Nov. 24, 1936. O. L. HEROD 2,062,056

HEAD REST

Filed April 25, 1935 2 Sheets-Sheet 1

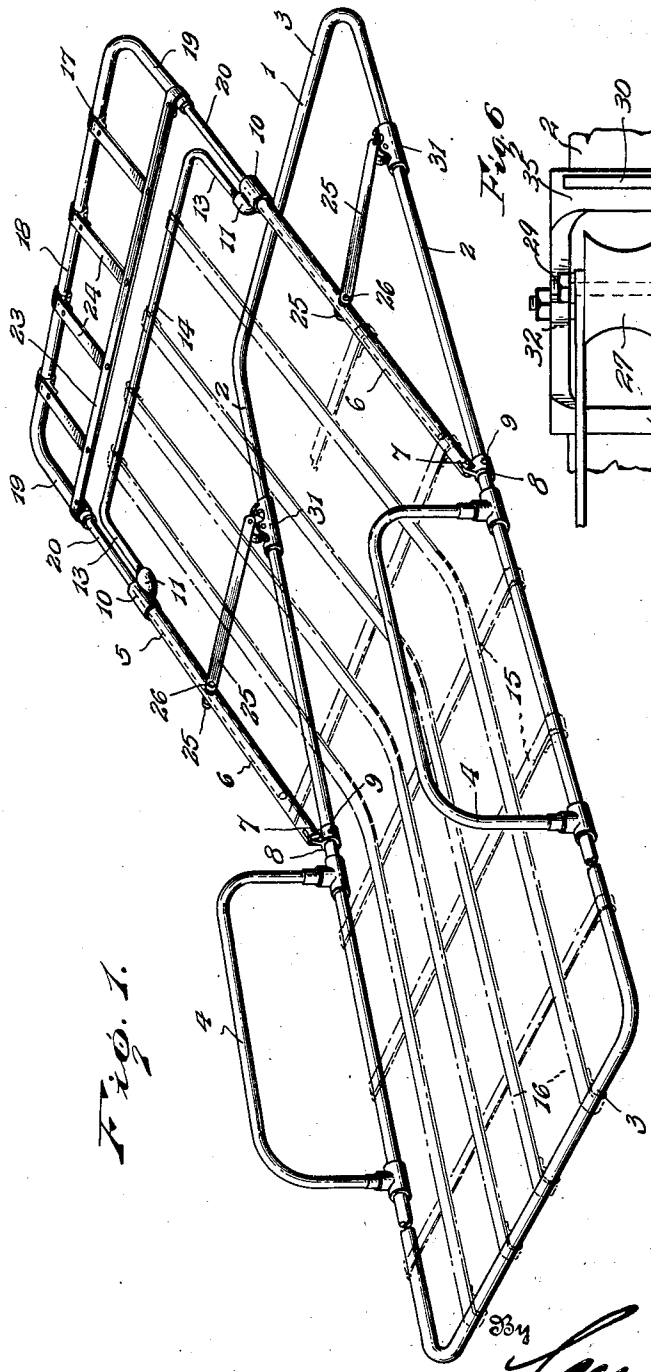


Fig. 1.

Fig. 6

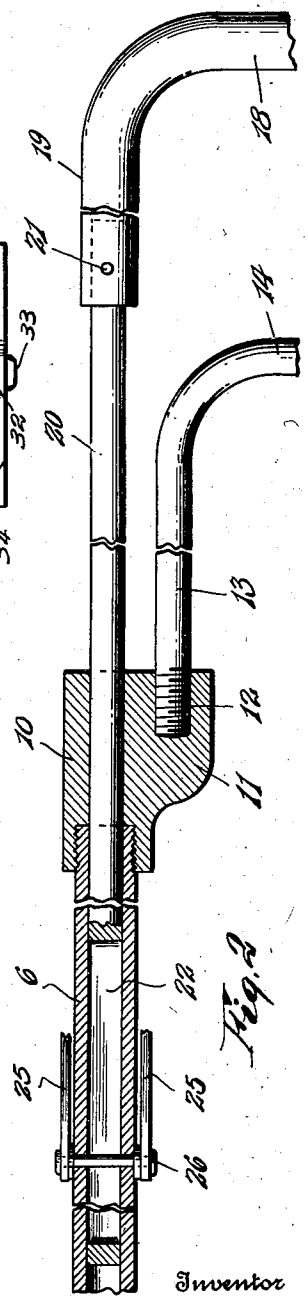


Fig. 2

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Nov. 24, 1936. O. L. HEROD 2,062,056

HEAD REST

Filed April 25, 1935 2 Sheets-Sheet 2

Fig. 3.

