Sept. 29, 1970 B. Y. JACOBY 3,530,515

PATIENT GUARD DURING SURGERY

Filed Oct. 30, 1967 2 Sheets-Sheet 1

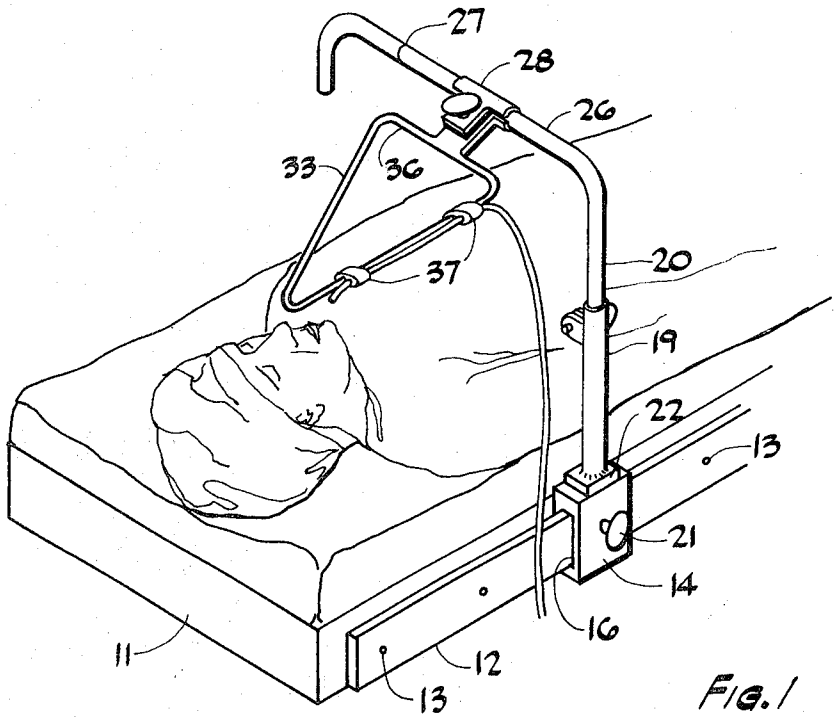


FIG. 1

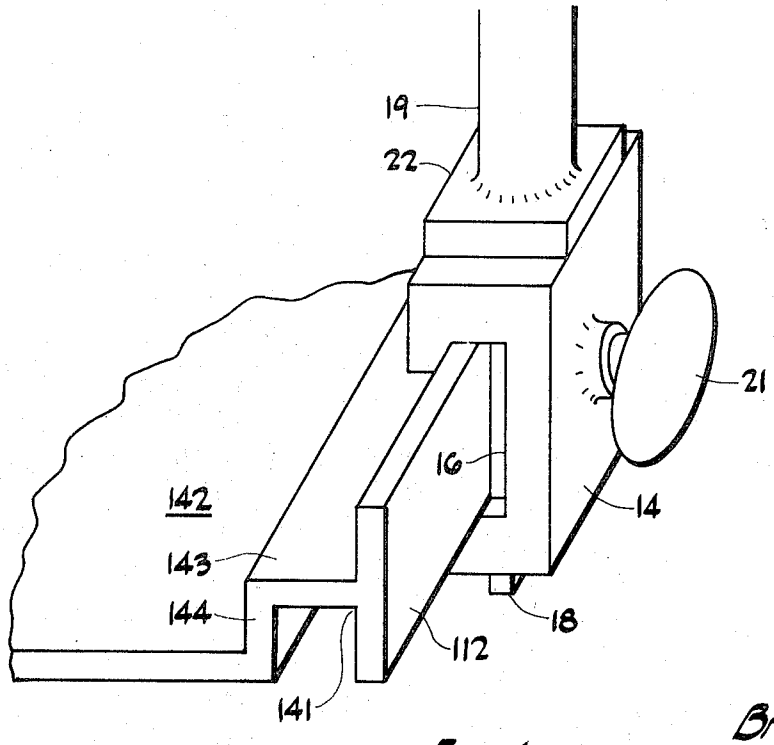


FIG. 4

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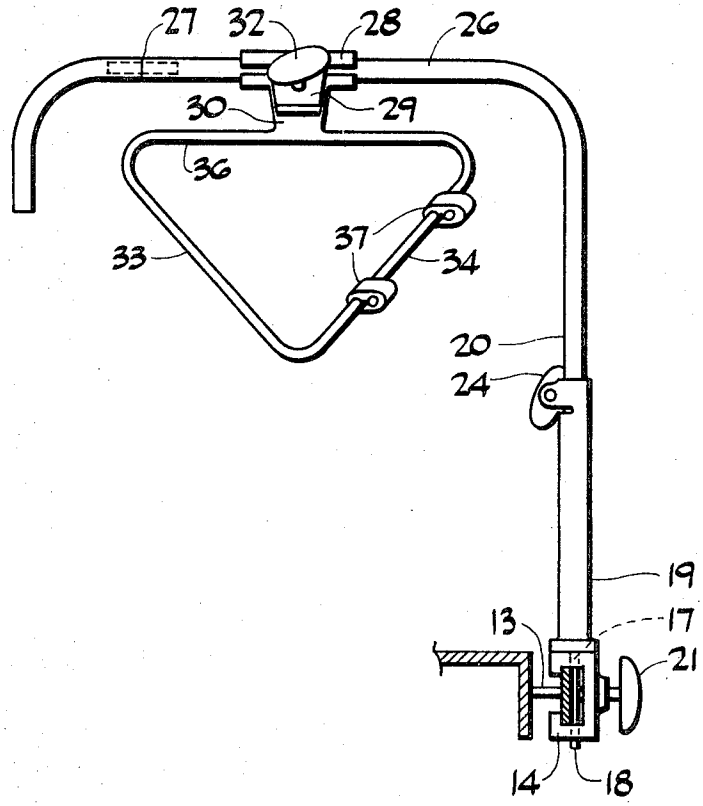


FIG. 2

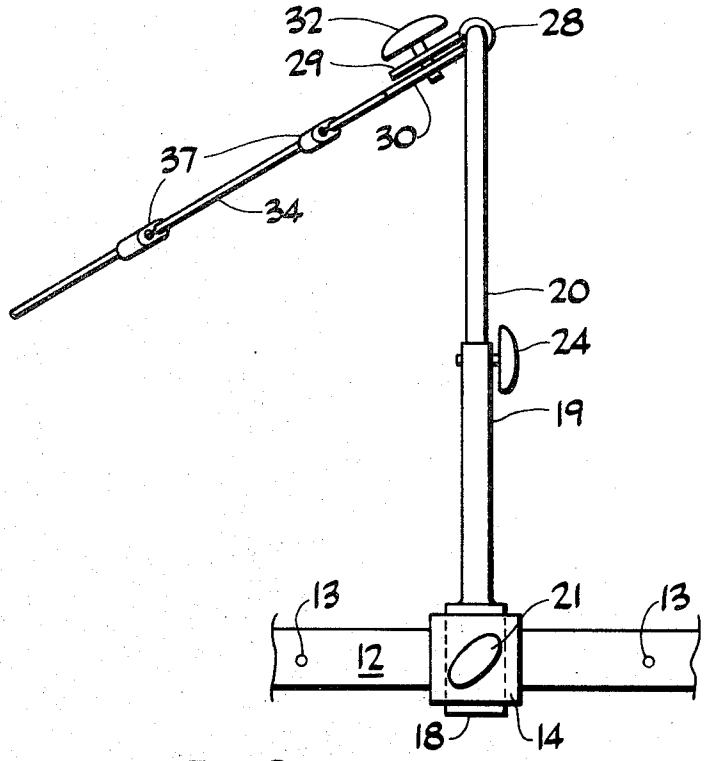


FIG. 3

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United States Patent Office 3,530,515 Patented Sept. 29, 1970

3,530,515

PATIENT GUARD DURING SURGERY

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Filed Oct. 30, 1967, Ser. No. 679,041
Int. Cl. A47c 21/00
U.S. Cl. 5—319 8 Claims

ABSTRACT OF THE DISCLOSURE

A rail clamp secures a post to a table side rail, and the rail clamp allows the post to be variously positioned along the rail. A clamping sleeve provides for varying the length of the post that extends from the table rail to above a patent lying supine on the table. Integral with the upper end of the post is a beam that extends across the patient and the table. An arm supporting and clamping sleeve encompasses the beam and slides along and rotates thereon. Secured to this arm sleeve is an arm formed of a loop of rod shaped material. This loop is V-shaped with the beam substantially in the plane of the loop and the nexus of the V-shape away from the beam. Usually, the beam is across and above the mid-region of the patient and the nexus of the arm is above the nose of the patient. Clips hold tubing to and along the arm, and protective sheeting covers patient and arm.

FIELD OF THE INVENTION

The present invention relates to a device that is particularly useful during eye surgery. It is a guard that clamps to a side rail of an operating table and extends above the patient's chest, lower face, and nose to keep the protective sheeting off the patient and his nose so that his breathing may be easy and to reduce claustrophobia. Also, the guard supports, positions, and protects tubing such as tubing carrying oxygen to the patient.

DESCRIPTION OF THE PRIOR ART

A search of many surgical supply catalogues and inquiries of many doctors and hospital personnel has shown the absence in the prior art of a guard of the present form and for the present use. In the prior art of eye and head operations, protective sheeting has been wrapped around and directly on the patient resulting in breathing difficulties for the patient and claustrophobia. Also, oxygen tubes have been poorly placed and have shifted during surgery with bad results.

