

No. 645,908.

Patented Mar. 20, 1900.

C. BOEGLE.  
FRACTURE APPARATUS.

(Application filed Nov. 10, 1899.)

(No Model.)

Fig. 1.

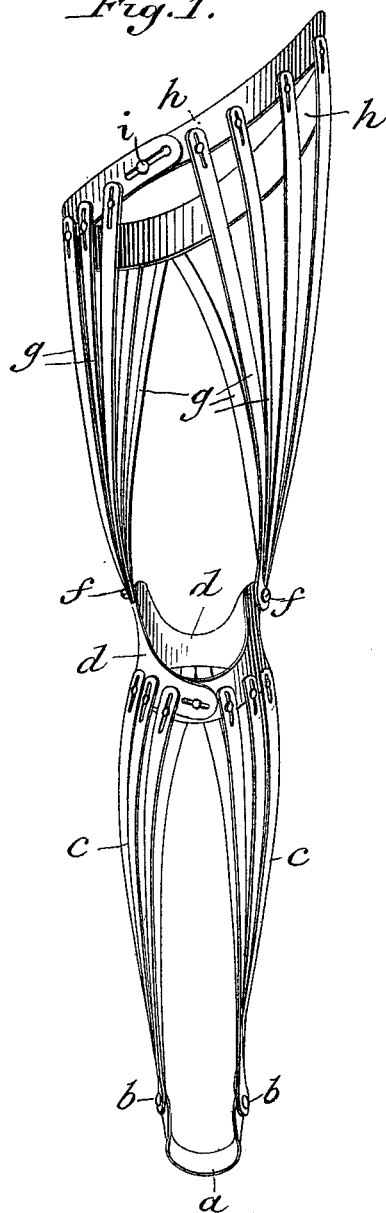
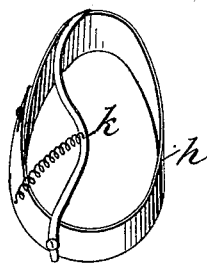


Fig. 2.



Witnesses

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# UNITED STATES PATENT OFFICE.

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## FRACTURE APPARATUS.

SPECIFICATION forming part of Letters Patent No. 645,908, dated March 20, 1900.

Application filed November 10, 1899. Serial No. 736,525. (No model.)

*To all whom it may concern:*

Be it known that I, CARL BOEGLE, a citizen of Germany, residing at Kanalstrasse Nos. 40 and 42, Munich, Bavaria, Germany, have invented certain new and useful Improvements in Fracture Apparatus; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to a device for inclosing the leg for its whole length in a skeleton casing comprising several bands for inclosing the member, and a number of bars connecting said bands, and being jointed at the knee and at the ankle.

The object of this invention is to provide a strong yet flexible casing for supporting the leg that has been injured by fracture or other means or for aiding one that is weakened from any cause.

In the accompanying drawings, Figure 1 shows the preferred form of my invention. Fig. 2 shows a modified form.

In the drawings, *a* is an ankle portion or stirrup made of metal and adapted to fit under the foot at the ankle-joint. A band *d*, made, preferably, of spring-steel, is adapted to inclose the leg just below the knee. It has preferably a tongue or extension on each side, as shown. Any suitable means, such as a set-screw, for detachably securing its ends together may be used. A number of spring-steel bars having an aperture in each end are pivoted by a screw *b* to the ankle portion *a*, diverging therefrom in a fan-like manner. Another set of such bars diverge in the same manner from the opposite side of the ankle portion at the upper extension. There are preferably five bars in each set. The upper ends of these bars are separately secured to the band *d* by screws or any other preferred means. A band *h*, made, preferably, of spring-steel, is adapted to be detachably secured at its extremities around the thigh portion. Other sets of spring-bars *g g* are secured by their upper ends to the band *h*, and each set is connected by a common pivot-joint at *f* to one of the tongues of the band *d* in the same manner as the bars *c* are secured to the ankle portion. There are preferably nine of these bars on each side of the upper

member and five on each side of the lower member.

