

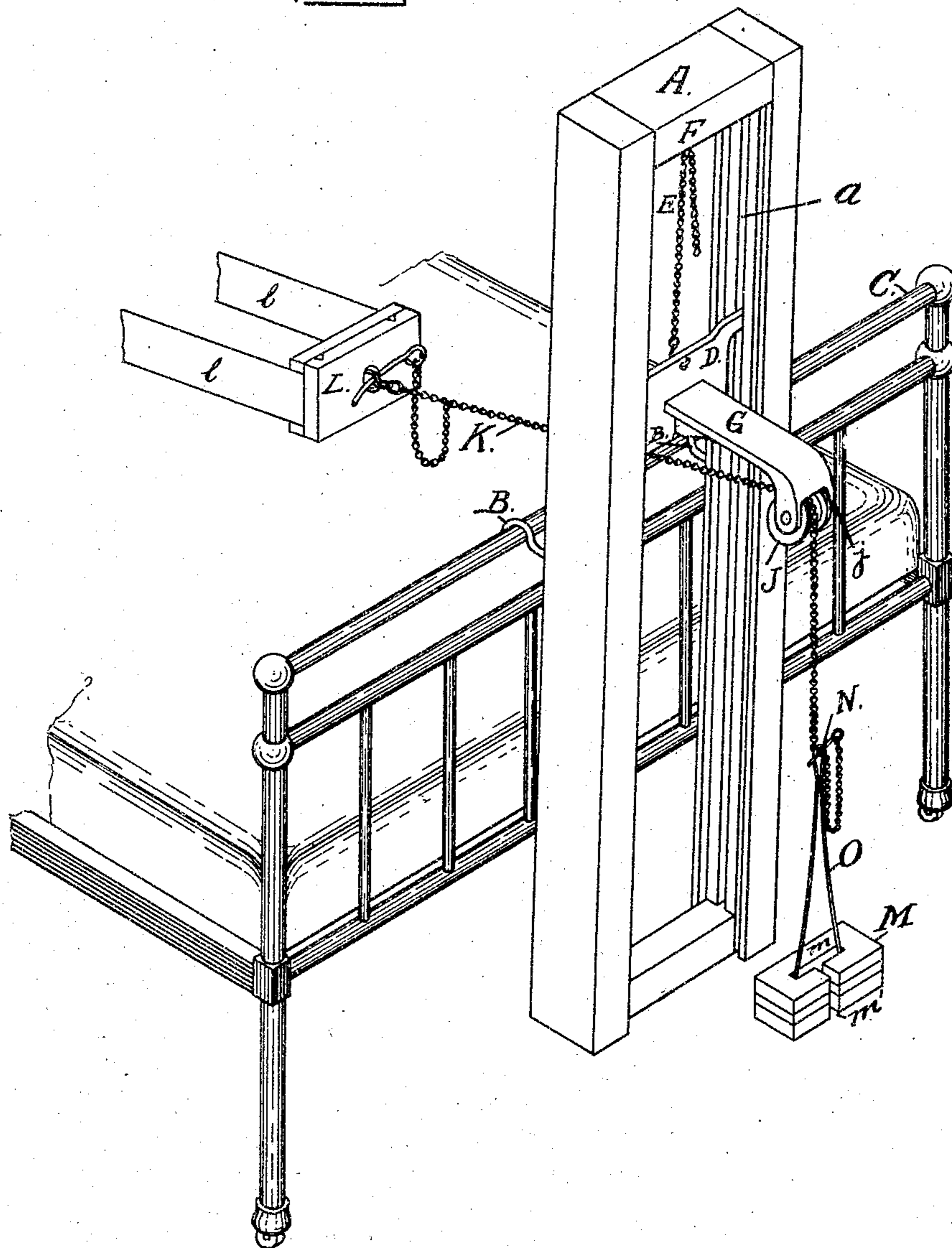
No. 780,988.

PATENTED JAN. 31, 1905.

G. E. GORHAM.  
FRACTURE APPARATUS.  
APPLICATION FILED JULY 8, 1904.

2 SHEETS—SHEET 1.

Fig. 1.



Witnesses

*Dudley B. Wade*  
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by

Inventor

*George Elmer Gorham*

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Atty.

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2 SHEETS—SHEET 2.