Thus it is an object of the present invention to devise a guard that will take the load of the protective sheeting off a patient, allow the patient to breathe easily, and will position, support, and protect tubing running to the patient's nose or mouth.

SUMMARY

The above mentioned lack of the prior art is remedied and the above objects achieved by a guard for patients during surgery that is clamped to a side rail of an operating table at any desired position along such side rail. Clamped to the side rail is a post that extends upward from the rail. A clamping sleeve associated with a telescoping construction of the post provides for adjustment of the post length. Secured to the upper end of the post and normal thereto is a beam that extends transversely of the table and above a patient supine thereon. A clamping sleeve is slidable along and rotatable on such beam. This sleeve has secured to it an arm that in its extension is generally normal to the beam. The arm is in the form of a V-shaped loop with the nexus of the loop away from the beam and the wide part of the loop secured to the sleeve on the beam. The loop is formed of rod like material and the plane of the loop contains or substantially contains the axis of the beam. In use, the beam is generally positioned to be above the mid-portion of the patient, or, more specifically, above the navel. The loop then extends over the patient and slops downward so that the nexus of the loop is just over and almost in contact with the patient's nose. This gives a length for the loop, from beam to nexus of about eighteen inches. Clips slidable along the sides of the loop hold tubing. The outer end of the beam is downwardly curved, and the junction between beam and post is curved. Prior to the surgery, with the patient in supine position and the guard adjusted as above described, sheeting is placed over the guard and patient and secured in place. If oxygen is supplied to the patient, the sheeting serves as an oxygen tent. The spacing of the sheeting from the patient allows him to breathe easily and reduces the chance of claustrophobia.

BRIEF DESCRIPTION OF THE DRAWINGS

A device such as briefly described above and in a preferred form thereof is hereinafter described in detail and illustrated in the accompanying drawings, in which:

FIG. 1 is a perspective view of the guard device attached to an operating table with a patient thereon and and with guard and patient properly related, but without the sheeting that would cover both guard and patient.

FIG. 2 is an elevational view of the device shown in FIG. 1 and taken from the head end of the table with most of the table broken away.

FIG. 3 is a side view of FIG. 2 from the right side thereof.

FIG. 4 is a modification of FIGS. 1, 2, and 3 only in the attachment of the table rail to a plate to be placed under a mattress, and is a perspective view of portions of such plate, rail, and post with the clamp that connects post and rail.

DESCRIPTION OF THE PREFERRED EMBODIMENT

FIGS. 1, 2, and 3 are views of a preferred embodiment of the invention. FIG. 4 is not so much a modification of the invention as it is an illustration of how the invention may be used with a bed or table not provided with utility side rails.

Most operating tables **11** are provided with side rails **12** along each side edge of the table and spaced slightly therefrom by studs **13**. Each rail **12** is in the form of a flat bar having a rectangular cross section that is standard in the industry of such tables. Hospitals have various devices that are secured to such rails depending on the operation to be performed and the desires of the surgeon performing such operation.

The device of the present invention is secured to the rail **12** by a T-slotted clamp **14**. The T-slot **16** of the rail clamp **14** is of a size to take the rail in the head of the T with the stem opening sized to clear the rail support studs **13** as the clamp is slid along the rail and on and off the rail end or ends. The rail clamp **14** is also rectangularly slotted transversely of the head of the T-slot **16** for the reception in such rectangular slot **17** of a rectangular tongue **18** at the base of and as an extension of the lower part **19** of a post **19–20**. The rectangular slot **17** is positioned so that the post tongue **18** will cross and bear against the table rail **12** when a handled set screw **21**, threaded thru the outer portion of the clamp, is tightened against the tongue **18**. Tightening of the set screw **21** forces the rail **12** against the under edges of the head slot of the T-slot **16** to lock the clamp, tongue, and rail together. A stop plate **22** is placed between the lower end of lower part **19** of the post and the tongue **18**, and

this stop plate **22** rests on the upper face of the clamp **14** with the tongue **18** extending thru the clamp. The lower part **19** of the post is a sleeve into which the upper part **20** of the post telescopes. The upper and lower parts of the post are adjustable one to the other to vary the length of the post and are locked together by a construction at the top of the lower part **19**. The locking construction shown in the drawings is formed by axially splitting the upper end of the tube for about an inch, cutting the tube in half at the lower end of the split, bending outwardly the two ears formed by such cutting of the tube, drilling aligned holes thru the ears, and passing a threaded thumbscrew loosely thru one of the holes and into threaded engagement with the other so that screwing the thumbscrew **24** into its threaded hole causes the underside of the thumbscrew's head to bear on the other ear to pull the ears together and thus to clamp and lock the sleeve **19** onto the upper part **20** of the post. The reference numeral **24** to the thumbscrew may be considered to refer to the whole lock construction at the upper end of the tube **19**, of which lock the screw is a part.

