40 pin C' and with a series of openings or seats d' for the latch-bolt E, such bolt being spring-actuated and arranged to secure the standard in any position to which it may be turned and also operates to arrest the standard at any
45 point of its revolution.

A windlass F is journaled in side frames G and has a handle F' and a ratchet F², the latter being arranged for engagement by a pawl F³. The frame G has its arms provided with
50 slots g, having inlet-wings g', so the frame G can be readily applied to and removed from the bolts G', by which they are secured to the

standard, thus facilitating the application and removal of the windlass and its frame.

The crane-arm H is connected at one end 55 with the standard and extends outward and upward therefrom at an angle, being braced at its upper end by a stay-rod I, connected at one end with the standard and at the other end with the crane-arm, being detachable at
60 one end, so the crane-arm can be folded up against the standard. To permit of such folding, I connect the said arm H with the standard by means of straps or links J, pivotally secured to both the standard and to the crane-
65 arm, connecting with the latter near its lower end h, which end is cut diagonally, as shown, so that when said arm is turned outward for use its diagonal end will rest squarely against the standard, the links permitting the convenient
70 folding of the arm alongside the standard.

At the outer end of the crane-arm I provide a pulley-block K, and the rope or cable extends from the windlass through said block
75 and through a lower pulley-block K', from which the hanger L is suspended, such hanger having hooked ends l, and connecting with the lower pulley-block K'.

On the hanger L, I support the roller-frame 80 L', having two rollers L² L³, fitted at each end in the curved pieces L⁴ L⁵, so as to be turned by a key or crank fitted on the projecting square ends. Said rollers are ratcheted at the keyed end, so they may be stopped at any
85 point to which they may be turned.

The hammock M is suspended from this hanger by straps or cords attached to its head and foot ends to be described. Said cords are then attached to the rollers, the head-cords
90 to one and the foot-cords to the other. When tension is made on the head-cords by turning the roller to which they are attached, and the foot-ropes relaxed, the head is raised and the foot lowered and the angle of the hammock
95 changed to any desired degree, and vice versa.

The hammock M is suspended from the hanger and may be raised or lowered by the elevating devices and swung to any suitable position by derrick, as will be understood. 100 To facilitate turning the standard, I provide a handle N, pivoted thereto at N', so it can be turned up alongside the standard when not in use, or out for use. When turned out for

use the handle fits down in a box-like keeper N², by which it is braced as the standard is turned.

The hammock is composed of the main portion O and the leg-rest P. The main portion O has a frame composed of side bars O', top bar O², and lower bar O³, the bars O² O³ being readily applied to and detached from the side bars by fitting tenons O⁴ on their ends in staples O⁵ on the side bars. The lower bar O³ is curved, as will be understood from Figs. 3 and 5. The side bars are in sections, jointed together by side straps Q, pivoted to both sections of the side bars and on both sides thereof, so the main portion of the hammock can be adjusted flat or to a sitting position. In securing the side-bar sections straight or at an angle, I provide the side brace-bars R, preferably curved, as shown, so they may form arm-rails for the occupant of the hammock, and these brace-bars are formed at their ends to fit in staples in the side bars. These staples are arranged in pairs, the staples S receiving the ends of the bars R to hold the side bars out straight or flat while the keepers S' receive the said bars to hold the side bars at an angle approaching a sitting position. The adjustment of the brace-bars can be readily effected and they will operate to securely maintain the hammock in either form.

The bottom of the hammock is formed of canvas, leather, or other suitable material, provided at intervals along its edges with eyelets, through which straps are passed and looped around the frame-bars, so the bottom can be easily applied or removed, and so it can be adjusted to afford more slack at some points than at others. This also affords opportunity for perfect cleansing, as the parts may be detached and subjected to any desired cleansing operation.

The leg-support has a frame and bottom or covering of canvas, leather, or the like secured similarly to the corresponding part of the main portion.

In the bottom of the main portion I cut a suitable hole at T, closed from below by the flap T', stitched or lashed at t above the hole, extended down below the hole, and secured at its lower end by stitching, lashing, or otherwise.

An especial advantage results from arranging the flap longitudinally of the hammock, as thereby it firmly supports the person when the hole is not in use, avoids any slipping of the invalid down in the hole by any lateral flaring of the hole, and affords a strong firm support at the region of the opening.

At suitable points in the hammock-frame I provide openings for the cords U, by which the hammock is connected with and suspended from the hanger. Where desired, two hangers may be used at right angles to each other, as shown in Fig. 6, and the cords be suitably connected therewith. By adjusting these cords to different lengths the position

and adjustments of the hammock can be varied to a great extent.

In lifting and moving invalids to different points in the room the apparatus will be found highly useful, and may be rigged and taken down in a few minutes.

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

1. In an apparatus substantially as described, the combination with the standard and the crane-arm having its end adjacent said standard inclined or diagonal of the links connecting said standard and crane-arm and pivotally connected with both such parts and the connection between the outer end of the crane-arm and the standard substantially as set forth.

2. An apparatus substantially as described comprising the standard formed in sections whereby it may be extended longitudinally provided with clamping devices whereby it may be held in different adjustments and having pivot or trunnion points at its opposite ends, the bearing-plate adapted to be secured to the floor and having a central bearing for the lower trunnion of the standard and a series of seats or openings, the latch-bolt on the standard and engaging said seats the crane-arm and the suspending devices substantially as set forth.

3. In an apparatus substantially as described, the combination of the standard, the windlass-securing bolts the windlass-drum and its side frames having arms provided with slots fitting the bolts and having outlet wings or openings whereby the frame may be readily applied to and removed from the standard substantially as set forth.

4. In an apparatus substantially as described, the standard formed in sections whereby it may be extended and having suitable clamping devices, the pins or trunnions at the opposite ends of the standard the base-plate, the windlass having its side frames provided with slotted openings having outlet-wings, the bolts passed through said slots, the crane-arm, and the links connecting said arm with the standard and pivoted to both such parts all substantially as and for the purposes set forth.

5. In an apparatus substantially as described the combination with the hammock-frame having its side bars formed in sections jointed together, of brace-bars lapping such joint, and keepers in which the ends of said bars are removably fitted substantially as set forth.

6. In an apparatus substantially as described, a hammock-frame having its side bars formed in sections jointed together and provided on opposite sides of said joint with two pairs of keepers and a bracing-bar fitted at its ends to said keepers, the latter being arranged substantially as shown whereby when the bar is fitted to the keepers of one

pair it will hold the hammock-frame flat and when in the other pair will secure the frame-sections at an angle substantially as set forth.

7. The combination of the support a frame
5 suspended therefrom and having a plurality of windlass-drums and independent detents therefor, the hammock and connections between the opposite ends thereof and the respective windlass-drums all substantially as
10 and for the purposes set forth.

8. In an apparatus substantially as de-

scribed, the combination of the hoisting and swinging apparatus the roller-frame carried thereby and having independent rollers or drums, the hammock and connections between the opposite ends of said hammock and the independent drums substantially as set forth.

SEWELL S. HEPBURN.

Witnesses:

ROSEWELL PAGE,
JAS. M. BALL.