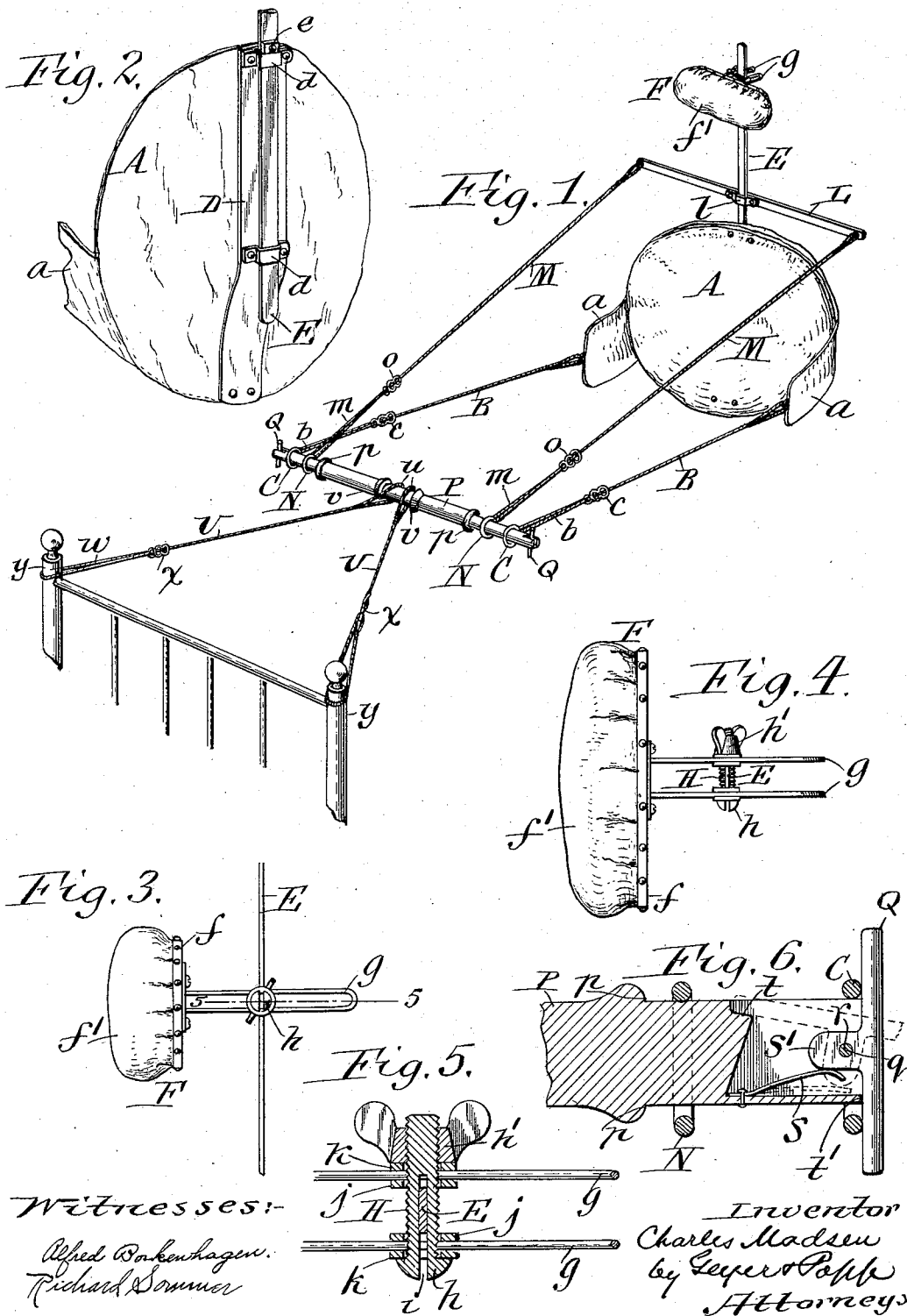


C. MADSEN.
 PATIENT SUPPORTER.
 APPLICATION FILED JAN. 14, 1911.

1,015,812.

Patented Jan. 30, 1912.



UNITED STATES PATENT OFFICE.

CHARLES MADSEN, OF BUFFALO, NEW YORK.

PATIENT-SUPPORTER.

1,015,812.

Specification of Letters Patent.

Patented Jan. 30, 1912.

