

Aug. 2, 1960

M. L. CULKIN
SURGICAL SPLINTS

2,947,306

Filed Jan. 26, 1959

2 Sheets-Sheet 1

Fig. 1

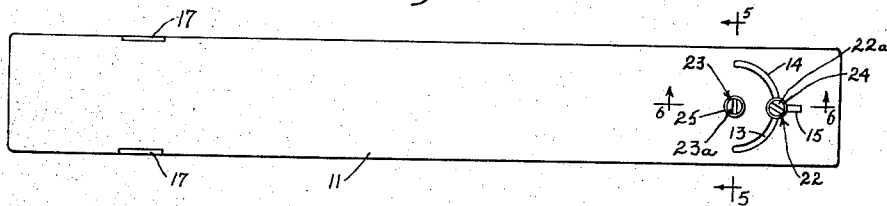


Fig. 2

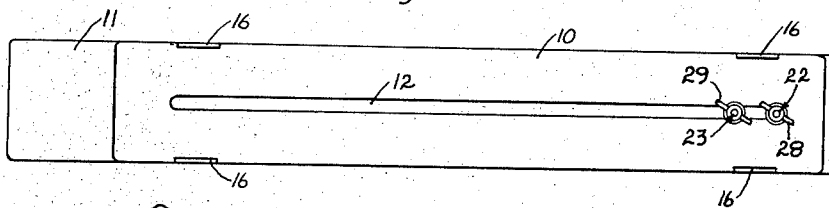


Fig. 3

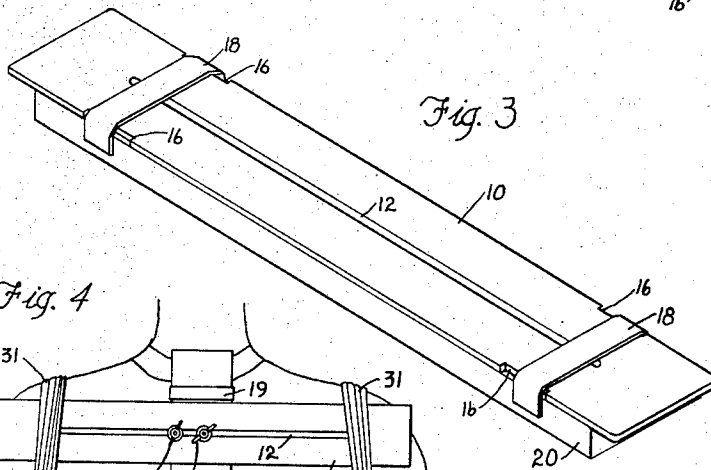
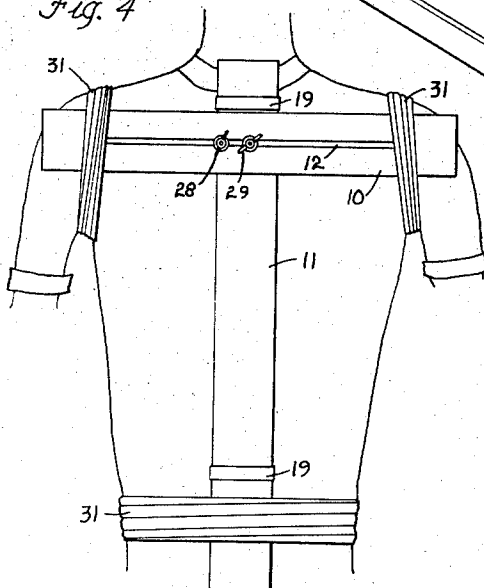


