

Exhibition of fracture apparatus by officers of the R.A.M.C. : Friday, Oct. 8, to Wednesday, Oct. 13, 1915 (from 10.30 a.m. to 5.30 p.m.) catalogue / [Royal Society of Medicine].

Contributors

Royal Society of Medicine (Great Britain)

Publication/Creation

[Place of publication not identified] : [publisher not identified], [1915?]

Persistent URL

<https://wellcomecollection.org/works/cwsz8z9h>

License and attribution

This work has been identified as being free of known restrictions under copyright law, including all related and neighbouring rights and is being made available under the Creative Commons, Public Domain Mark.

You can copy, modify, distribute and perform the work, even for commercial purposes, without asking permission.



Wellcome Collection
183 Euston Road
London NW1 2BE UK
T +44 (0)20 7611 8722
E library@wellcomecollection.org
<https://wellcomecollection.org>

616.71-001.5-7





22101655525

Med
K30326

35560296

WELLCOME INSTITUTE LIBRARY	
Coll	welMomec
Call	
No.	WC

48938
CANCELLED

616.71-001.5-7

THE
ROYAL SOCIETY OF MEDICINE

✓ 1, WIMPOLE STREET, LONDON, W.

President :

FREDERICK TAYLOR, M.D., P.R.C.P.



Exhibition
OF
Fracture Apparatus

By Officers of the R.A.M.C.

FRIDAY, OCT. 8, to WEDNESDAY, OCT. 13, 1915

(From 10.30 a.m. to 5.30 p.m.)

OPENED BY

SURG.-GEN. SIR ALFRED H. KEOGH,

K.C.B., M.D., F.R.C.P.,

Director-General A.M.S.

CATALOGUE

Hon. Secretaries { Capt. FARQUHAR BUZZARD, M.D., R.A.M.C.
Lieut.-Col. FAGGE, M.S., R.A.M.C.

Secretary: J. Y. W. MACALISTER,

Not a factis
bones



28950
NOTE.

THIS Exhibition has been organized at the request of Colonel Sir ALMROTH WRIGHT, C.B., F.R.S., and Colonel BURGHARD, C.B., M.S., with the concurrence of the Director-General, Sir ALFRED H. KEOGH, K.C.B., and the Director-General in France, Sir ARTHUR SLOGGETT, K.C.B.

On FRIDAY, OCTOBER 8, at 3 p.m.,

The Chair will be taken (in the Library)
by the President of the Society,

Dr. FREDERICK TAYLOR, P.R.C.P.,

And the Exhibition will be declared opened by

Sir ALFRED KEOGH, K.C.B.

Sir ALMROTH WRIGHT will deliver a Lecture on
"Further Studies on Bacterial Infection of Wounds,"

AND

At 5.15 p.m., in the West Lecture Hall, will give
Demonstrations with special reference to the Irriga-
tion and Syphon Drainage of Wounds and of the
Bacteriology of Wounds.

On Saturday and Monday these Demonstrations will be repeated
at 3 p.m.

COMMITTEE:

Colonel F. F. BURGHARD, C.B., M.S.

Lieut.-Colonel CHARLES H. FAGGE, M.S., R.A.M.C.

(Joint Hon. Sec. of the Society).

Major ROBERT JONES, R.A.M.C. (T.).

Mr. J. Y. W. MACALISTER (Hon. Sec. to the Committee).

BOULOGNE EXHIBIT

(No. 7 Stationary Hospital).

Models illustrating the principles of mobilization of splints by weight suspension and the use of metal supports in the treatment of compound fractures.

These have been made to the designs of Major MEURICE SINCLAIR, R.A.M.C., who wishes to acknowledge the help he has received from the following members of the Hospital Staff :—

Capt. E. K. MARTIN, R.A.M.C. (T.C.).

Capt. ST. J. D. BUXTON, R.A.M.C. (T.C.).

Lieut. W. ANDERSON, R.A.M.C. (T.C.).

The types of apparatus shown represent the results of several months' experimental investigation, and are of proven value for the varieties of fractures indicated.

