

April 5, 1938.

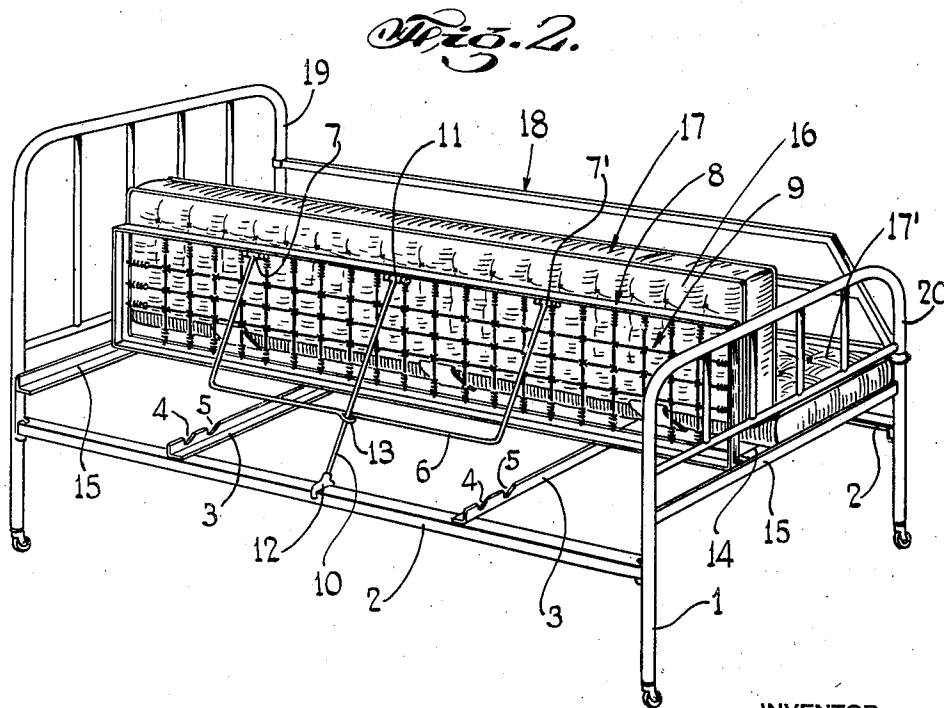
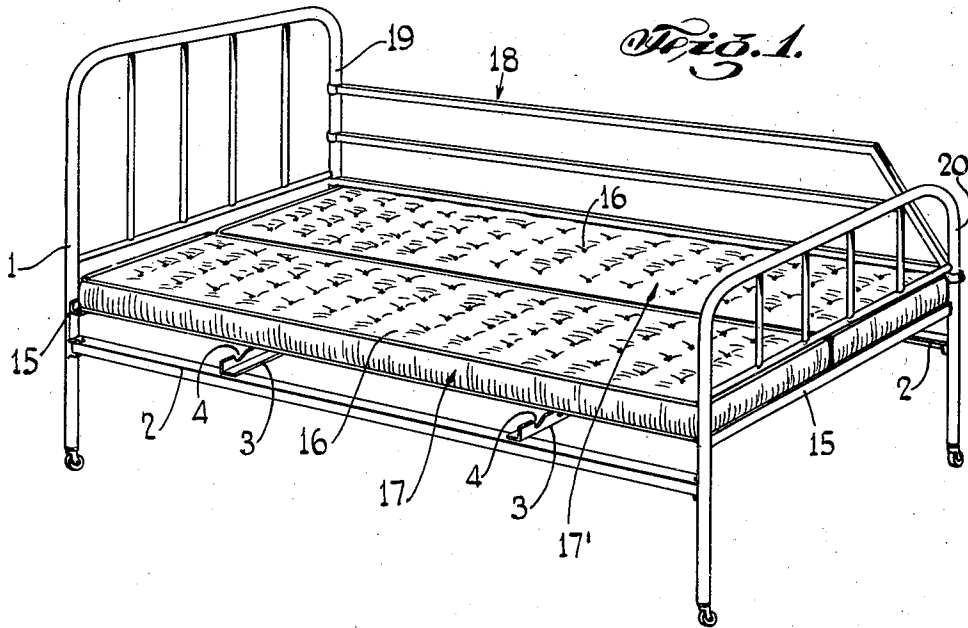
J. WHITE

