

G. S. King,

Fracture Apps.

No. 101743.

Patented Apr. 12, 1870.

Fig. 1

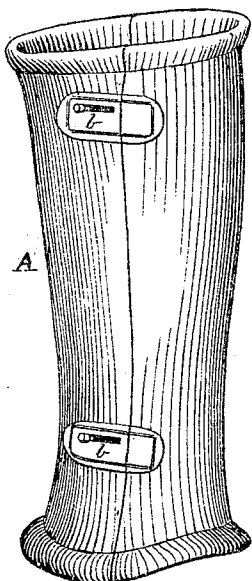


Fig. 2

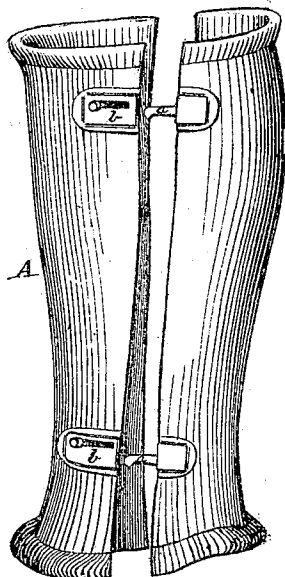


Fig. 7.

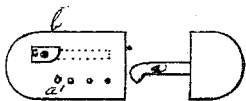
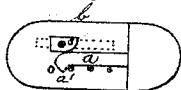


Fig. 8.



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Fig. 3

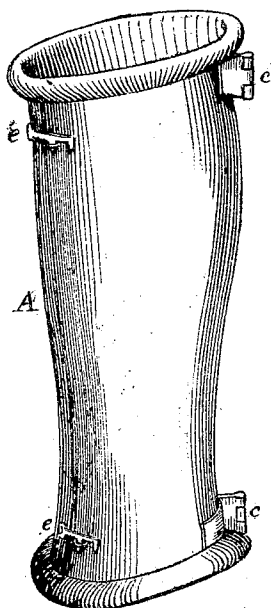


Fig. 4.

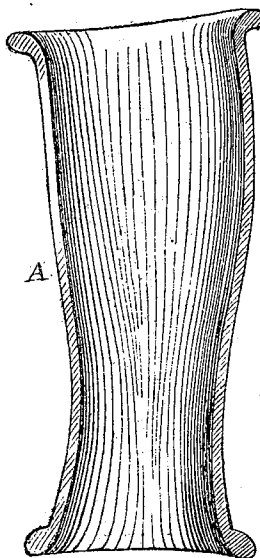


Fig. 5.

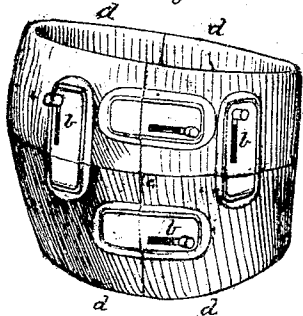
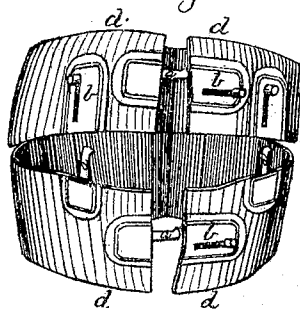


Fig. 6.



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GEORGE S. KING, OF WASHINGTON, DISTRICT OF COLUMBIA.

Letters Patent No. 101,743, dated April 12, 1870.

IMPROVEMENT IN SPLINTS FOR FRACTURED LIMBS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, GEORGE S. KING, of Washington, in the District of Columbia, have invented a new and useful Improvement in Splints to Set Fractured Limbs and Knee-Caps, and straighten crooked limbs of children; and do hereby declare that the following description, taken in connection with the accompanying plates of drawings, hereinafter referred to, forms a full and exact specification of the same, wherein I have set forth the nature and principles of said improvement, by which my invention may be distinguished from others of a similar class, together with such parts as I claim and desire to secure by Letters Patent.

The nature of my invention consists in the use of spring-tempered hard rubber, for fracture-splints and straightening crooked limbs, and analogous cases or purposes to which it may be applied, several of which uses to which it may be put being shown by the accompanying drawings, Figures 1, 2, 3, 4, 5, and 6, and also in combining with the apparatus a graduated metallic fastening, as described below.

Figs. 3 and 4 show a modification to be used as splints to set fractured limbs, being bivalvular cases fastened together behind, or at one side, by means of metallic hinges *c c*, and adjusted and opened in front or at the sides, as the case may be, by means of graduated clasps *e e*, or other fastenings, thereby obviating the use of bandages and fracture-boxes, as far as desired; also enabling patients to walk earlier after fracture than they otherwise could.

Another modification is seen in figs. 1 and 2, and is a bivalvular case, of similar construction with those for fractured limbs, figs. 3 and 4, fig. 2 representing the disconnected halves of the case, and fig. 1 represents it as closed.

When the edges of the bivalvular case can be brought into perfect coaptation without being sprung over a limb under treatment for curvature, the limb must of necessity have resumed its normal axis.

Another modification is a new splint, figs. 5 and 6, to set fractured knee-caps, constructed of four half rings or semicircles, to be hinged behind by a ring hinge of the following description, viz: A single metallic ring, passing through four smaller rings, fastened respectively at the posterior ends of the four semicircles *d d d d*. The whole apparatus to be adjusted to the knee by fastening the semicircles in front, any two at a time, as the direction of the fracture may require, and then adjusting the two parts

thus composed, all the fastenings being accomplished by means of adjustable clasps *C C*, mounted on the anterior aspects of the semicircles *d d d d*, or by other fastenings.

Graduated clasps for fastening and adjusting the bivalvular cases are shown in Figures 7 and 8. A conical metallic tongue, *a*, of proper dimensions, projects from edge of one bivalvular case or semicircle to fit into its fellow, having a small cone projecting at right angles from one side at its end.

A house, *b*, of proper dimensions, fixed upon the opposite half of the case or semicircle, its longest diameter at right angles to that of the splits for fractured long bones and crooked limbs, but so fixed on the knee-cap splints as to adjust the four semicircles together in front, the said house to receive metallic tongues *a*, and to be traversed in its shortest diameter by four or more metallic wires *a'*, in a row half way between its middle line and one side; these wires to serve as abutments for small cone at end of tongue; the intervals between the wires to receive the same when adjusted; the house has also a slot through its top along the long diameter, half way from the middle, and the side opposite to that side near which the row of wires is.

Metallic bolt *c*, truncated cone-shaped, the conicality to correspond with space between side of house, near which slot is, and tongue *a*, when adjusted in house; said bolt to be pierced at its middle by a set-screw; and to pass on top of tongue *a*, when adjusted between wire abutments, so that the tongue will be immovable. The whole clasp, when adjusted to hold together the halves of the bivalvular case of the semicircles of the knee-cap splint, until unfastened at will.

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

1. The use of spring-tempered hard rubber in the construction of splints and bivalvular cases, and knee-cap splints, for the gradual straightening of crooked limbs and the setting of fractured limbs, as hereinabove described.

2. In combination with the hard-rubber bivalvular case above described, the adjustable graduated fastening, for the purposes described.

GEORGE S. KING. [L. S.]

Witnesses:

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