which is attached to screw S2, then through block B8, which is
attached to screw S16, and carries a weight of about 14 lb.
This suspension allows the patient very free movement, is a great
comfort to him, and nursing is made comparatively simple.
The second photograph shows the patient, who has a fractured femur
and ulna, raising his pelvis unaided four days after injury.

REMOVAL OF A SHRAPNEL TIME-FUSE FROM THE LEFT
SHOULDER. DESCRIPTION OF A SPLINT.
BY LIEUTENANT A. E. MORTIMER WOOLF.
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In removing foreign bodies from various parts of the body, I have
often noticed the rarity of finding a piece of shell of any considerable
size. Quite large wounds may be caused by a projectile of astonishingly
small dimensions. Previously to this case the largest piece of shell I
have removed had penetrated the knee-joint, completely severing the
internal condyle of the femur from the rest of the bone. In this case
the portion of shell did not measure one cubic inch. The lodgment of
a complete shrapnel time-fuse in almost perfect condition is an event
of such rare occurrence that it seems to be worth while placing it on
record.
The patient was wounded on May 25, at about 2.30 p.m. He is a
stretcher bearer and was going up to the trenches to collect wounded.
He advanced to within about four yards of his destination when he heard
the shriek of a shell approaching. He turned his back on the trenches
and almost immediately felt a severe blow on the back of the left
shoulder. The blow did not knock him down, but caused him to stagger
and then, as he somewhat naively expressed himself, "it set me
running." He reached a ditch about one hundred yards away, where he fell down
and in about twenty minutes was removed to the dressing station, where his wound was dressed and painted with iodine. That night he was
taken to the clearing station, where, under an anaesthetic, a tube was
inserted. On the following day he was sent to another clearing station
and then despatched on the train, arriving at a General Hospital at the
base three days after the reception of the original injury.
On admission, the patient was in considerable pain, much more so
than is usually the case. There was a wound over the posterior border
of the deltoid about one and a half inches long, through which a tube had
been inserted. The other end of the tube appeared through a much
smaller wound situated over the pectoro-deltoid interval. This wound
looked like an operation incision, and the patient thinks was not caused
by the original injury.
Owing to the severity of the pain he was taken to the theatre almost immediately. On inserting my finger into the posterior wound, I encountered a round smooth object which for the moment I thought was the head of the humerus, dislocated and externally rotated. On retracting the edges of the wound, I saw the piece of brass at the top of the round part of the time-fuse, and immediately recognized the cause of the trouble. The fuse was tightly impacted and the greatest convexity was situated about three-quarters of an inch from the surface. The wound had to be enlarged considerably to allow of removal which was accomplished without difficulty. There was a comminuted fracture of the humerus below the surgical neck; some loose fragments of bone were removed and the sharp pointed ends of the upper and lower fragments were excised with bone-cutting forceps; drainage was provided for.

The fuse was lying with the stem against the bone. The fracture, though a severe one, was not nearly so comminuted as that caused by many a smaller piece of shell. On removal there were septic pieces of muscle attached in the cracks of the split metal and the odour was most revolting. The photographs show two views of the specimen in nearly
perfect condition. The stem of the fuse was lying nearly horizontal, with
a slight inclination downwards. I suspected that the injury was due
to a ricochet, but on questioning the patient afterwards, he was unable
to throw any light on this question. The weight of the fuse is ten ounces.

In the treatment of compound fractures of the upper end of the
humerus due to projectiles two difficulties are encountered:—

(1) The application of a retentive apparatus.
(2) The dressing of the wound, without it being necessary to remove
the splint.

For fractures below the shoulder the modified Thomas's splint is
excellent and fulfils both these requirements, at the same time allowing
the lower fragment to be placed in any degree of abduction necessary.
It is unfortunately not applicable to wounds high up as the circular band
interferes with the dressing. In order to obviate this, a splint of the
Thomas's variety but modified, I believe by Mr. Robert Jones, has been
supplied, with the upper collar so made that it fits closely to the neck,
and so gives access to the wound. The one drawback to this splint is
that it is impossible to abduct the lower fragment and at the same time prevent internal rotation.