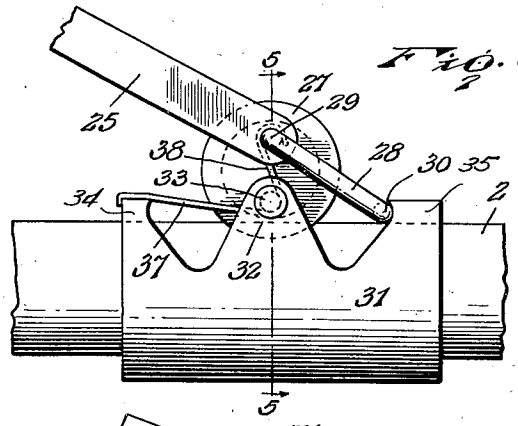


Fig. 5.

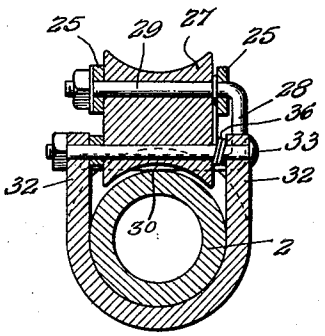


Fig. 4.

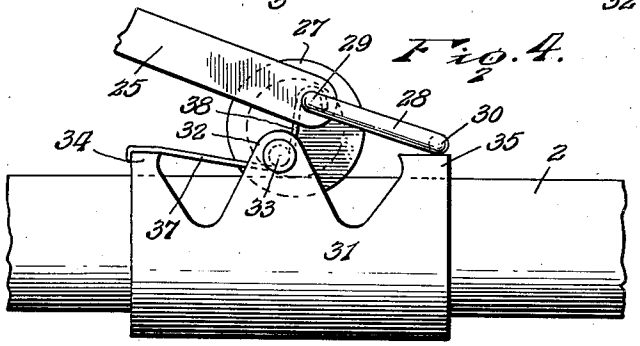
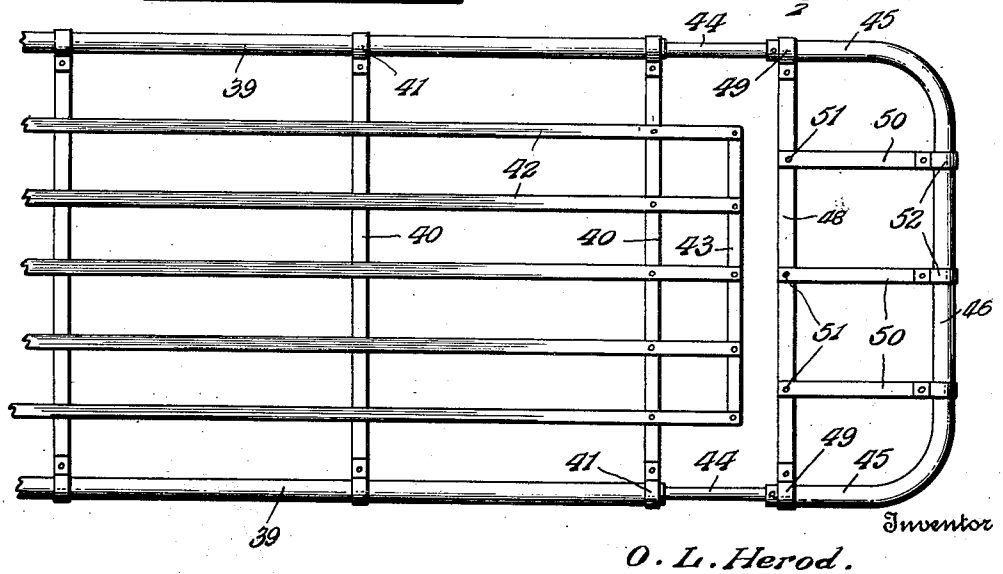


Fig. 7.



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HEAD REST

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Application April 25, 1935, Serial No. 18,227

7 Claims. (Cl. 5—72)

This invention relates to an improved head rest forming part of a stretcher of the type used in hospitals and ambulances for conveying patients from one place to another, and one object of the invention is to provide the stretcher with a head rest of such construction that it may be moved from a lowered position to an elevated position in which it extends at an incline and securely but releasably held in the elevated position.

Another object of the invention is to so connect the lower ends of braces for the head rest that they may be slid along side rails of the stretcher frame and very securely held in the adjusted position with the head rest extending at a desired incline.