2,113,286

HOSPITAL BED

Filed Feb. 15, 1936

2 Sheets-Sheet 1



INVENTOR
Joseph White
BY *C. Campbell Hunsicker*
ATTORNEY

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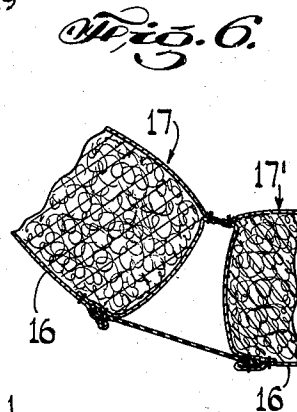
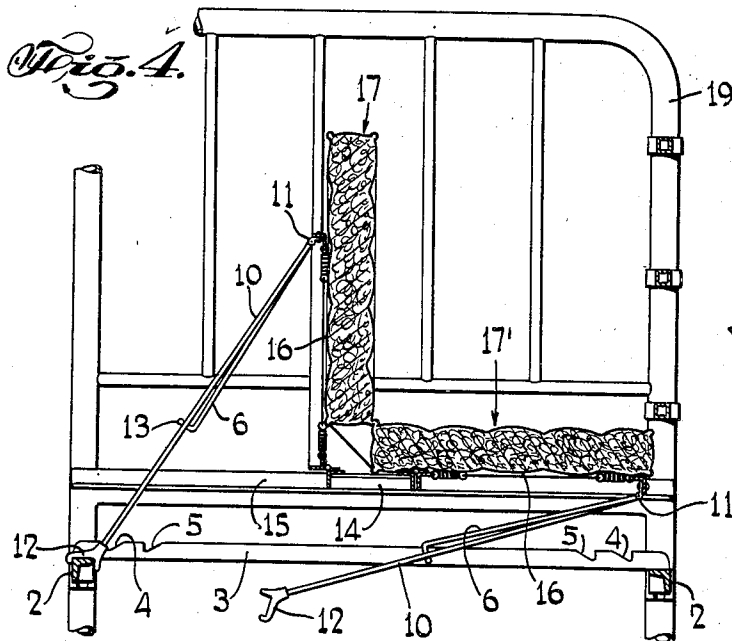
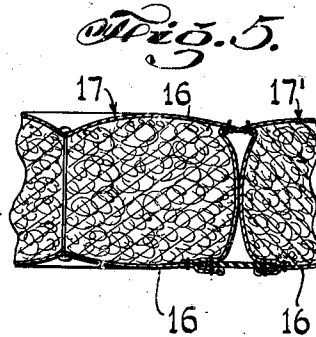
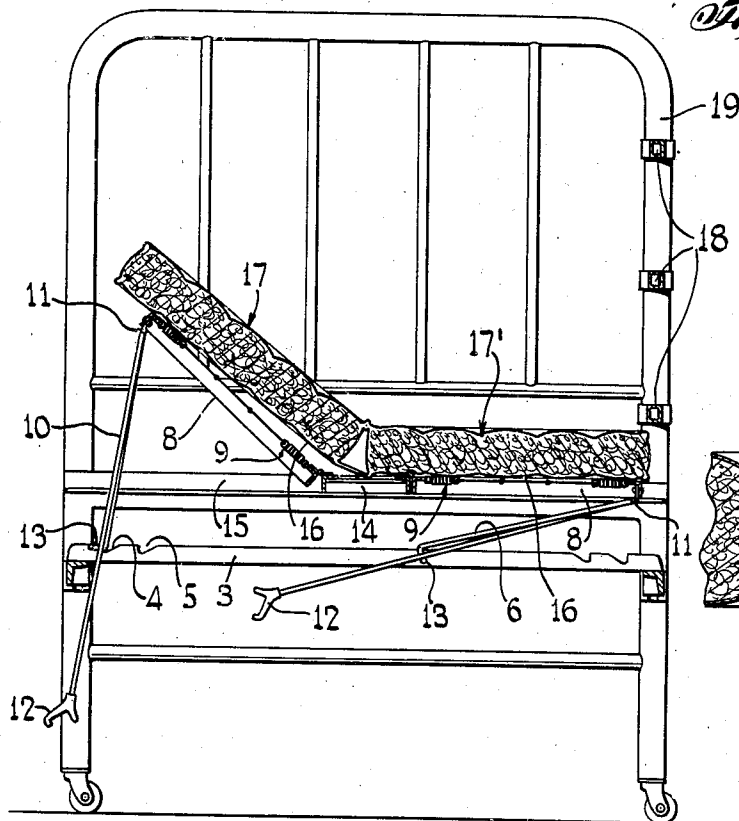
J. WHITE