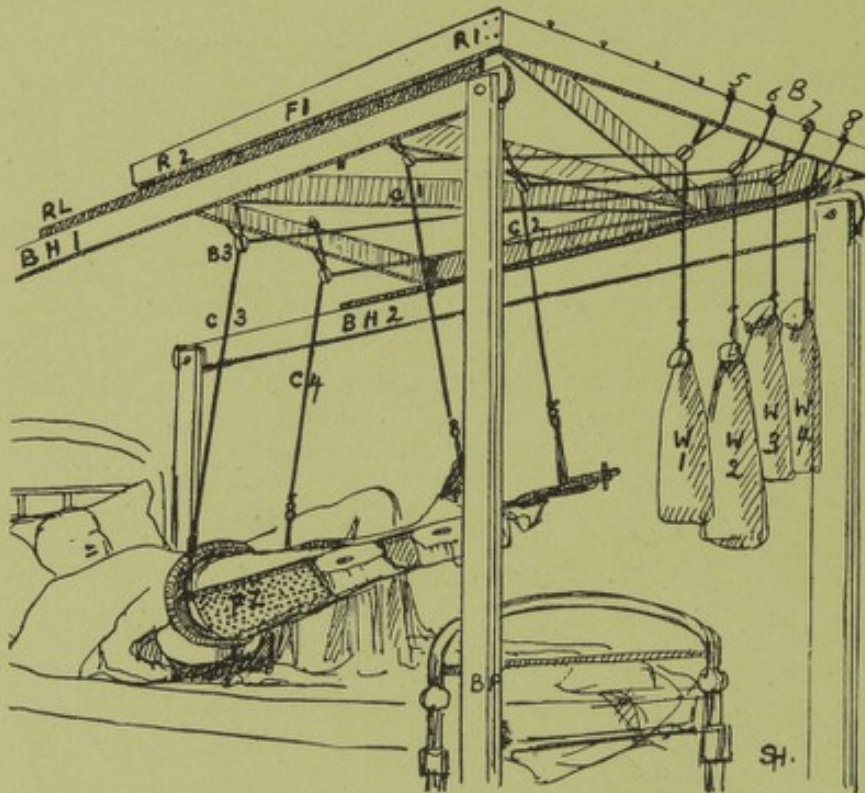
LOWER LIMB.

Sinclair Universal Leg Suspension (Model A).

The suspension consists of a four-poster frame carrying two rails. On these runs a travelling cradle from which the splint is hung by weights and pulleys. The cradle allows the patient to move up and down the bed for his own comfort, and the weights and pulleys allow him to raise and lower his pelvis for nursing purposes.

Two models are shown illustrating the application of the principle of weight suspension to—

- (1) Fixed extension splints (modified Maybury-Wallace).
For fractures from the junction of the upper and middle thirds of the femur to the lower third of the tibia.



Leg suspension applied, showing patient raising pelvis unaided four days after injury. P Z, perforated zinc. (From a photograph.)

By kind permission of the *British Medical Journal*.

- (2) Weight and pulley extension splint (Hodgen). For fractures of the lower two-thirds of the femur when a Thomas is not available on account of the position of the wound or of splint sore from pressure of the ring.