In order to obviate these difficulties I have adopted the following plan: A piece of perforated zinc plating, measuring 23 in. by 8½ in., and supplied in the Army fracture boxes, is cut for about 1½ in. on both sides, and in two places, one about 7½ in. from the end of the plate, and the second about 6 in. from the other end. The plate so cut is bent as shown in the photograph, so that a thoracic piece, arm piece and forearm piece are formed. The position of the actual cuts should be determined roughly by measuring of the patient.

The cuts are easily made by any strong pair of shears, such as plaster of Paris shears or even a strong pair of scissors. The very flexible plating is now moulded to the shape of the parts to which it is to be applied, and is cut away where it interferes with the subsequent dressing. The sharp corners are rounded off, and rigidity is obtained by the following methods:—
(i) Two holes are bored at each end of a piece of wood about seven and a half inches by two and a half inches. A piece of string is threaded through the two holes, passed through two opposite holes in the zinc plating, the ends crossed over and threaded back again through the zinc plating into the holes in the wood. By this means, the string end which was originally threaded through the right-hand hole in the wood, finally emerges through the left-hand hole. The wood is then firmly fixed by tying at both ends. The distance between the middle of the wood and the apex of the axillary piece should be about four inches, so as to allow a bandage to be passed easily through this space. The forearm piece which is bent up will allow holes in the plating of this portion to come into opposition with holes in the arm piece, and string is threaded through in precisely the same way as described above, on each side, in order to secure rigidity between the two pieces.

(ii) The thoracic piece should be bandaged to the chest separately, and before starting to bandage the arm. The arm is bandaged over the highest point of the shoulder and under the axillary piece and then down the arm and forearm. In dressing the case, it is only the latter bandage that is removed; the bandage fixing the thoracic piece to the chest keeps the splint in position while the dressing is carried out. Extra security
can be obtained by passing a triangular bandage under the axillary piece and tying over the shoulder of the opposite side, as shown in the photograph.

I have now used this splint on twelve cases and have found it very satisfactory. It is easily applied while the patient is under the anaesthetic, and takes about fifteen to twenty minutes to complete.

By making each splint at the time of operation, the individual requirements of a particular case are catered for. After the operation the patient is quite comfortable, rigidity is adequate, and subsequent dressing much facilitated.

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A PORTABLE "BED-REST" STRETCHER.

By MAJOR ERNEST FINCH.

Royal Army Medical Corps (T.F.)

The desirability of placing men, suffering from wounds in the chest and abdomen, in a sitting position, is well recognized. The "bed-rest" attitude is also adopted in treating diseases of the chest, and men suffering from the effects of asphyxiating gas. Another point to be emphasized is, that this sitting posture should be maintained while the patient is being moved from one place to another, in the same room, building, or by convoy.

With ordinary regulation (Mark II) stretchers this may be done by devices, such as a pile of blankets, a box, or some other equally inconvenient makeshift.

The problem presenting itself was, then, the construction of a portable stretcher on the bed-rest principle.

This has been solved for me by Lieutenant B. G. Bouwens, A.S.C., M.T., who is in charge of a workshop unit at the front. It will carry a patient in any position, from lying flat to sitting up, either by bearer or in an ambulance. There is no mechanism which can get out of order, or stick up with mud, rust, or misuse.

The poles of the bed-rest are triangular in shape, and so placed that with the foot-rest it is improbable that a patient will roll off. The main strain on the canvas will be beneath the buttocks; an extra strip of canvas is placed here, which adds to the durability of the stretcher. The foot-piece is adjustable, so that the stretcher can be used for a short man as easily as for a tall one.

The following is a brief description:—

Parallel to the main poles of the stretcher are hinged two pieces of wood, forming the poles of the rest, triangular in shape, two feet three inches in length.

The canvas is fixed in its upper part to the hinged poles of the "rest," and in its lower part to the main poles of the stretcher. The upper part