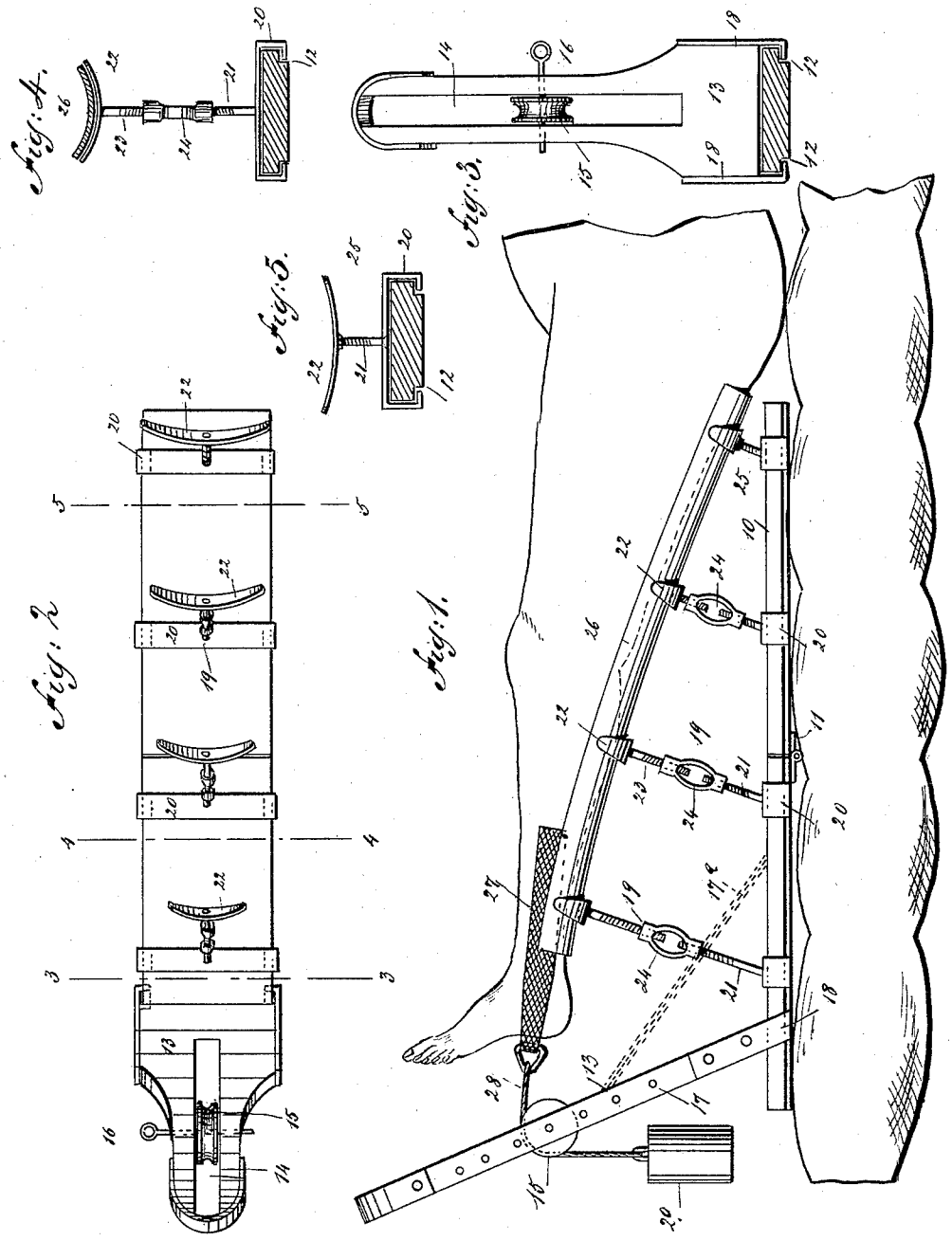
(No Model.)

T. M. MILLER.

FRACTURE APPARATUS.

No. 432,888. Patented July 22, 1890.



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FRACTURE APPARATUS.

SPECIFICATION forming part of Letters Patent No. 432,888, dated July 22, 1890.

Application filed February 12, 1890. Serial No. 340,170. (No model.)

To all whom it may concern:

Be it known that I, THOMAS M. MILLER, of Medford, in the county of Taylor and State of Wisconsin, have invented a new and useful Supporter for the Application of Splints on Fractured Limbs, of which the following is a full, clear, and exact description.

My invention relates to a supporter for the application of splints on fractured limbs, and has for its object to provide a device whereby a fractured limb may be held in position for bandaging or for the application of plaster-of-paris with the least possible inconvenience to the patient and the greatest possible convenience to the operator, and wherein, also, a weight may be applied to the extremity of the limb to properly stretch the same and the limb may be raised or lowered at any point in its length conveniently and expeditiously; and a further object of the invention is to provide rests for the limb capable of lateral adjustment, and which when plaster-of-paris is used need not be separated from the limb until said plaster-of-paris is removed.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of the device, illustrating a limb in position thereon. Fig. 2 is a plan view of the device. Fig. 3 is a transverse section on line 3 3 of Fig. 1; and Figs. 4 and 5 are similar sections on lines 4 4 and 5 5 of Fig. 1.

The base 10 of the device is made in two or more sections, connected at the under side by a hinge or hinges 11. The sections of said body or base are preferably made of wood and provided with a smooth straight upper and lower face, the said sections being preferably rectangular in cross-section, and each section upon its lower face has produced at each side edge a longitudinal channel, forming slideways 12.