Another object of the invention is to provide a device of this character wherein the lower ends of the braces are pivotally connected with cams carried by sleeves fitting loosely about the side rails of the stretcher frame, the braces being provided with means for preventing the cams from moving into gripping engagement with the side rails during sliding of the sleeves along the side rails when adjusting the head rest.

Another object of the invention is to so form the head rest that the upper portion thereof may be longitudinally adjusted and frictionally held in a set position so that it will accommodate itself to the size of the patient occupying the stretcher and permit the head of the patient to rest comfortably against the extensible portion of the head rest.

Another object of the invention is to provide an improved adjustable head rest which may be formed of metal strips and tubes, thus providing a head rest which will be simple in construction and very strong, while at the same time light in weight.

The invention is illustrated in the accompanying drawings, wherein—

Figure 1 is a perspective view showing the frame of a stretcher equipped with the improved head rest.

Figure 2 is an enlarged fragmentary view showing a side portion of the improved head rest partially in section and partially in elevation and illustrating the manner in which the upper head engaging portion of the head rest is adjusted.

Figure 3 is an enlarged side elevation of the lower end portion of one of the braces and the means for slidably and adjustably connecting the brace with a side rail of the stretcher frame with the securing cam held out of gripping engagement with the side rail.

Figure 4 is a view similar to Figure 3 showing the latch for holding the cam out of gripping engagement with the side rail released.

Figure 5 is a sectional view, taken along the line 5—5 of Figure 3.

Figure 6 is a view looking down upon Figure 4.

Figure 7 is a top plan view of a modified form of head rest.

In the accompanying drawings, there has been shown a stretcher frame, indicated in general by the numeral 1, and having side rails 2 connected by end rails 3. This stretcher frame may form a portion of a wheeled stretcher or be supported in any other desired manner. Guard rails 4 rise from the side rails 2 and may serve to prevent danger of a patient rolling off of the stretcher and also as handles to be grasped by a nurse or other attendant operating the stretcher.

In connection with the frame 2, there has been provided an adustable support 5 which engages under the back and head of a patient and is adjustably mounted so that the patient may rest in a reclining position or be propped up. This support has side bars 6 formed of metal tubing and at its lower front end each tube is split to form hinge ears 7 which are pivoted to upstanding ears carried by sleeves 8. These sleeves 8 fit about the side bars 2 of the stretcher frame and are firmly secured rearwardly of the guard rails 4 by pins 9. At their upper ends the side bars 6 carry open ended couplings 10 formed with side extensions 11, and referring to Figure 2 it will be seen that each side extension 11 is formed with a threaded socket 12 to receive the threaded lower end of an arm 13 of a cross bar 14. By this arrangement the couplings may be screwed upon the lower ends of the arms 11, and upper ends of the side bars 6 then screwed into the couplings, thus producing a frame for the support or back and head rest which extends longitudinally of the stretcher frame and is pivotally connected with the stretcher frame by the mounting sleeves 8. A suitable number of strips 15, which are formed of leather straps, extend transversely of the stretcher frame and support with their ends firmly secured to the side rails 2 and side bars 6, and other strips 16 which are also formed of leather straps extend longitudinally of the stretcher frame and support in crossed relation to the strips 15 with their forward ends anchored to the front bar 3 of the stretcher frame and their rear ends anchored to the cross bar 14 of the support. By this arrangement, a very good support for a mattress or the like will be provided and the guard rails 4 will prevent the mattress from slipping transversely out of place.

Patients are not all of the same height and, therefore, the back and head rest has been formed with an upper portion 17 having a cross bar 18 formed of metal tubing, the ends of which are bent to form side rails 19 in which rods or tubes 20 are secured by pins 21. These rods or tubes, which form extensions for the side arms 19, are of a diameter to fit snugly in the side bars 6 and registering openings of the couplings 10, as shown in Figure 2, and each is formed with a slot extending longitudinally from adjacent its lower or forward end, as shown at 22, to provide an expansible forward portion having frictional binding engagement with the walls of the side bars 6 to hold the upper section in an adjusted position. Therefore, while the upper section may be easily moved longitudinally of the main section 5 of the support, it will be frictionally held in an adjusted position and the extensions 20 of its side bars 19 will not be liable to slip downwardly through the side bars 6 after the upper section has been adjusted. A cross strip 23 formed of metal extends between lower end portions of the side arms 19 where they are firmly secured, and between the cross strip 23 and the cross bar 18 extend other metal strips 24 which are spaced from each other transversely of the upper section. By this arrangement the upper or rear end portion of a mattress will be supported in position to engage under a patient's head, or a pillow formed separate from the mattress may be supported against the strips 23 and 24.