Two simplified models are also exhibited:—

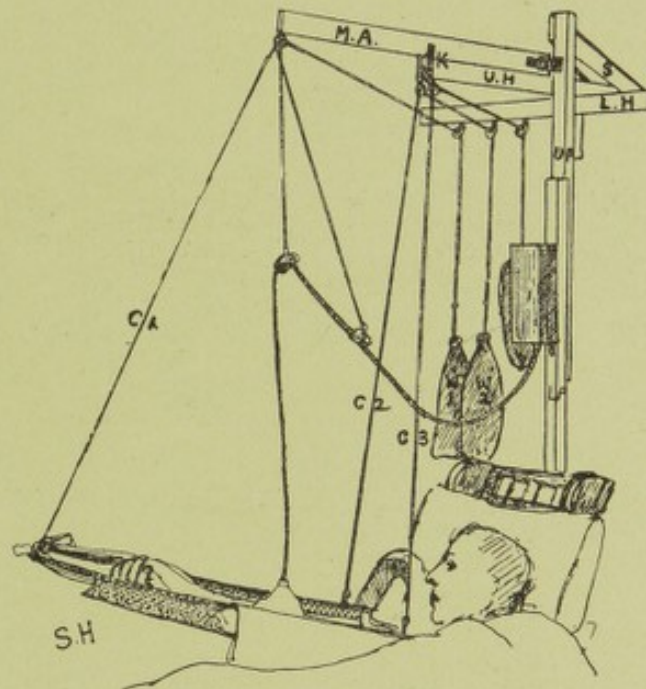
Sinclair simplified leg suspension (Model B).

„ „ „ („ C).

UPPER LIMB.

Sinclair Universal Arm Suspension.

An upright fixed to the head of the bed carries a horizontal triangular frame rotating on a pivot joint at one corner. The splint is suspended from the triangle by weights and pulleys.



Showing arm suspension applied. (From a photograph.)

By kind permission of the *British Medical Journal*.

This suspension is not applicable to fractures above the attachment of the posterior axillary fold.

- (1) Straight Thomas arm splint. For shaft of humerus.
- (2) Right-angled gutter splint with fixed elbow. For elbow.
- (3) Gutter splint with hinged elbow. For elbow.
- (4) Straight Thomas arm splint with automatic extension.

Major M. SINCLAIR, R.A.M.C.

Note.—The above splints are designed for treatment and are not necessarily suitable for transport. Examples of Automatic Extensions are also shown.

Whether of standard or special pattern, each consists of an iron frame in which the limb is supported by perforated sheeting of any metal not affected by irrigation fluids (zinc or aluminium).

The preparation of these splints is shown at a separate table, together with a crate for the transport of a fractured femur in a Wallace splint.

Stump Splint.

Splint for exerting traction on the soft parts of an amputation stump. This consists of a short Thomas knee splint to which the flaps are attached by strapping.

Surgeon-General Sir G. H. MAKINS, K.C.M.G., C.B.

Finger Splint.

Made of aluminium and plaster with extension (*vide* model).

Capt. St. J. D. BUXTON, R.A.M.C. (T.C.).

IRRIGATION.

Types of apparatus for the treatment of wounds by continuous irrigation are shown under this heading.

(1) Splash Irrigator.

Drops of water are allowed to fall on to a sheet of perforated metal. The drops are split up into a fine rain which washes any required area. For wounds on the under aspect of the limb the same result is obtained by allowing the drops to fall on to sloping metal shelves and splash upwards.

Major M. SINCLAIR, R.A.M.C.

(2) Copper Spiral Irrigator.

A spiral of one-sixteenth inch bore copper tubing, one end of which is sealed. The irrigating fluid is led in at the other end and escapes through holes drilled in the copper tube.

Capt. E. K. MARTIN, R.A.M.C. (T.C.).

(3) Specimens of Drainage-tubes.

Perforated zinc tube.

Capt. ST. J. D. BUXTON, R.A.M.C. (T.C.).

Perforated zinc retractor.

Lieut. WM. ANDERSON, R.A.M.C. (T.C.).

Flexible metal gauze tube with irrigator attachment.

Major M. SINCLAIR, R.A.M.C.

The "Boulogne Box."

For the transport of fractured femurs.

Two long outside splints are joined by transverse bars at the foot and behind the thigh and leg. Each has a slot for a movable foot-piece. The whole is made of 4 in. by $\frac{3}{4}$ in. wood. In addition an iron bar arches across the front of the chest, and an iron interruption bracket is supplied to be fitted where necessary.

Surgeon-General Sir G. H. MAKINS, K.C.M.G., C.B.

Major H. G. PINCHES, R.A.M.C.

Dental Exhibit.

The advantages of ligaturing teeth (silk and wire) for jaw fractured by gunshot.