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HOSPITAL BED

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2 Sheets-Sheet 2



INVENTOR
Joseph White
BY *C. Campbell Hinrichs*
ATTORNEY

UNITED STATES PATENT OFFICE

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HOSPITAL BED

Joseph White, Jersey City, N. J.

Application February 15, 1936, Serial No. 64,063

2 Claims. (Cl. 5—61)

This invention relates to hospital beds.

There is no bed at present in use in hospitals by which a patient may be maintained on his side and kept in the side vertical position or an angle to the horizontal. In certain conditions, life and comfort of a patient are dependent upon the maintenance of the patient upon his side. For instance, in the case of the removal of a stone from the kidney, the patient is generally returned to the ward with a uterine forcep clamping off a large artery which, if it should become displaced, would result in a hemorrhage causing death. Another instance, is in empyema and tuberculosis where a pneumo-thorax operation has been made, it is also necessary that the patient be maintained on his side. Likewise, in the case of aged patients or what is known as bedridden patients, it is required to constantly turn them on their sides and to keep them there for two or three hours at a time to prevent broncho-static pneumonia. Likewise, in cases of auto-intoxication where continuous rectal lavage is desired, it is necessary that patients be kept on their sides in order that continuous elimination may be produced. Again in obstetric cases, it becomes necessary to have the patient lie on the side. The most common and difficult condition arising among bed patients in hospitals are sores which generally form at the junction of the spine and buttocks, elbows, heels and shoulder blades, and once formed are extremely difficult to treat and heal, often becoming gangrenous in nature and resulting in death. The only prevention is the frequent change of the patient from his back to alternate sides. With the usual hospital bed in the cases previously stated, two people are required to make the beds, one to replace the clean linen while the other holds the patient.

The method now in use to maintain the position of the patient upon his or her side consists of blocking up the patient with pillows or blankets either folded or rolled or by placing of the upturned back of hospital metal chairs under the edge of the mattress and by the removal of the caster from the head and foot of the same side of the bed. These methods are crude, cumbersome and ineffective.

One of the objects of my invention is to provide a horizontal bed where either or both sides of the spring or mattress may be elevated to form an angle within which the patient lies.

Still another object of the invention is to provide a guard rail in conjunction with a longitudinal sectional spring and mattress whereby when the spring and mattress have one-half ele-

vated the guard rail in connection with the elevated half prevents the patient from moving from his position.

Still another object of the invention is to permit the making of a bed with the patient therein by a single individual.

Referring to the drawings:

Figure 1 is a perspective view of a bed embodying the principles of my invention.

Figure 2 is a perspective view showing one half of the spring and mattress raised to its maximum angle with respect to the other half.

Figure 3 is a detail view with the front frame of the bed removed showing the elevation of the spring and mattress to an angle of lesser degree than ninety.

Figure 4 is a detail view showing one-half of the spring and mattress elevated to an angle of ninety degrees.

Figure 5 is a detail view of the junction of two halves of the mattress.

Figure 6 is another detail view of two halves of the mattress when one-half of the spring is elevated to an angle.