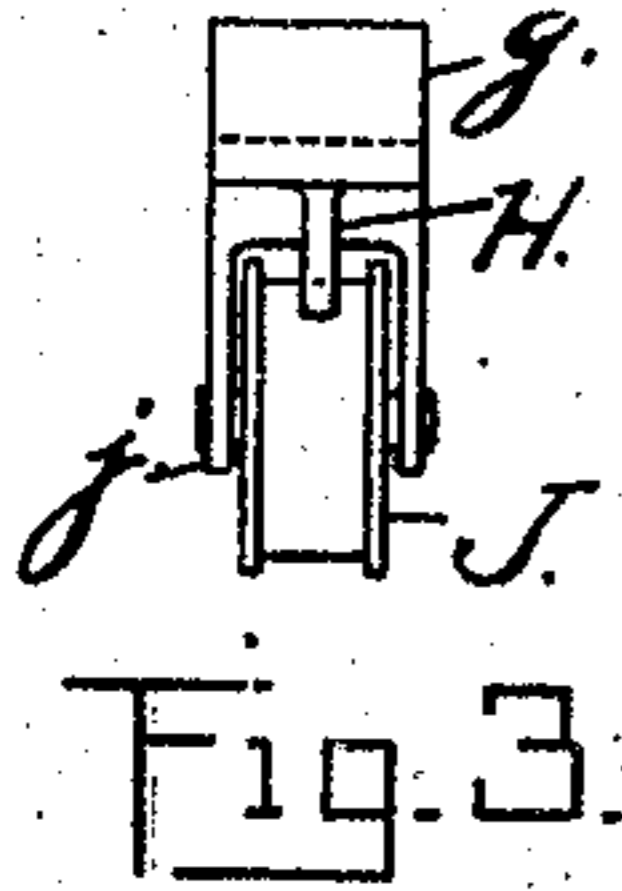


Fig. 3.

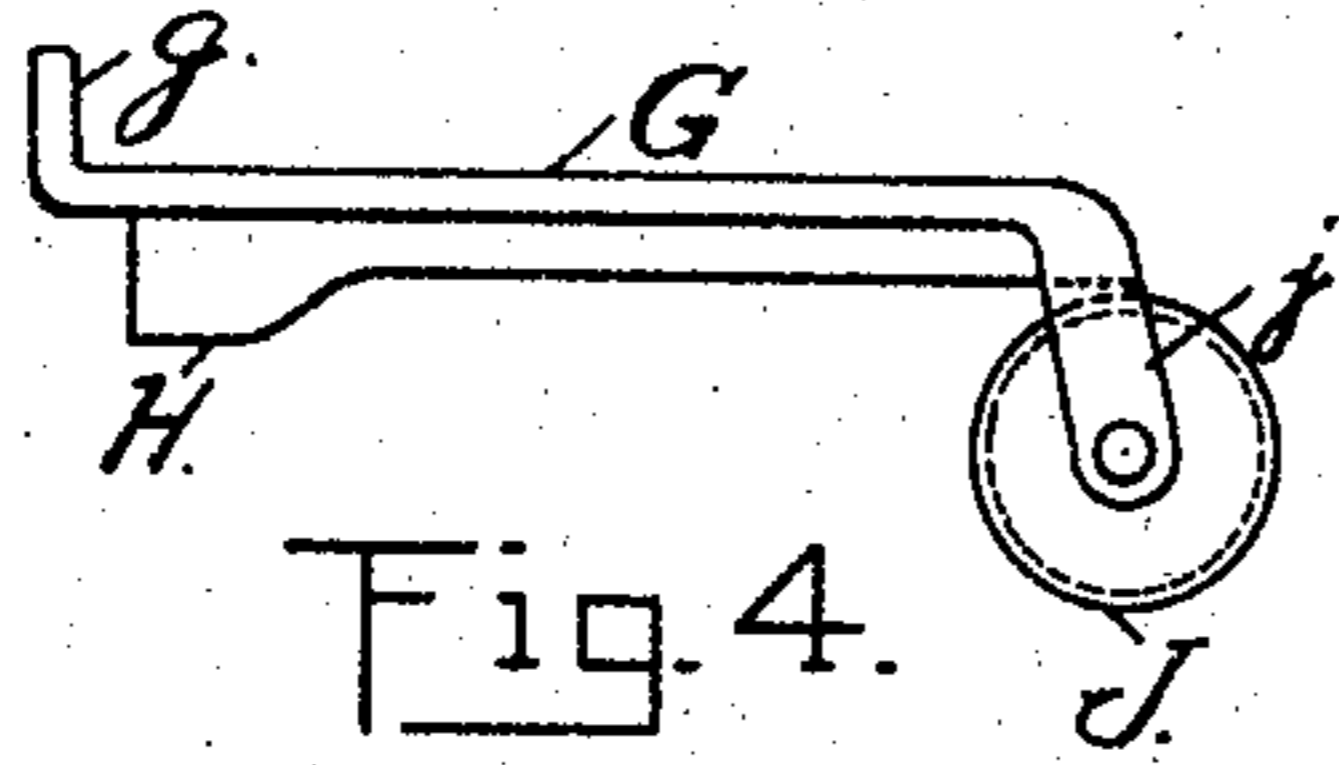


Fig. 4.