Expansion of arch for the reformation of bone and re-establishment of proper articulation — insertion of bridge as retention appliance.

Prophylactic interdental splints.

The elevator interdental splint.

External dental splint.

The jackscrew, a great help for jaw fractured by gunshot.

The palate splint.

The impractical and disadvantageous condition of the interdental splints for G.S.W.

Lieut. A. C. VALADIER, R.A.M.C. (T.C.).

ABBEVILLE EXHIBIT.

(No. 2 Stationary Hospital.)

Aluminium Skeleton Splints.

Any of these splints and similar modifications can be made by an orderly from the materials contained in the regulation Field Fracture Box.

The advantages they possess are lightness, simplicity, and adaptability. They are well suited for use during the transport of fracture cases.

EXHIBIT I.

Three sections (*A, B, C*) of aluminium bent so as to be ready for fixing together to form complete thigh splint.

Section A forms the crutch. For average cases the latter measures 15 inches.

Section B forms the stirrup extremity of the splint. Both *A* and *B* are each made from a standard length of splinting.

Section C.—The prop. This should be united with the side limbs of the splint by two staples on each side, and should be so placed as to lie about the junction of the lower with the middle third of the splint. It should be made from a piece of splinting 26 inches in length.

EXHIBIT II.—THIGH SPLINT

(Or modified Thomas knee splint), completed and applied.

For transport the prop rests on the stretcher, leaving the leg slung.

For stationary conditions the splint is suspended from a Balkan beam through a small double pulley, or direct from a cradle.

The extension stirrup is most satisfactorily applied about the ankle by means of a plaster of Paris bandage. The ordinary adhesive extension serves in the exhibit

For slings, old linen is perhaps as good as anything; flannel is comfortable but stretches readily; perforated zinc, if used, should be carefully moulded.

The straps need only be tight while the patient is being rolled on his side or otherwise moved.

Note that the side limbs of the splint lie just in front of the mid-coronal plane of the leg and are moulded to fit it as closely as desired.

EXHIBIT III.—STRAIGHT ARM SPLINT.

This splint is made and applied on the same lines as the thigh splint. It is suitable for the treatment of any severe fracture of the upper or lower arm, provided there is no wound at the back of the shoulder.

For transport the extension is slackened slightly and the arm is brought down parallel to the body; a loop of bandage carried from the splint round the thigh prevents displacement. The prop should be adapted to the slope of the stretcher.

Under stationary conditions the splint is slung, simply or on pulleys, at a comfortable angle to the trunk.

EXHIBIT IV.—BENT ARM SPLINT.

For use in the same type of case as Exhibit III, when ambulatory treatment is thought desirable.

Capt. C. MAX PAGE, M.S., R.A.M.C. (S.R.).

Sundry Exhibits from District Commands in the United Kingdom.

Splints.

Exhibited by Major ROBERT JONES, R.A.M.C. (T.).

{ Abduction Frames	...	Fixed, interrupted, and jointed.
{ Abduction Shoulder Splint		
Ankle and Leg Splints	...	Skeleton pattern.
Arm Splint Extension.		
{ Bed Knee Splint...	...	With interrupted thigh ring and extension screw.
{ Bed Knee Splint...	...	Ordinary pattern.
Bar, Rubber	...	Screwed to boot to prevent concussion on fore part of foot.
Boot	...	Fitted with crooked and skewed heel.
Caliper Splints	...	Modified, with knee pads; stems plain and extensible.
Cage Knee Splint	...	Jointed, with limited movement.
{ Elbow Splint	...	Interrupted pattern.
{ Elbow Splint	...	Skeleton pattern.
Finger Splints	...	Aluminium, in various patterns.
Fracture Splints	...	In sets of 3 inches to 26 inches.
Hand Splints	...	Full and short hand and skeleton variety.
Humerus (Modified) Extension Splint.		
Leg Splint	...	Outside leg splint with altered boot, elongated and crooked heel, ankle strap and socket.
Spinal Frame.		
Spinal Support.		
Spinal Collar.		
Rectangular shoes	...	Metal variety.
Talipes shoe	...	Everted and foot-piece turned up on outer side.

