(Model.)

C. R. GORGAS.

Fracture Apparatus.

No. 238,887. **Patented March 15, 1881.**

Fig. 1.

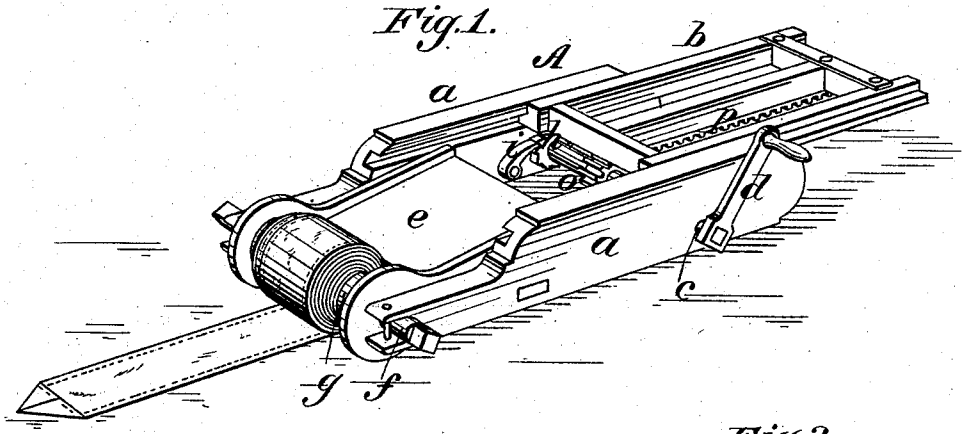


Fig. 3.

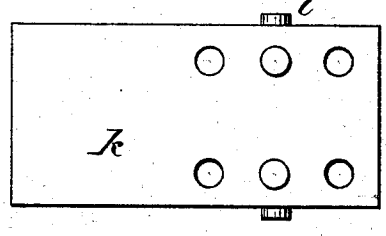
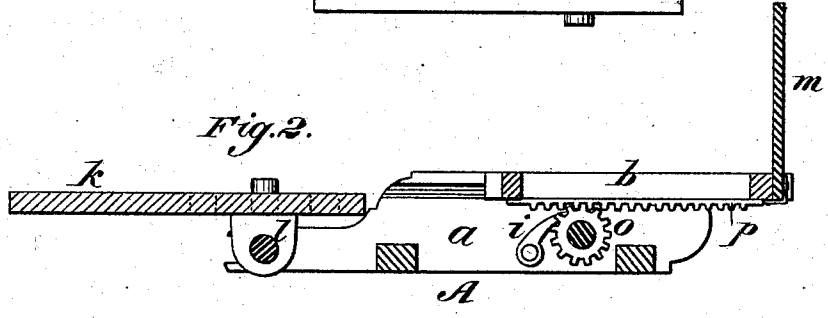


Fig. 2.



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UNITED STATES PATENT OFFICE.

CHARLES R. GORGAS, OF WOOSTER, OHIO.

FRACTURE APPARATUS.

SPECIFICATION forming part of Letters Patent No. 238,887, dated March 15, 1881.

Application filed July 7, 1880. (Model.)

To all whom it may concern:

Be it known that I, CHARLES R. GORGAS, of Wooster, in the county of Wayne and State of Ohio, have invented a new and useful Improvement in Surgical Apparatus, of which the following is a specification.

My improvements relate to apparatus for setting fractures of limbs and reducing dislocations.

The particular object of the invention is to furnish an apparatus that may be readily used by the surgeon without assistance, and in the case of fractures to dispense with bandages; and the invention consists in a frame provided with an extension-slide that is fitted for operation by a rack and pinion, whereby the power required may be readily applied, as more particularly set forth hereinafter with reference to the accompanying drawings.

In the drawings, Figure 1 is a perspective view of the apparatus as adapted for use for fractures of the arms or dislocations of the shoulder-joint. Fig. 2 is a sectional side view of the apparatus as arranged for the lower limbs. Fig. 3 is a plan view of the board used in treating fractures of the leg.

Similar letters of reference indicate corresponding parts.

The supporting-frame A of the apparatus shown in Figs. 1 and 2 consists of side bars, *a a*, of suitable length, connected rigidly by braces at the under side. The bars *a* are grooved at the inner sides and near the upper edge to receive the ribs or tongues of a rectangular frame, *b*, so that the latter is sustained and may slide lengthwise of the supporting-frame at its outer end.

There is journaled in the bars *a* a cross-shaft, *c*, which carries a pinion, *o*, engaging with a rack, *p*, that is attached to the under side of frame *b*. The ends of shaft *c* are squared to receive a crank-handle, *d*, by which the shaft is to be turned and frame *b* moved.

Between the inner ends of bars *a* is fitted what I term the "arm-rest" *e*. This consists of a strip of wood fitted at one end with a loose shaft, *f*, carrying a roller, *g*, between the forked ends of rest *e*. The ends of bars *a* are slotted to form bearings for shaft *f*, whereby the rest is sustained and the shaft and roller may be turned.

The roller *g* carries a band, of muslin or other suitable material, which is wound on the roller more or less to form a pad of the size required.

The rest *e* is sustained at its outer end on one of the cross-braces of the bars *a*, so that its upper surface is lower than the slide *b*.

The shaft *c*, by which slide *b* is operated, is provided with a ratchet-wheel, *h*, which is engaged by a pawl, *i*, to hold the slide as it is moved out.

In operation the padded roller *g* is placed under the arm-pit and fastened by a bandage passed around the body. The frame A is then hung on the shaft *f* and secured by pins passed through the bearings. The elbow is then to be secured to the inner end of slide *b* by buckle-straps, and by turning the handle *d* to move slide *b* outward the required movement is obtained for reducing a dislocation. This arrangement maintains the counter-extension, as well as the extension in the axillar, which is essential in the proper treatment of a dislocated limb.

For a dislocated hip or fractured leg I use the board *k* (shown in Figs. 2 and 3) in place of the rest *e*. This board is fitted with a cross-pin, *l*, for entering the slots in bars *a*, and is formed with holes for straps, by which it is to be secured to the body and leg.

I use also a shoe or foot-piece, *m*, which is to be strapped to the outer end of slide *b* as a support for the patient's foot. The operation is the same, the extension being in both directions, as required.

The apparatus is used in the same manner for fractures; and instead of bandages emery or sand bag may be used, thus saving unnecessary pressure, with the evil results therefrom, and leaving the fractured limb exposed for external applications.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

In a surgical apparatus, the sliding tongue-frame *b* and the grooved end-slotted side bars, *a*, the crank-shaft *d c*, having a pinion working on a bottom rack of frame, and the detent *h i*, in combination with the forked arm-rest *e*, having loose shaft *f*, with the roller *g*, as and for the purpose specified.

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Witnesses:

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