Application filed January 14, 1911. Serial No. 602,590.

To all whom it may concern:

Be it known that I, CHARLES MADSEN, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented new and useful Improvements in Patient-Supporters, of which the following is a specification.

This invention relates to a supporter which is designed to hold patients in an upright or sitting position in a bed and has the purpose to provide a support of this character which can be readily adjusted to fit patients differing in height or size; which can be easily applied to patients so as to inconvenience them as little as possible; which permits of gradually and easily lifting the patient from a reclining to an upright position and vice versa; and which permits the patient to shift his position freely crosswise of the bed without interfering with the adjustment of the parts of the supporter.

In the accompanying drawing: Figure 1 is a perspective view showing my improved patient supporter connected with the foot of the bed. Fig. 2 is a fragmentary perspective view of the rear side of the back rest and adjacent parts. Fig. 3 is a detached side elevation of the head rest and adjacent parts. Fig. 4 is a top plan view of the same, on an enlarged scale. Fig. 5 is a horizontal section, on an enlarged scale, in line 5-5, Fig. 3. Fig. 6 is a fragmentary longitudinal section, on an enlarged scale, of one end of the front cross bar and the retaining head mounted thereon.

Similar letters of reference indicate corresponding parts throughout the several views.

A represents the back rest of the patient supporter which is preferably constructed in the form of a soft circular pad and adapted to be engaged with the back of the patient. On opposite sides of the lower part of this back rest the same is provided with two forwardly projecting tabs *a*, *a* to which the rear ends of two lower cords B, B or similar flexible supporting members are connected. The front ends of these supporting cords are doubled to form loops *b* each of which receives a coupling ring C. These loops may be let out or drawn in more or less for shortening or lengthening the lower supporting cords to suit the requirements of the patient for which purpose the free end of each loop is connected

with the main stretch of its cord by means of a buckle *c* such as are now commonly used for shortening or lengthening hammock or tent ropes. On its rear side the back rest is provided with an upright plate D which is shaped to conform to the back of the patient and which is provided with a socket preferably formed by means of two loops *d*, *d* secured transversely to the upper and central parts of the supporting plate. Into this socket is slipped the lower end of an upright bar or standard E, the upper part of which serves as a support for a head rest F which is adapted to engage with the back of the head of the patient. The supporting bar or standard may be slid up or down in the socket of the back rest to suit the patient and the same is preferably held frictionally in place within the socket. The downward movement of the supporting bar E is preferably limited by means of a shoulder or stop *e* formed on the rear side of the upright supporting bar and adapted to engage with the upper side of the upper loop *d*, as shown in Fig. 2.

The head rest preferably comprises a comparatively rigid rear board *f* which is provided on its front side with a soft pad or pillow like facing or covering *f*¹, as shown in Figs. 1, 3 and 4. This head rest is preferably connected with the upper part of the upright bar or standard by means which permit the head rest to be adjusted vertically on the upright bar as well as horizontally and also tilted in a vertical plane into different angles as best suits the comfort of the patient. The preferred means for effecting this connection between the head rest and the upright bar are constructed as follows: Projecting rearwardly from the rear side of the head rest are two slotted arms *g*, *g* which are arranged horizontally side by side and on opposite sides of the upright bar or standard. H represents a bolt which extends horizontally and transversely through the slots of both supporting arms and has its head *h* arranged on the outer side of one of the arms and its nut *h*¹ arranged on the outer side of the other arm. *i* represents a longitudinal slot formed in the bolt and preferably extending to the headed end thereof. This slot receives that portion of the upright bar or standard E adjacent to the supporting arms. *j*, *j* represent two inner washers which are arranged on the shank of the bolt between the

inner sides of the supporting arms and the upright bar and k , k represent two outer washers also arranged on the shank of the bolt and one between the outer side of one supporting arm and the head of the bolt and the other between the outer side of the other supporting arm and the nut of the bolt, as shown in Fig. 5. For the purpose of adjusting the head rest relatively to the supporting bar the nut h^1 is loosened which permits the clamping bolt H to be raised and lowered on the supporting bar, and the supporting arms to be slid horizontally on the bolt and also turned vertically for bringing the head rest to the desired position after which the nut is tightened, whereby the supporting arms, standard and upright bar are held in their adjusted position relatively to each other.