Fig. 4



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Fig. 5

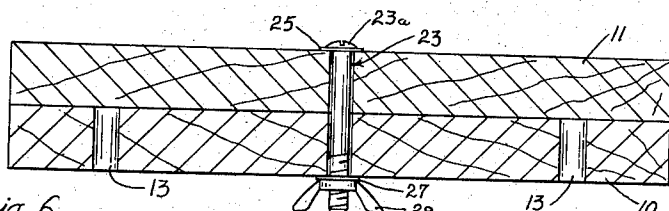


Fig. 6

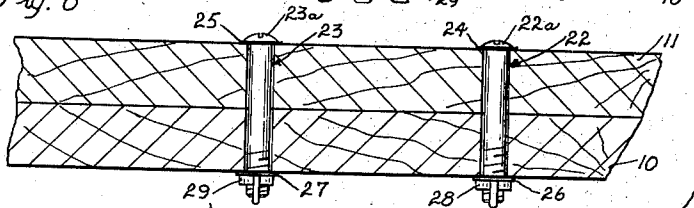


Fig. 7

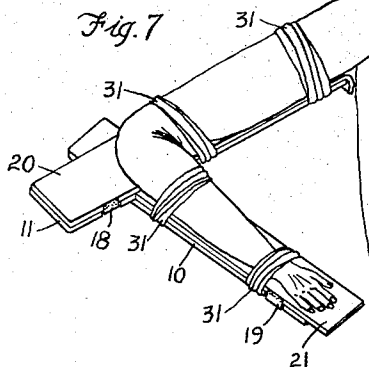


Fig. 10

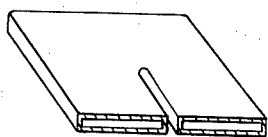


Fig. 8

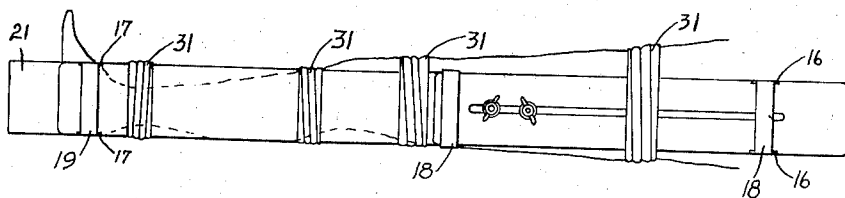
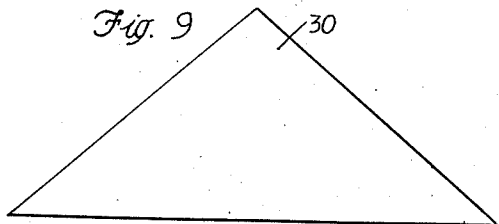


Fig. 9



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SURGICAL SPLINTS

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4 Claims. (Cl. 128—87)

My invention relates to surgical splints. It is the purpose of my invention to provide a splint that makes with its padding a simple compact kit and consists of two main flat, strong, light pieces of material with means by which they are pivotally and slidably joined to each other so they may be overlapped completely one upon the other, made into a T-cross for fixation splints in collar bone or neck injuries, set at any angle one to the other for limb injuries, extended to nearly twice the folded length as a fixation splint for leg and knee injuries and combined with additional like splints for fixation in thigh and body injuries.

The nature and advantages of my invention will appear more fully from the following description and the accompanying drawings illustrating the preferred form of my invention. It should be understood, however, that various minor modifications may be made within the scope of the appended claims.

In the drawings:

Figure 1 is a plan view of the splint as it appears from one side;

Figure 2 is a plan view of the splint showing the side opposite that shown in Figure 1;

Figure 3 is a perspective view of one of the splint portions with its splint pad thereon;

Figure 4 is a somewhat diagrammatic view showing the splint used as a fixation splint on the back of a person as it would be used in neck and collar bone injuries;

Figure 5 is an enlarged sectional view taken on the line 5—5 of Figure 1;

Figure 6 is an enlarged sectional view taken on the line 6—6 of Figure 1;

Figure 7 is a somewhat diagrammatic view showing the splint used as a fixation splint on a person's arm;

Figure 8 is a somewhat diagrammatic view showing the splint used in another manner as a fixation splint for leg and body injuries;

Figure 9 is a plan view of a kerchief used with the splint; and

Figure 10 is a cross section through a hollow ribbed aluminum splint strip.

As shown by the drawings my new surgical splint is made up of two basic flat, rigid strips 10 and 11. The strip 10 has a narrow slot 12 extending substantially the length of the strip being terminated at each end a distance about equal to one half the width of the strip. The other strip 11 has a slightly greater length than the strip 10 and, near one end, has an aperture 13 and a curved semi-circular slot 14 concentric with the aperture 13. The slot 14 has a short slot 15 at its center extending radially with respect to the slot 14 endwise of the strip 11 and away from the aperture 13. Both strips 10 and 11 can be made of metal or made of wood such as maple, and have their corners and edges smoothed and rounded. Any suitable material may be used. Aluminum is satisfactory and light. They are coated after being provided

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with slots with a suitable waterproofing protective coating that will resist corrosion.

The strip 10 has shallow notches 16 in its side edges near the ends of the slot 12. The strip 11 has shallow notches 17 in the sides thereof near one end of the strip. The notches 16 and 17 are used to receive bandages and keep them from sliding or to receive the resilient straps 18 and 19 that are provided on pads 20 and 21. The pad 20 is at least long enough to cover the slot 12. The pad 21, as illustrated in Figure 7 is long enough, preferably to completely cover the strip 11.

