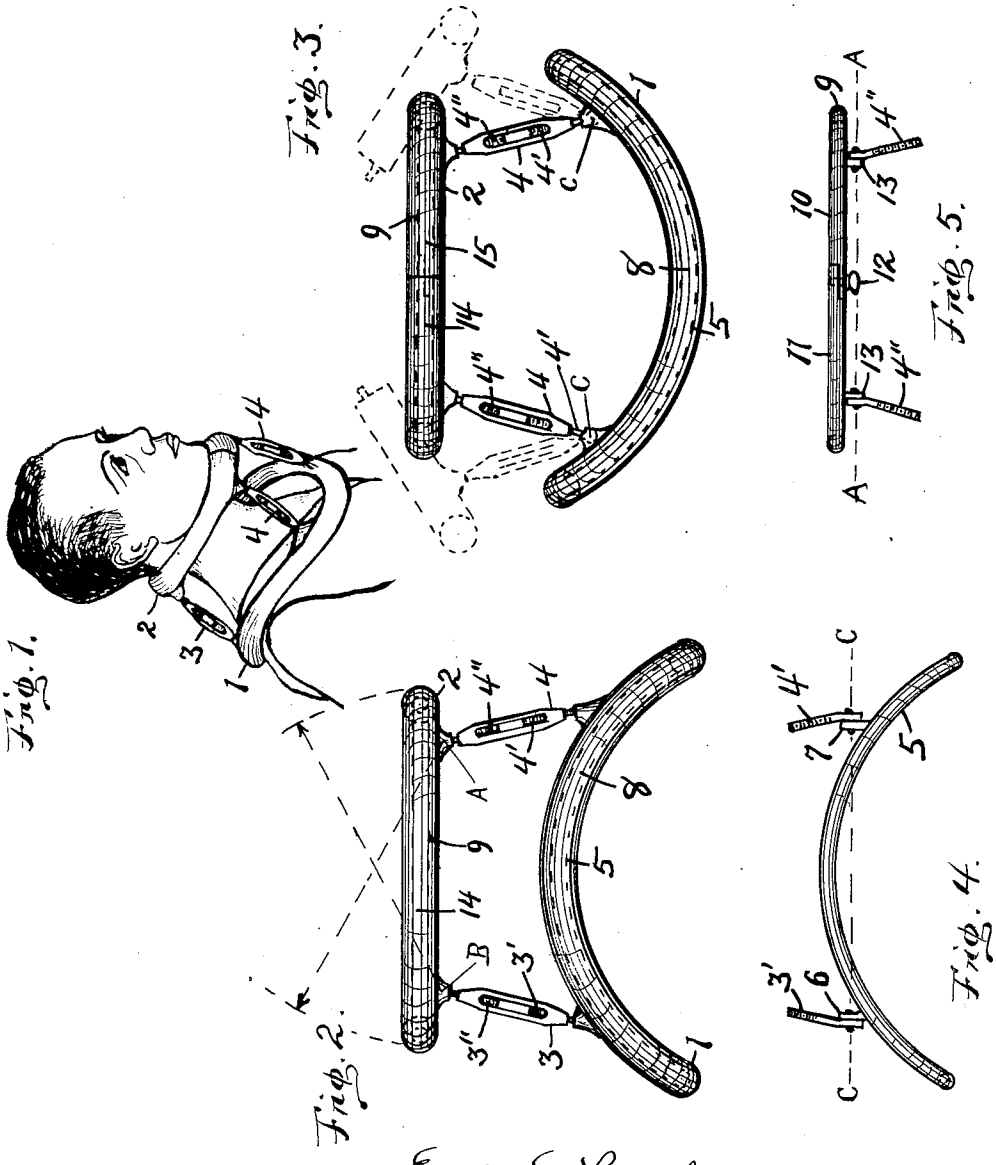
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CERVICAL SPLINT

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CERVICAL SPLINT

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9 Claims. (Cl. 128—87)

This invention relates to improvements in cervical splints for use in the treatment of fracture of the cervical vertebræ. One of the objects of the invention is to provide a supporting structure through the medium of which the weight of the head of a patient is sustained by his shoulders and by means of which more or less extension is applied to the cervical vertebræ. Other objects and advantages of the invention will appear hereinafter.