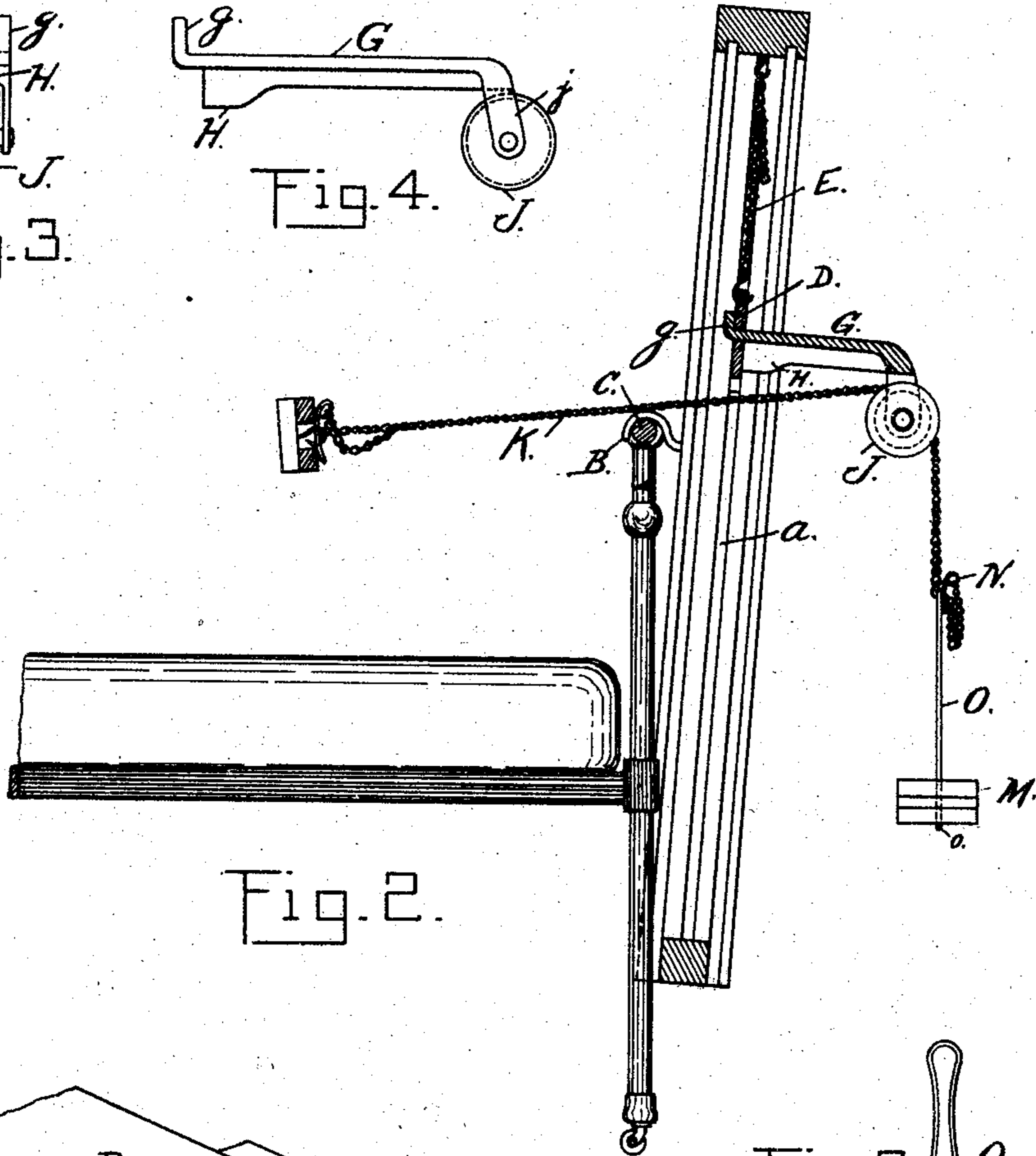


Fig. 2.