In carrying out my invention, I propose to utilize the usual hospital bed having the side angle iron rails 2. Connected to angle iron rails 2 are angle irons 3 which run transversely of the bed. The angle irons 3 are notched at 4 and 5. Additional notches may be used if desired. A loop 6 is hingeably connected at 7, 7', to the frame 8 of the wire spring 9. Loop 6 is adapted to set in notches 4, 4, or 5, 5, to support spring 9 at lesser angles than ninety degrees. A rod 10 is pivotally supported at 11 to frame 8. It has a foot 12 adapted to rest on angle iron 2 and is maintained from side slipping therefrom by quadrant 13 secured to loop 6. Spring 9 is formed in two similar halves longitudinally and pivotally connected throughout their lengths to each other through channel 14. The ends of channel 14 rest in the angle cross rails 15 of the bed. The mattress is divided longitudinally, the top tick or covering 16 being integral for the two halves, the remaining portions of the mattresses being made into two separate units 17, 17', so that the upper tick 16 forms a hinged connection in the center and longitudinally thereof. To prevent separation and sagging of the center of the mattresses due to the separate halves, I provide bands of elastic material at a plurality of points that tend to hold the two halves together at the bottom and which permit separation at the bottom when one-half of the spring 9 is raised forcing the elevation of one-half of the mattress 17.

I propose to provide guard railing 18 which is secured in any well known manner to the bed posts 19 and 20. This guard railing is removable so that it can be changed from one side to the other or if the bed is desired for the normal patient it can be temporarily removed.

The loops 6 when removed from notches 4, 4, 5, 5, and pushed toward the center of the bed, slide along angle irons 3 so as not to protrude below the bed to interfere with cleaning by hospital attendants and to be out of the way.

With this bed a single attendant under normal circumstances can take care of a patient. If it is desired to change the bed linen the new bed linen is placed under one-half of the old bed linen with the excess amount of the fresh sheets adjacent the patient. The portion that the patient is lying on is then raised. The attendant goes to the other side of the bed and pulls the old sheets with the patient thereon onto the fresh linen. The elevation facilitates such movement of the patient without injury to the patient. The old linen is then slipped from under the patient, the raised portion is lowered and the fresh linen is spread over the remaining half of the bed.

In case of patients who must stay on their side, one-half of the bed is elevated to the desired angle and the patient is then held between the guard railing 18 and the mattress 17. The angle that the mattress can take is a sharp angle which prevents the patient from sliding and assists in the maintenance of the patient upon his or her side. When it is necessary to change the patient from one side to the other, the guard railing 18 is shifted and the raised side is lowered, the patient being moved over to his other side and the lowered portion is raised.

There are horizontal beds wherein the head or feet of the patient can be raised but the mechanism and structure is different and such beds

do not permit of the maintenance of the patient on one side. With my invention, the patient is normally not supported by the raised portion, hence the supporting mechanism may be of relatively light construction to avoid the necessity of heavy lifting by nurses. In addition, it avoids the necessity of most of the lifting of patients by the nurses who frequently suffer internal injuries from such exertion.

Various modifications may be made and still fall within the scope of my invention.

What I claim is:

1. In a hospital bed, the combination of a frame, a guard rail at one side of the frame, a bed bottom formed in longitudinal spring sections each having hinged connections with the frame at their adjacent sides, said spring sections being independently adjustable angularly one with respect to the other, notched transverse members extending across the frame below the spring sections, a member pivoted on the under side of each spring section and engageable selectively with the notches of the transverse members to hold the spring section in a selected inclined position, and other means pivoted to the spring section and connected to the member for movement therewith and extending beyond the member for engagement with an element of the frame to support the spring section in vertical position.

2. The combination as in claim 1, with the said member formed substantially U-shaped and its ends pivoted to the spring section, said means of elongated form and pivoted at one end to the spring section medially of the pivoted ends of the member, and an angled member at the free end of the elongated member for engagement with said frame element.

JOSEPH WHITE.