A foot-rest or foot-brace 13 is provided for attachment at one end of the body, which foot-rest, when applied to the body, inclines upward and outward in the direction of the end, as best illustrated in Figs. 1 and 2. This foot-rest is, preferably, made of wood, being widest at the base, and provided at its upper or contracted end with a vertical slot 14, in which slot a pulley 15 is held to turn, the said pulley being held in position by a pintle-pin 16, passed through one of a series of transverse apertures 17, formed in the side edges of the foot-rest and through the center bore of the pulley. Thus the pulley may be adjusted vertically in the foot-rest to accommodate the case under treatment. A brace 17^a, in the nature of an adjustable chain, cord, or rod, connects the foot-rest and the body.

The mode of attaching the foot-rest to the body consists in securing to the lower portion of the side edges of said rest at its base angled irons 18, the horizontal member of which irons extends beneath the bottom of the rest a sufficient distance to engage with the slots of the slideway or channel 12 of the body when the foot-rest is placed in position thereon. It will thus be observed that by this mode of attachment the foot-rest may be slid in the direction of either end of the body while yet in position thereon without producing any irregularity in the under face of the body. This is clearly illustrated in the cross-section, Fig. 3.

A series of supporters 19 is employed, each of which consists of a lower, essentially U-shaped, clamp-section 20, adapted to embrace the body-sections and having the lower extremities of its members bent inward to travel in the slideways 12.

In the center of each clamp-section a vertical section or threaded rod 21 is secured, having an inclination in the direction of the patient's body, the upper section of each supporter consisting of a semicircular rest-plate 22, having a concaved upper and a convexed lower surface, into the center of the lower surface of which rest-plate one end of a screw section or rod 23 is attached, the two screw sections or rods 23 and 21 being connected by a turn-buckle 24. These supporters are graduated in height, and any desired number may be used.

In addition to the supporters provided with turn-buckles, another form of supporter 25, one in number, is also employed, which is lo-

cated at the end of the body opposite to that carrying the foot-rest 13. This supporter 25 is provided with a base 20, similar to the other supporters; but one screw-section 21 only, however, is used, which is swiveled at its lower end in the base 20, as shown in Fig. 5, and screwed at its opposite end in the semicircular rest-plate 22. This supporter is adapted to contact with the limb at or near the junction of the said limb with the body, as clearly shown in Fig. 1.

In operation the sections of the body 10 are folded out in parallel lines and placed upon the bed or other support upon which the patient is resting, beneath the limb. The supporters and the rest-bar are then slid into position upon the body-sections, and a splint 26, of leather or other flexible material, is placed in contact with the upper concaved surfaces of the several rest-plates 22, and upon the upper face of the splint a coating of cotton-batting is also generally placed. The limb is then placed in position upon the splint, and by means of the turn-buckles 24 the supporters are vertically adjusted, as the circumstances of the case may demand. The said supporters may be also laterally adjusted to be brought to bear upon any point of the limb in its length. A harness 27 is attached to the foot or to the extremity of the limb in direction of its longitudinal axis, which harness usually consists of a strip of adhesive plaster secured to the ankles of the patient if the thigh or lower leg-section is fractured, and to the outer ends of said adhesive strip one extremity of a rope 28 is secured, which rope is passed over the pulley 15 and has attached to its lower end a weight 29 of sufficient capacity to exert an even tension upon the limb and gradually straighten and stretch the same.

It is obvious that when the limb is placed upon the supporters, as above described and as is illustrated, it is held more steadily in position than in the old manner of manipulation—namely, being supported in the hands of assistants—and that the supporters do not in the slightest interfere with the application of a bandage, as they may be slipped from point to point to permit the said bandage to be passed under that portion of the limb at which said supporters are located.

In the event of the necessity of setting the limb in plaster-of-paris, the task is readily accomplished in the usual manner, and the rest-bars need not be removed from the limb, as, after the plaster-of-paris has been molded around the limb, by manipulating the upper screw-rod sections of the supporters the said rods may be unscrewed from the rest-plates, leaving them embedded in the plaster-of-paris, and to that end the smaller supporter 25 is swiveled in its body-plate, thus enabling the screw-section 21 to be turned and released from its rest-plate, and even when bandages or splints are applied none of the supports need be moved, as they may be included in the dressing.

While specific construction has been shown and described, I do not confine myself thereto, as other equivalent construction may be employed without departing from the spirit of the invention.

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

1. In a device for supporting fractured limbs, the combination, with a body, of a series of vertically-adjustable supporters adjustably connected to the body, substantially as described.

2. In a device of the character described, the combination, with a body, of an adjustable foot-rest held to slide laterally on the body and provided with a pulley for the application of a weight, and a series of vertically-adjustable supporters, also attached to the body and capable of lateral movement thereon, substantially as and for the purpose specified.

3. In a device of the character described, the combination, with a body and a foot-rest laterally adjustable thereon and provided with a device for the application of a weight, of a series of supporters held to slide upon the said body, consisting of a lower clamp-section, an upper rest-section having a concaved upper surface, screw-sections attached to the clamp-section and rest-plate section, and turn-buckles uniting the said screw-sections, substantially as and for the purpose specified.

4. In a device of the character described, the combination, with a sectional body and a foot-rest held to slide upon said body provided with devices for the application of a weight, of a series of supporters graduated in height, said supporters comprising a clamp-section capable of sliding upon the sections of the body, an upper rest-section having a concave upper face for the reception of a limb, screw-sections attached to the clamp and rest-plate sections, and turn-buckles uniting the said screw-sections, and one or more supporting-sections comprising a clamp, also held to slide upon the body, comprising a lower clamp-section, an upper rest-plate section having a concave upper face, and a screw-section swiveled in the clamp-section and detachably attached to the rest-section, substantially as and for the purpose specified.

THOMAS M. MILLER.

Witnesses:
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