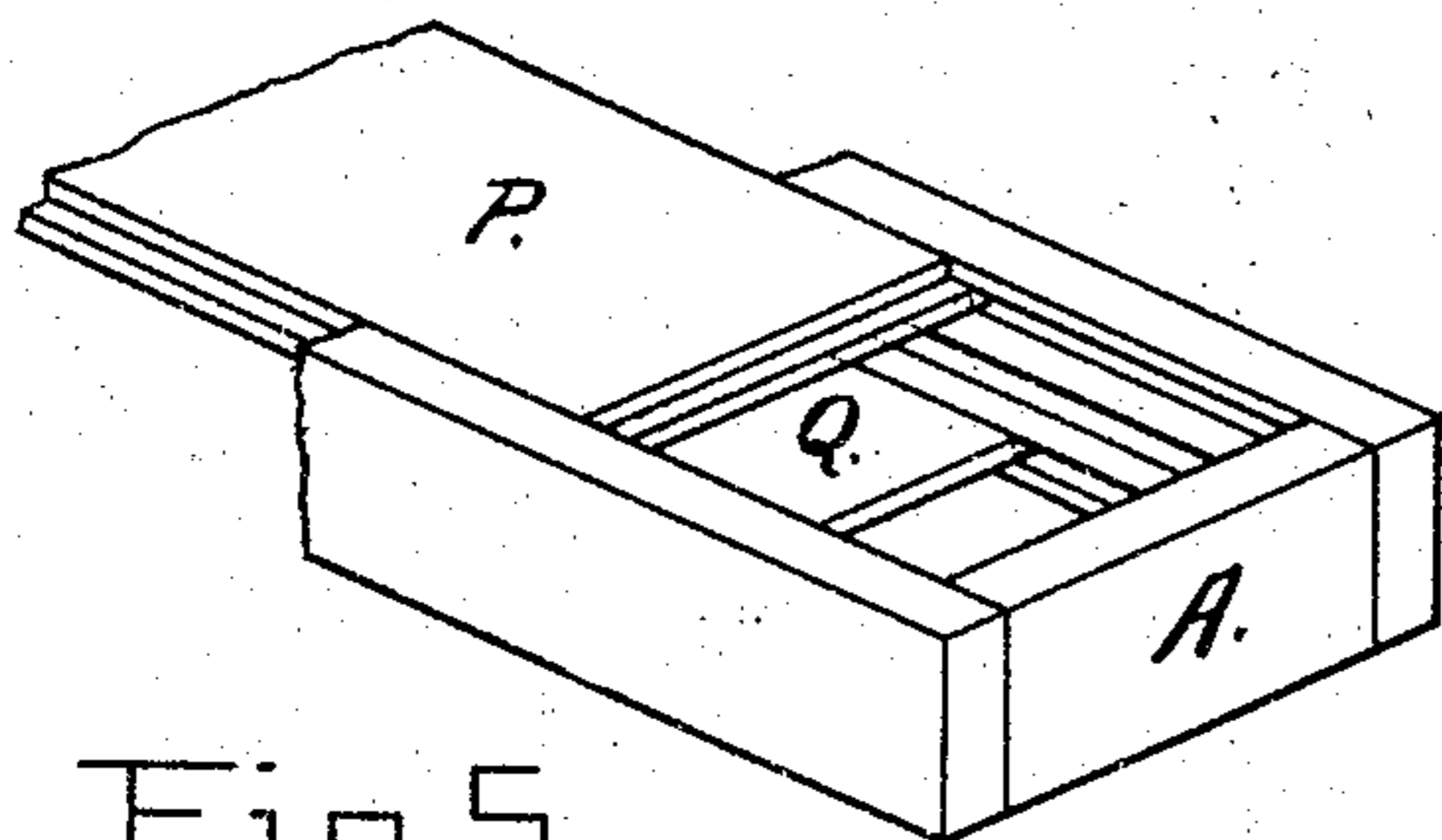


Fig. 5.