An illustrative embodiment of the invention is shown in the accompanying drawing, in which:—

Fig. 1 is a perspective view of a splint in which the invention is embodied applied to a patient;

Fig. 2 is a side elevation of the splint;

Fig. 3 is a front elevation projected from Fig. 2;

Fig. 4 is a side elevation of the saddle frame with threaded prop members hinged thereon; and

Fig. 5 is a front elevation of the head rest frame with turn buckle bolts hinged thereon.

The illustrative embodiment of the invention comprises a ring constituting a saddle 1 and another ring constituting a head-rest 2 which is supported upon the saddle by posterior and anterior extensible props 3 and 4 that have pivotal connections respectively at their lower ends with the saddle so as to have lateral swinging movement relative thereto, and which also are pivotally connected at their upper ends with the head rest upon transverse axes.

The saddle 1 has a reinforcing core consisting of an arched annulus 5 formed of metal, the sides thereof extending upwardly and its front and back extending downwardly so as to rest uniformly upon the shoulders and adjacent front and back portions of the body. The annulus has secured upon each side thereof upwardly extending parallel lugs 6 and 7 to which are pivotally attached corresponding threaded prop members 3' and 4'. The annulus and its lugs are preferably encased in a leather covered tubular cushion 8.

The head rest 2 has a reinforcing core consisting of an annulus 9 formed of two detachably connected semi-circular members 10 and 11, the abutting ends of which overlap and are secured together by means of thumb-screws 12, the connections thus provided being located at the front and back of the core. The semi-circular members when secured together in operative position lie in a common plane. The annulus 9 has secured upon each side thereof downwardly extending parallel lugs 13 to which are pivotally attached corresponding threaded prop members 3'' and 4''. The semi-circular members and their lugs are preferably encased in leather covered semi-circular tubular cushions 14 and 15, the ends of one member abutting those of the other and fitting closely together so as to enclose the thumb-screws 12 that secure the core members together.

The adjustable props 3 and 4 preferably consist of turn-buckles that have threaded relation with the corresponding bolts 3' and 3'' or 4' and 4'' that extend from the saddle and head-rest, so that by rotatively adjusting the turn buckles the head-rest is raised or lowered with respect to the saddle accordingly.

One of the features of the invention is the arrangement of the pivotal connections of the adjustable props with the saddle and head-rest wherein the axes A and B of the connections for the props and head-rest extend laterally, and the axes of the connections for the props and saddle extend at right angles respecting the axes A and B. Thus, the props on each side of the saddle have lateral swinging movement about their corresponding lower axes C, and the head-rest has vertical swinging movement about the axes A and B of the upper connections for the corresponding props and the head-rest.

In applying the splint, the abutting ends of the cushions 14 and 15 on the head-rest are backed upon the core members so as to expose and permit removal of the thumb screws 12. After disconnecting the core members the semi-circular parts of the head-rest are swung laterally outward upon the corresponding axes C as shown in dotted outline in Fig. 3. While the parts are thus extended the splint is placed initially with the saddle resting in shoulder fitting position on the patient with his head projected through the saddle and opened head-rest. The semi-circular parts of the head-rest are then swung into supporting position under the patient's head and secured by replacing the thumb-screws 12 in the overlapping ends of the core members.

By manipulating the turn buckles the head-rest is adjusted to such position as to afford proper support for the patient's head with more or less uniformity respecting the portions of contact therebetween. When it is desired to apply normal traction to the spinal column, all of the turn buckles are adjustably turned so as to elevate the head-rest uniformly upon its axis until the desired degree of traction is established. Lateral extension in either direction is applied when required by elevating the corresponding opposite side of the head-rest. This adjustment

is accomplished by manipulating the turn buckles of the props 3 and 4 on one side of the splint or the other so as to tilt the head-rest laterally to such extent and in the direction as required. Hyper-extension is applied by elevating the front of the head-rest to the required extent, the adjustment being accomplished by manipulating the turn buckles of the anterior props 4—4.