L represents a rear cross bar arranged horizontally between the back rest and head rest and connected centrally with the adjacent part of the standard or supporting bar so as to be capable of vertical adjustment thereon. The preferred means for thus connecting the rear cross bar with the standard comprises a loop l secured to the rear cross bar and receiving the standard, as shown in Fig. 1. To the opposite ends of this rear cross bar are secured the rear ends of two upper supporting cords or flexible members M the front ends of which are doubled to form loops m each of which receives a coupling ring N. The loops of the upper supporting cords M can be let out or drawn in for shortening or lengthening these cords to suit the requirements of the patient by means of buckles o similar to those employed in the lower cords B.

P represents a front cross bar which is arranged horizontally in front of the back rest and which is adapted to receive at its opposite ends the coupling rings B, N of the upper and lower cords on the respective sides of the patient supporter. The inward movement of each pair of coupling rings on the front cross bar is limited by means of a shoulder p which is preferably formed on the cross bar by an annular collar or band thereon, as shown in Figs. 1 and 6. Means are provided for permitting the coupling rings to be readily applied to or removed from the front cross bar while applying the same to or removing the same from a patient and still prevent these coupling rings from slipping off the front cross bar while the supporter is in use. These means preferably comprise retaining or locking heads Q each arranged in a longitudinal slot q in one end of the front cross bar and pivotally connected therewith by a cross pin r so as to be capable of swinging or swiveling either into a crosswise position relatively to the front cross bar and thus form inwardly facing shoulders thereon, as

shown by full lines in Fig. 6, or the same can be swung into a substantially horizontal position relatively to the front cross bar, as shown by dotted lines in the same figure, and thereby avoid the formation of inwardly facing retaining shoulders on this bar. The retaining or locking head is yieldingly held in its operative position crosswise of the front cross bar by means of a spring s arranged in the slot of this bar and secured at one end thereto while its opposite end bears against a laterally and inwardly projecting tail s^1 formed on the central part of the retaining head. For the purpose of limiting the turning movement of the retaining or locking head the front cross bar B is provided with an inner shoulder t which is adapted to be engaged by one end of the head when the latter is swung into its inoperative position, and an outer shoulder t^1 which is adapted to be engaged by the other end of the retaining head when the latter swings into its operative position. When the retaining heads are turned into their inoperative position the coupling rings B, N can be freely slipped on and off the ends of the front cross bar but when the retaining heads are in their operative position or transversely relatively to the front cross bar the coupling rings are reliably held in place thereon.

U, U represent two front supporting cords or flexible members which preferably diverge forwardly and are connected at their rear ends with the central part of the front cross bar P while their front ends may be connected with the foot of the bed or other convenient or available support to which these members may be attached. By connecting the front cross bar in this manner with a stationary part this bar is free to turn horizontally on the rear ends of the front cords, thereby enabling the patient to shift his position crosswise of the bed without interfering with the adjustment of the supporter, whereby the patient can ease himself and secure greater comfort than if the back and head rest were substantially rigid or immovable crosswise of the bed. The preferred means of connecting the rear ends of the front cords with the front cross bar consists in providing the rear ends of these cords with loops u , u which engage with the central part of the front cross bar and are held against lengthwise displacement thereon by means of shoulders or collars v , v formed on the central part of the front cross bar on opposite sides of the loops u , u . The means for connecting the front end of each front cord with a stationary support preferably consists in providing this end of each of these cords with a loop w which is adapted to embrace a post y or other part of the bed and which can be let out or drawn in by means of a

buckle x for shortening or lengthening this cord to suit the patient in the same manner in which the upper and lower rear cords are shortened and lengthened.

5 I claim as my invention:

1. A patient supporter comprising a back rest, a cross bar arranged in front of the back rest, flexible members connecting opposite sides of the back rest with opposite ends of said bar and two forwardly diverging flexible members connected at their rear ends with the central part of said rod and adapted to be connected at their front ends with a stationary support.
- 15 2. A patient supporter comprising a back

rest, a rear cross bar connected with the upper part of said back rest, a front cross bar arranged in front of the back rest, flexible members connecting opposite sides of the back rest with the opposite ends of the front cross bar, and flexible members connecting opposite ends of the rear cross bar with opposite ends of the front cross bar.

Witness my hand this 11th day of January, 1911.

CHARLES MADSEN.

Witnesses:

THEO. L. POPP,
ANNA HEIGIS.

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