The two strips 10 and 11 are secured together in their several positions by two bolts 22 and 23. Washers 24 and 25 are placed between the heads 22a and 23a of the bolts and the strip 11. Washers 26 and 27 are placed on the bolts 22 and 23 against the strip 10. Wing nuts 28 and 29 are threaded on the bolts 22 and 23 to tighten the several washers against the strips 10 and 11 and to clamp the strips against each other. Since the strips are flat, they can be adjusted endwise and angularly with respect to each other to fit a great variety of needs for splints.

The combination of the elongated slot 12 in the strip 10 with the curved slot 14, aperture 13 and short slot 15, and the two clamp bolts make it possible to adjust the strip 11 anywhere along the slot 12. It also enables the splints to be locked together in a straight line without depending solely upon the grip of the nuts and bolt heads. This is done by moving the bolt normally in the slot 14 over into the slot 15 and clamping the splint pieces or strips 10 and 11 together. Then the full strength of the strip 11 from the slot 15 to its edge will oppose movement of one strip angularly with respect to the other. This particular feature is important in fixation splinting of legs or body.

The kerchief 30 and rolls of bandage are included with the kit comprising assembled strips 10 and 11 and the pads 20 and 21. The kit enables one to apply the splints to any one of the situations illustrated in Figures 4, 7 and 8, and in many others. The bindings 31, shown in Figures 4, 7 and 8, may be of bandage material or the kerchief 30, or both.

It is evident from Figure 4 how the two splint strips can be arranged at right angles to each other for use in case of a collar bone fracture. Without separating one splint strip from the other, the strips can be rearranged to the position shown in Figure 7 where the splint is used as a fixation splint in an arm injury. Even for leg splints where the splint strips 10 and 11 are aligned endwise it is not necessary to separate the strips. By using two or more splints any longer length of splint can be made.

It is believed that the nature and advantages of my invention will be clear from the foregoing description.

Having described my invention, I claim:

1. A multiple use surgical splint comprising two flat elongated splint strips overlapped with each other, one of said strips having a slot extending along the length thereof and terminating just short of the ends thereof, the other strip having an aperture therethrough near one end thereof and a semi-circular slot concentric with the aperture therein, the semi-circular slot extending crosswise of the strip, said other strip also having another slot extending lengthwise of the strip and intersecting said semi-circular slot, a headed bolt extending through the aperture and the first named slot, a headed bolt extending through the first and second named slots and nuts threaded on said bolts securing the strips between the bolt heads and the nuts.

2. A multiple use splint comprising two flat elongated splint strips overlapped with each other, each of said

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strips having notches in their side edges for receiving pad straps and bandage bindings, one of said strips having a slot extending along the length thereof and terminating just short of the ends thereof, the other strip having an aperture therethrough near one end thereof and a semi-circular slot concentric with the aperture therein, the semi-circular slot extending crosswise of the strip, a headed bolt extending through the aperture and the first named slot, a headed bolt extending through the first and second named slots and nuts threaded on said bolts securing the strips between the bolt heads and the nuts.

3. A multiple use surgical splint comprising two flat elongated splint strips overlapped with each other, one of said strips having a slot extending along the length thereof and terminating just short of the ends thereof, the other strip having an aperture therethrough near one end thereof and a semi-circular slot concentric with the aperture therein, the semi-circular slot extending crosswise of the strip, a headed bolt extending through the aperture and the first named slot, a headed bolt extending through the first and second named slots and nuts threaded on said bolts securing the strips between the bolt heads and the nuts, and elongated soft pads substantially co-extensive in width with said strips, each pad having resilient straps thereon secured to opposite side edges of the pad and holding the pads on the strips.

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4. A multiple use splint comprising two flat elongated splint strips, one overlapped with the other, one strip having an aperture therethrough spaced from the side edges of the strip and adjacent to one end of the strip, said one strip having a curved slot therein starting adjacent to one side edge of the strip and extending concentric to said aperture to a point adjacent to the other side edge of the strip, said one strip also having a second slot intersecting the curved slot therein, the other strip having an elongated slot extending endwise thereof from a point adjacent to one end of the strip to a point adjacent to the other end of the strip, clamping means extending through the aperture in said one strip and the elongated slot in the other strip, and a second clamping means extending through said curved slot and said elongated slot operable to secure said strips to each other in various angular positions.

References Cited in the file of this patent

UNITED STATES PATENTS

905,249	Townsend	Dec. 1, 1908
1,807,438	Ross	May 26, 1931
2,453,370	Hittenberg	Nov. 9, 1948

FOREIGN PATENTS

400,893	Germany	Aug. 20, 1924
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