The back and head rest is to be disposed either in a horizontal position in which it rests upon the side bars 2 and rear cross bar 3 of the stretcher frame, or disposed at an incline, as shown in Figure 1, and thus permit the patient to either lie in a reclining position upon the stretcher or be propped up. In order to permit the back and head rest or support to be secured at a desired incline, there has been provided props 25 which are arranged in pairs disposed at opposite sides of each of the side bars 6 and pivotally connected therewith by pins 26. The pins pass through the slots 22 and limit adjustment of the upper section. These props extend rearwardly of the back rest from the pins and each pair of props have their rear ends disposed at opposite sides of a cam 27 formed of metal. A U-shaped latch 28 pivotally connects each pair of braces with its cooperating cam, and referring to Figures 3, 4, 5 and 6 it will be seen that the upper arm 29 of each latch extends through a cam and the cooperating braces in eccentric relation to the cam. The latch extends rearwardly beyond the cam with its lower arm 30 which is parallel to the upper arm 29 extending transversely across a coupling sleeve 31 having side ears 32 between which the cam is pivotally mounted by a pin 33 extending through the cam in eccentric relation thereto. Therefore, after the latch is swung up by hand and when pressure is applied to shift the braces rearwardly of the stretcher frame the two cams will be rotated rearwardly about the pins 33 and the cams will be swung about these pins from the position shown in Figure 3 toward that of Figure 4 and cause the concaved peripheral faces of the cams to have tight gripping engagement with the side bars 2 of the stretcher frame. The back rest and the braces 25 must be first shifted forwardly to permit movement of the latches by hand out of engagement with the undercut inner edges of the end portions 35 of the sleeve before the cam can move to a gripping position. The sleeves 31 when cut to form the ears 32 define end portions 34 and 35 having undercut inner edges, and referring to Figures 3, 4 and 5 it will be seen that a spring formed of resilient wire has its helical portion 36 engaged about the pin 33 at one side of the cam with its arms 37 and 38 extending therefrom. The arm 37 is formed with a hooked end engaged about the portion 34 of the sleeve to anchor this arm, and the arm 38 extends upwardly from the pin and terminates in a hooked end engaged about the arm 29 of the latch. These springs serve to urge the cams into gripping engagement with the side bars of the stretcher frame and, therefore, the back and head rest may be easily drawn upwardly to the inclined position of Figure 1 but will not be liable to accidentally slip as the springs will move the cams toward a gripping position as soon as the back and head rest is released after being drawn upwardly and the weight of the back and head rest, and also the weight of the patient resting thereon, will apply pressure to the braces 25 to urge them rearwardly and move the cams into tighter grip against the side bars of the stretcher frame. When it is desired to lower the back and head rest it is first swung upwardly to swing the cams to a releasing position and upward pull upon the back and head rest is continued until the latch moves upwardly to such a position that its lower arm 30 will rest upon the side bar 2 in front of the rear portion 35 of the sleeve as shown in Figure 3. The latches will, therefore, prevent the cams from turning rearwardly about their pivots 33 into gripping engagement with the side bars 2 and the sleeves can then slide rearwardly along the side bars of the stretcher frame and permit the back and head rest to be lowered without interference by the cams. When it is desired to again raise the back and head rest, upward pull will be exerted thereon to turn the cams towards the left in Figure 3 and shift the latches away from the undercut rear end portions 35 of the sleeves and the latches then swung by hand upwardly to an elevated position in which they may move across rear ends 35 of the sleeves as shown in Figure 4 and permit the cams to have gripping engagement with the side bars of the stretcher frame and hold the back and head rest in an adjusted position.

In Figure 6, there has been shown a slightly modified construction. Referring to this figure, it will be seen that the side bars 39 of the back rest are open at their upper ends and the cross strips 40 are secured at their ends to the side bars, as shown at 41, the longitudinally extending metal strips 42 having their upper ends projecting above the upper cross strip 40 and connected by a cross strip 43. The couplings 10 carried by the side bars 6 are omitted, and the rods or tubes 44 which form reduced extensions for arms 45 of the cross bar 46 of the head rest are directly received in the side bars 39. These reduced extensions 44 are slotted from adjacent their lower or forward ends, so that they will have frictional grip with walls of the side bars 39 similar to the manner in which the extensions 20 frictionally grip walls of the side bar 6 and retain the head rest in an adjusted position. A cross strip 48 corresponding to the cross strip 23 extends between the arms 45 with its ends secured to these arms, as shown at 49, and strips 50 corresponding to the strips 24 extend between the strip 48 and cross bar 46 with their ends secured thereto, as shown at 51 and 52. This back and head rest may be used in place of the back and head rest shown in Figure 1, it being understood that it

will be pivoted to the side bars of the stretcher frame in the same manner in which the back and head rest of Figure 1 are mounted and will also carry braces corresponding to the braces **25**.