A Splint for Compound Fractures of the Leg.

Exhibited by Capt. C. H. BARBER, I.M.S.

Designed to suspend the fractured portion of the limb so that it may be dressed easily. Extensions and counter-extensions are made by means of the wedges at the lower end and the buttons at the upper end.

(See *Brit. Med. Journ.*, July 10, 1915, p. 47.)

Extension Splint.

Exhibited by Capt. THOMAS WARRINGTON, R.A.M.C. (S.R.)

The principle of the splint is that the weight of the leg resting on a movable inclined plane produces extension.

It is in two parts: the proximal fixes the proximal end of the fractured leg, while the distal end of the limb rests on a back splint, which is supported by an inclined hoop of iron, which is fixed so that the weight of the leg tends to increase the inclination, and so increases the interval between the proximal and distal portions of the splint, thus producing extension at the seat of fracture.

Lateral displacement is prevented by two lateral supports fixed at one end and running through rings at the other.

This principle can be applied to femur, knee, or tibia.

Splints.

Exhibited by HERBERT J. PATERSON, M.C.,

Hon. Surgeon-in-Charge, Queen Alexandra's Hospital for Officers,
Highgate.

(1) EXTENSION SPLINT FOR TREATMENT OF COMPOUND FRACTURES OF HUMERUS.

The splint is a modification of the Thomas splint adapted so as to obtain extension with elbow flexed to a right angle.

The forearm lies in a cradle, while the two inner bars at side of humerus are prolonged downwards so as to form a fixing for the extension.

The extension is effected by plaster on the lower end of upper arm, and in the case of a fracture near the lower end of humerus the plaster is placed near the forearm just below elbow-joint.

(2) SPLINT FOR TREATMENT OF COMPOUND FRACTURE OF RADIUS.

Cases are not uncommon in which a considerable portion of the radius has been shot away, leaving the ulna uninjured.

The object of the splint is to keep the hand well adducted so as to prevent shortening of the radius and union between the ulna and broken end of the radius.

From Kitchener Indian Hospital.

Exhibited by Major A. NEVE, R.A.M.C. (T.C.).

Moss Pads for Dressings.

These are made of ordinary bag (sphagnum) moss, picked clean by hand and dried. It is put into flat bags of butter muslin, sizes about 10 in. by 6 in. or 12 in. by 8 in. Fifty such pads are placed in an outer bag and sterilized by steam.

They are the most absorbent dressing.

Sawdust Pads.

Ordinary fine sawdust at 1s. 6d. per cwt. is suitable. The coarser particles sifted out with a sieve of mesh 8 to the inch, and the finest dust also in one of 30 to the inch. The pads of size 10 in. by 6 in. and 12 in. by 8 in. are most useful, and when flat on a table only $\frac{1}{2}$ in. thick. Fifty such pads are placed in an outer bag and sterilized by steam. Further details and samples may be obtained from Lieut.-Colonel C. W. Cathcart, Edinburgh, and the War Dressings Supply Committee, Well Court Hall, Dean Village, Edinburgh.

**From 3rd London General Hospital
(WANDSWORTH).**

Exhibited by Capt. GOSSE, R.A.M.C. (T.).

Casts of Limbs for Modelling Splints.

From Graylingwell War Hospital, Chichester.

Method of Treating Septic Compound Fractures.

Exhibited by Mr. B. SANGSTER SIMMONDS.

The wound is completely covered by a dressing, the skin above and below being then sterilized with petrol and iodine solution.

Very short incisions, about $\frac{1}{2}$ in long, are made through the skin over the bone.

With a blunt dissector a passage is then made down to the bone. A hole is then drilled and the screws inserted. By means of traction on the limb and manipulation with the screws the fragments are brought into correct position. The plate is, if necessary, bent to correspond with the position of the screws, and fixed in place with nuts. The accompanying photographs and skiagrams show cases which have been treated in this manner.