One of the advantages of the invention is that while in use the neck of the patient is openly exposed and accessible which affords ventilation and facilitates bathing and other treatment of the neck without necessitating removal or readjustment of the splint.

I claim:

1. A cervical splint having an arched ring constituting a shoulder-fitting saddle, a second ring having detachable connected semi-circular parts constituting a head-rest, a pair of posterior and a pair of anterior extensible props on each side of said saddle pivotally connected thereto at their lower ends to have lateral swinging movement, and being pivotally connected at their upper ends with the corresponding semi-circular parts of said head-rest so that said head-rest has tilting movement upon corresponding transversely disposed axes, and means for securing said head-rest parts together.

2. A cervical splint having an arched ring constituting a shoulder-fitting saddle, a second ring having detachably connected semi-circular parts constituting a head-rest, and a pair of posterior and a pair of anterior extensible props on each side of said saddle pivotally connected thereto at their lower ends to have lateral swinging movement, and being pivotally connected at their upper ends with the corresponding semi-circular parts of said head-rest so that said head-rest has tilting movement upon corresponding transversely disposed axes.

3. A cervical splint having a ring constituting a shoulder-fitting saddle, a pair of posterior and a pair of anterior adjustably extensible props on each side of said saddle pivotally connected thereto at their lower ends to have lateral swinging movement, a second ring formed of detachably connected semi-circular parts constituting a head-rest, said parts being pivotally connected with the corresponding props at the upper ends thereof to have tilting movement upon transversely disposed axes, and means for securing the head-rest parts together.

4. A cervical splint having a ring constituting a shoulder-fitting saddle, a pair of posterior and a pair of anterior adjustably extensible props on each side of said saddle pivotally connected thereto at their lower ends to have lateral swinging movement, and a second ring formed of detachably connected semi-circular parts constituting a head-rest, said parts being pivotally connected with the corresponding props at the upper ends thereof to have tilting movement upon transversely disposed axes.

5. A cervical splint including an arched ring constituting a shoulder-fitting saddle, a second ring composed of a pair of substantially semi-circular sections spaced above the arched ring, each ring being composed of a core and a tubular covering of yielding material, means receivable within the tubular covering of the second ring to detachably secure the ends of its sections together, and adjustable props connected to the rings for maintaining same in their said spaced relation.

6. A cervical splint including an arched ring constituting a shoulder-fitting saddle, a second ring composed of a pair of substantially semi-circular sections spaced above the arched ring, means to detachably secure the ends of the sections of the second ring together, and adjustable props connected to each section of the second ring and pivotally connected to the arched ring whereby upon disengagement of said securing means the sections of the second ring may be swung away from each other.

7. A cervical splint including an arched ring constituting a shoulder-fitting saddle, a second ring composed of a pair of substantially semi-circular sections spaced above the arched ring, means to detachably secure the ends of the sections of the second ring together, a covering for the second ring disposed over said securing means when the latter are in operative position, and adjustable props connected to the rings for maintaining same in their spaced relation.

8. A cervical splint including an arched ring constituting a shoulder-fitting saddle, a second ring composed of sections spaced above the arched ring, means to detachably secure the ends of the sections of the second ring together, and adjustable props pivotally connected to each section of the second ring and pivotally connected to the arched ring whereby upon disengagement of said securing means the sections of the second ring may be swung away from each other, and further independently swung about their pivotal connections with the props.

9. A cervical splint including an arched ring constituting a shoulder-fitting saddle, a second ring composed of sections spaced above the arched ring, means to detachably secure the ends of the sections of the second ring together, and adjustable props connected to each section of the second ring and pivotally connected to the arched ring whereby upon disengagement of said securing means the sections of the second ring may be swung away from each other.

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