Having thus described the invention, what is claimed as new is:

1. In a device of the character described, a frame having side bars, a support having side bars pivotally connected with the side bars of said frame whereby said support may be swung vertically to angularly adjusted positions above the frame, mountings slidable along the side bars of said frame, eccentric gripping elements pivotally carried by said mountings above the side bars of the frame, and braces extending between and pivotally connected with the gripping elements and side bars of said support for tilting the gripping elements into and out of position to grip the side bars of the frame and secure the mountings in adjusted positions upon the side bars of the frame and retain the support in a vertically adjusted position.

2. A device of the character described comprising a frame having side bars, a support over said frame having side bars pivotally connected with the side bars of the frame, braces pivoted to the side bars of said support, mountings slidable along the side bars of said frame, and cams eccentrically pivoted to said mountings, said braces being eccentrically pivoted to said cams whereby the cams may be moved into and out of gripping engagement with the side bars of the frame and when in a gripping position hold the mountings in adjusted positions upon the frame with the support in an angularly adjusted position.

3. A device of the character described comprising a frame having side bars, a support over said frame having side bars pivotally connected with the side bars of said frame, mountings slidable along the side bars of said frame, cams pivoted to said mountings over the side bars of said frame, braces pivoted at their ends to the cams and side bars of said support for moving the cams into and out of gripping engagement with the side bars of the frame and holding the support in a vertically adjusted position, and means for temporarily preventing movement of the cams into gripping engagement with the side bars of the frame.

4. A device of the character described comprising a frame having side bars, a support over said frame having side bars pivotally connected with the frame, sleeves slidable longitudinally upon the side bars of said frame and having ears intermediate their ends, cams pivotally connected with said ears, braces pivoted to the side bars of the support and to said cams for moving the cams into and out of gripping engagement with the side bars of the frame and holding the support in an angularly adjusted position, and latches extending from said braces and movable into and out of engagement with means on the end portions of said sleeves for holding the cams out of gripping engagement with the side bars of the frame and permitting free sliding of the sleeves.

5. A device of the character described comprising a frame having side bars, a support having side bars pivotally connected with said frame, sleeves slidable longitudinally upon the side bars of said frame, cams pivotally carried by said sleeves for movement into and out of gripping engagement with the side bars of the frame, braces having their forward ends pivoted to the side bars of said support, U-shaped latches having upper arms extending through the braces and cams to pivotally connect the braces with the cams, and lower arms extending transversely across the sleeves and side bars of the frame and movable with the braces into and out of position to engage means on the sleeves and retain the cams out of gripping engagement with the side bars of the frame.

6. In a device of the character described, a frame having side bars, a support over said frame having side bars pivotally connected with the frame, sleeves slidable along the side bars of said frame and each having hinge ears intermediate its length and open spaces between the hinge ears and rear end portions of the sleeve exposing portions of the side bars of the frame, cams, pivot pins carried by said ears and extending through the cams eccentrically thereof and pivotally mounting the cams between the ears of said sleeves for tilting movement vertically into and out of gripping engagement with exposed portions of the side bars of the frame, braces pivoted at their forward ends to the side bars of said support, latches pivotally connecting rear ends of said braces with said cams in eccentric relation thereto and having portions extending rearwardly beyond the cams, the latches being movable longitudinally of the sleeves with the braces and cams into and out of position for engagement of their rearwardly extending portions with notched rear portions of the sleeves to temporarily prevent rearward tilting of the cams into gripping engagement with the exposed portions of the side bars of the frame, and springs carried by said pivot pins and urging said cams rearwardly into position for gripping engagement with the exposed portions of the side bars of the frame.

7. A device of the character described comprising a frame, a support over said frame having tubular side bars, forward ends of the side bars being pivotally connected with the frame whereby the support may be moved vertically to angularly adjusted positions, means for holding the bars in adjusted position, couplings carried by rear ends of the side bars and having side extensions formed with sockets, a cross bar for the rear end of said support having side arms extending laterally therefrom and secured in said sockets, and an upper section for said support having side bars slidable through said couplings and extending into the tubular side bars of the support, the portions of the side bars of the upper section engaged in the tubular side bars of the support being slotted for expansion transversely for frictional engagement with walls of the tubular side bars to hold the upper section in an adjusted position.

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