Extension Apparatus. Substitute for Wire Splints.

Exhibited by Lieut.-Colonel CHARLES WALKER CATHCART,
F.R.C.S., R.A.M.C. (T.).

(1) A simple portable appliance for producing extension during an operation for plating fractures in lower or upper limb.

(2) The use of half-inch rabbit wire netting as a substitute for perforated zinc or wire gauze in making wire splints.

Leg-sling and Cradle.

Exhibited by Captain F. ARTHUR HEPWORTH, R.A.M.C. (T.),
Surgeon to the Wharnccliffe War Hospital.

A tripod folding leg-sling and cradle for use in case of fractures of lower limb. Can be used either on beds or stretchers; is light, folds in small compass, and carries a spring, which diminishes jolting.

Modification of Aluminium Splints.

Exhibited by A. OGIER WARD, M.D.

Aluminium is procurable in bars and sheets.

The stock sizes for bars are 1 in., $\frac{3}{4}$ in., $\frac{1}{2}$ in., and $\frac{1}{4}$ in., all $\frac{3}{16}$ in. thick, but they can be had $\frac{1}{4}$ in. thick.

Sheeting is supplied in many gauges of thickness. The most serviceable are 22 and 26 gauge. The sheets are sold in lengths of 8 ft., 18, 24, or 36 in. wide. They should be cut into strips, 12, 9, 8, or 6 in. wide.

The novelty consists in the method of adjusting the sheeting to the bars.

A gutter can be stamped along these strips of sheeting the exact width and depth of the bars, and along the edges of the gutter holes are pierced at short intervals—about 1 in.

The equipment required by the surgeon consists of:—

- (1) A metal saw to cut off lengths of bar and to cut out lateral notches when it is required to set the bar at an angle in the plane of its width.
- (2) Metal shears like pruning shears for cutting strips of any required width from the strips of sheeting.
- (3) A coarse metal file for rough edges.
- (4) A wrench for bending and twisting the aluminium bars. This wrench is intended to be screwed to any fixed wooden support, preferably some upright post like a doorpost.

This outfit is a matter of only 7s. or 8s., apart from the aluminium, which is sold by weight; and even now, when it costs double the pre-war price, is very cheap indeed. For a few shillings enough can be bought to make a dozen splints.

The surgeon, having fixed the wrench near the patient, bends the bar to fit the limb, twisting it or turning it out or in by cutting lateral notches and then wrenching it so that it conforms closely to the natural outline. Then he cuts strips, of widths appropriate to the limb, from guttered sheeting, such widths as will give sufficient length to the strips cut off.

These strips are laced tightly to the bar by using the holes above described. String well wetted answers the purpose.

The strips of sheeting may be lined or padded and bent more or less closely round the limb. Bandaging is only needed to prevent the strips from gaping.

It is claimed that this modification is effective, simple, expeditious, and cheap, and that a surgeon can make a splint to fit the particular limb when at a distance from all instrument makers, and at the very first visit.

If, in a case of fractured thigh or leg, the removal of the patient is desirable, it is easy, with a good length of bar, to secure the hip and back as well as the limb far more comfortably than with the ordinary long splint, and the hip, knee, and foot can be flexed, everted, or inverted and kept so at any desired angle.

The "Wallace-Maybury" Extension Leg Splint.

Exhibited by Colonel CUTHBERT WALLACE and
Capt. MAYBURY, R.A.M.C. (T.C.).

For use in the treatment of gunshot wounds of the femur, also for producing powerful extension of the leg during the process of plating fractures of the femur or tibia. Designed by Col. Cuthbert Wallace and Capt. B. C. Maybury.

The splint consists of the Thomas Crotch Ring, with two lateral steel rods, fitting in sockets, with two transverse bars, the upper being fitted with wooden footplate, the lower one carrying long screw for producing extension.

The Thomas Sling.

Exhibited by Capt. P. B. ROTH, R.A.M.C. (T.).

A simple method of treating gunshot wounds of the humerus.