Secured to the upper end of the post by a short curved section is a beam **26** that is normal to the length of the post and when in use extends transversely of the table. The outer end of the beam is curved downwardly and terminates adjacent the end of such curve. The outer down curved section of the beam may be joined to the rest of the beam by a slip joint **27** so that the outer part may be easily separated from the rest of the beam so as to obtain more compactness in the packaging and storing of the guard. The post **19–20**, and the beam **26** are circular in cross section.

Sliding along and rotatable on the beam **26** is a sleeve **28** that is split axially thereof. Secured at each side of the split of the sleeve is an ear **29**, **30** with a thumbscrew **32** therebetween and therethru so that when turned it will pull the ears together to secure the sleeve fixed with respect to the beam. Secured to the lower ear **30** of said sleeve ears is an arm in the form of a loop formed of rod like material. This loop has three parts, the two legs **33**, **34** of a V part, and a base part **36** that closes the open end of the V, joins together the ends of the legs of the V. The mid-portion of the base **36** is integrated with the lower ear **30**. This construction provides an arm that extends normal to the beam and may be positioned so that its length is in opposition to the table. Generally the post **19–20** is positioned along the rail **12** so that it is about opposite the mid-portion of the patient in supine position on the table, adjacent the patient's navel. The beam extends across and above the patient with the junction of the legs **33** and **34**, the nexus of the V, just above and almost touching the patient's nose.

Secured to one or more of the V legs **33**, **34** are tube holding clips **37**. Each of the clips is composed of a resilient material, such as rubber or plastic. The clip is in the form of a rectangular block with parallel spaced apart T slots longitudinally thereof and with the stems of the T's opening outward of the block away from each other, and with the head of each T being cylindrical in form to fit either the rod form of the loop or a flexible tube **38** adapted to convey oxygen to a patient on the table. One end of the oxygen tube is adjacent the patient's nostrils. The clips are flexible enough to allow forcing of the loop's bar thru the stem opening of the T slot.

With the table, patient, guard and oxygen tubing related as shown in FIG. 1, sheeting is placed over the guard and the patient except for an opening in the sheeting coinciding with the eye to be operated on. The patient is free to breathe and the sheeting acts as an oxygen tent. This freedom of the patient reduces the chance of claustrophobia in the patient.

DESCRIPTION OF A MODIFICATION

The modification of FIG. 4 embodies the rail clamp **14**, post **19–20**, beam **26**, and loop **33–34–36** of FIGS. 1, 2, and 3. A rail **112** similar to the rail **12** carries the rail clamp **14**. The rail **112** is secured to and along an edge **141** of a plate **142**. The junction between plate and rail is medially along one side of the rail **112**. Adjacent the rail the plate is formed with flange **143** normal to the face of the bar and located in the stem of the T-slot **16** of the clamp. Between the flange **143** and the rest of the plate is a connecting web **144** that is normal to both and below the flange **143**. The plate is of limited extent but large enough so that when placed under a pad or a mattress supporting a patient, the guard will be stable and function properly. This construction allows the guard to be used with tables or beds that do not have proper side rails.

Having thus described my invention, its construction and operation, I claim:

1. A patient guard for use during eye surgery on a patient in a supine position, comprising: support means adjustable and fixable with respect to the area of such operation and including a beam member extending transversely of and above such supine patient adjacent the mid-region of such patient, and a guard arm extending from said beam to above the nose of such patient, which said arm tapers in the plane of said beam and from said beam.

2. The combination of claim **1** in which said arm is structured by a loop of rod like material.

3. The combination of claim **1** having therewith angular adjusting means whereby the angle of said arm with respect to said patient may be adjusted.

4. The combination of claim **1** having therewith a clamping sleeve encircling said beam and to which is secured said arm so that the position of said arm along said beam and the angle of said arm with respect to said patient may be adjusted.

5. The combination of claim **2** in which said beam is a cantilever beam.

6. The combination of claim **4** having as part of said support means a post and a clamping sleeve in which said post slides so as to adjust the height of said beam above such patient.

7. The combination of claim **6** in which said post and clamping sleeve has upper and lower ends and said beam is cantilevered from the upper end of said post and clamping sleeve.

8. The combination of claim **6** in which said post and clamping sleeve has at its lower end, as an extension thereof, a tongue; and having as part of said support means, a rail clamp, said clamp having formed therein a T-slot adapted to receive in the head thereof a flat-bar rail, and formed therein transverse and in communication with the head of said T-slot a tongue slot conforming to said tongue, and a screw threaded in said rail clamp and bearing against said tongue to clamp together said rail, tongue, and clamp.

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U.S. Cl. X.R.

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