If preferred, two additional bands may be employed, one at the top and bottom of each member, as shown in Fig. 3, in which case the bars have separate attachment to both of the bands. The lower band of the lower member is jointed to the ankle portion, while the upper band of the lower member is jointed to the lower band of the upper member, as shown in the drawings.

In consequence of the tight adjustment of the device in all of its parts to the leg an attachment for continual tight contact can be used. For example, a spring *k* is arranged on the thigh-band *h*, on which the ischium can rest during walking and standing, so that the spring bears a great part of the weight of the body, and the mechanism of the knee and ankle-joint can accomplish the rest of the task. When standing or walking, the ischium is hidden so much that only a supporting-spring remains in contact, which spring rests on a supporting apparatus that can follow all the movements of the leg and tightly fits the leg during all movements of the wearer.

Both of the bands *d* and *h* opening at the front the device can be spread out flat and easily slipped under the leg of the patient without moving that member and when in use can be readily opened out to inspect the leg and apply various treatments to the leg, if desired.

The various parts may be covered with linen, flannel, leather, or the like or may be padded, and each set of bars may be inclosed in a separate sack, if desired.

The bars, being made of spring metal, are elastic and do not interfere with the circulation of the blood nor with the action of the muscles, nerves, &c.

The apparatus is very light, weighing about one pound. It may be easily taken apart and as easily assembled and by spreading out flat will occupy but very small space, which is a great advantage in its use in time of war.

The bars are made in different lengths to accommodate different lengths of legs, and the size of the bands is easily adjustable for different sizes of legs.

Having thus described my invention, what I claim is—

1. In a device for supporting the leg, the combination of a lower member comprising a band adapted to inclose the leg at the knee, an ankle portion, a plurality of bars separately attached by their upper extremities around the periphery of said band, the bars connected to one side of the band being jointed at their lower ends by a common pivot-joint to one side of said ankle portion, and the bars connected to the other side of said band being jointed at their lower ends by a common pivot-joint to the opposite side of said ankle portion, an upper member comprising a band adapted to inclose the thigh, a plurality of bars separately attached by their upper extremities around the periphery of said thigh-band, the said latter bars connected to one side of said thigh-band being jointed by their lower ends by a common pivot to one side of said knee-band, and the said latter bars connected to the other portion of said thigh-band being jointed at their lower ends by a common pivot to the opposite side of said knee-band, as set forth.

2. In a device for supporting the leg, the combination of a lower member comprising a flexible band detachably connected at its extremities and adapted to inclose the leg at the knee, a U-shaped ankle portion, a plurality of bars connected by their upper extremities around the periphery of said band, the bars connected to one side of the band being jointed at their lower ends by a common pivot-joint to one side of said ankle portion, and the bars connected to the other side of the band being jointed at their lower ends by a

common pivot to the opposite side of said ankle portion, an upper member comprising a flexible band detachably connected at its extremities and adapted to inclose the thigh, a plurality of bars separately attached by their upper extremities around the periphery of said thigh-band, the said latter bars connected to one side of said thigh-band being jointed at their lower extremities by a common pivot to one side of said knee-band, and the said latter bars connected to the other portion of said thigh-band being jointed at their lower ends by a common pivot-joint to the opposite side of said knee-band, substantially as described.

3. The combination in a device for supporting the leg, of a lower member comprising a flexible band detachably connected by its extremities and adapted to inclose the leg at the knee portion, an ankle portion, a plurality of bars connected to said band and having pivotal connection with said ankle portion, an upper member comprising a flexible band detachably connected at its extremities and adapted to inclose the thigh, and a plurality of bars connected to said thigh-band and having pivotal connection with said upper band of said lower member, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

CARL BOEGLE.

Witnesses:

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C. STAUBITZ.