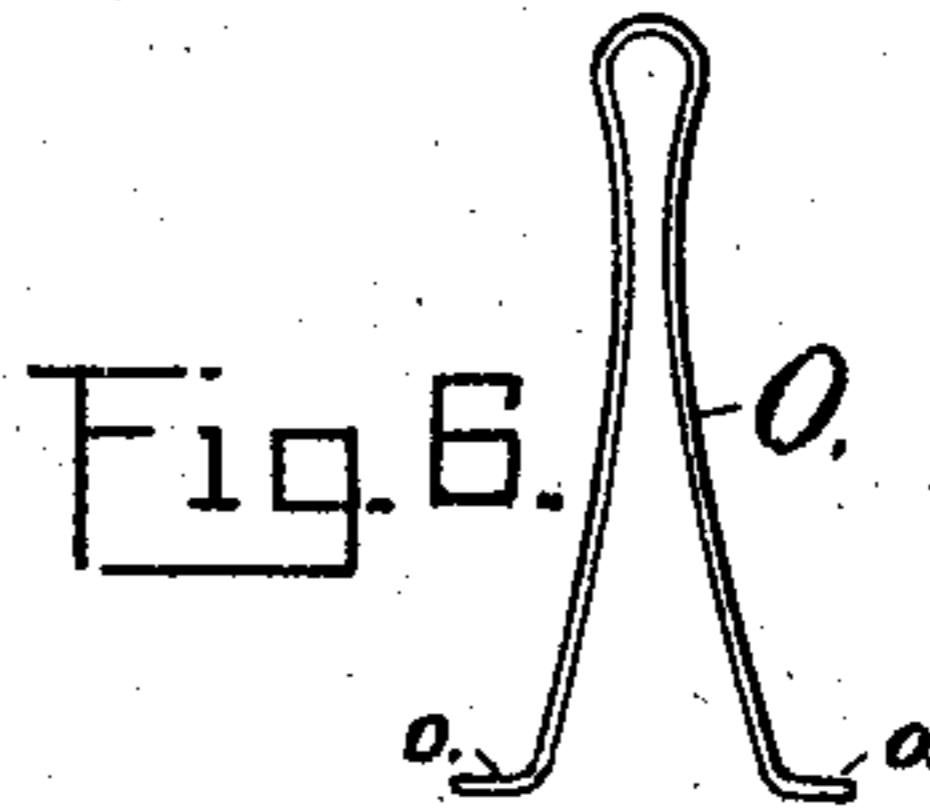


Fig. 6.

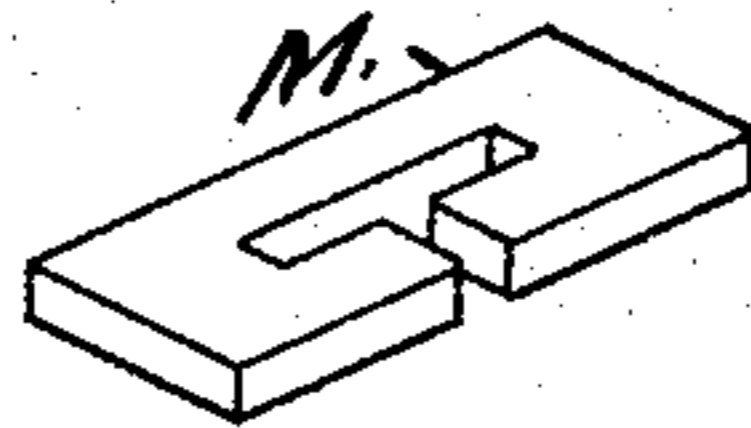


Fig. 7.

Witnesses

*Walter S. Swann*  
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by

Inventor

*George Elmer Gorham*

*Ward Cameron* Attys.

## UNITED STATES PATENT OFFICE.

GEORGE ELMER GORHAM, OF ALBANY, NEW YORK.

## FRACTURE APPARATUS.

SPECIFICATION forming part of Letters Patent No. 780,988, dated January 31, 1905.

Application filed July 8, 1904. Serial No. 215,820.

*To all whom it may concern:*

Be it known that I, GEORGE ELMER GORHAM, a citizen of the United States of America, and a resident of the city and county of Albany, State of New York, have invented certain new and useful Improvements in Surgical Fracture Apparatus, of which the following is a specification.

My invention relates to surgical apparatus; and the object of my invention is to provide an apparatus for applying traction by means of a weight and pulley, so constructed and arranged that it may be readily attached to a bed and when not in use to be packed into a small compass, together with such other elements and combinations as are hereinafter more particularly set forth and claimed. I attain this object by means of the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of my invention attached to a bed. Fig. 2 is a vertical section, partly in elevation, of my invention shown attached to a bed. Fig. 3 is an elevation of the pulley; Fig. 4, a side elevation of the pulley and bracket; and Fig. 5, a perspective view, with parts broken away, of the frame used as a box.

Similar letters refer to similar parts throughout the several views.

For the purpose of applying extension to the leg for the treatment of fractures and diseased joints I arrange a weight and pulley, with means for adjusting the position of the pulley corresponding to the desired location in altitude of the patient's limb, with means for adjusting the parts of the apparatus to correspond with the requirements of the particular case to be treated.

I provide a frame A, to one side of which I attach the hooks B B or other suitable device for securing the frame A to a bed-rail C. I suspend from the top of the frame A a plate D by means of the chain E, which engages with a hook F, secured to the under surface of one end, (the upper end when in position in contact with the bed,) and which may be shortened by engaging with links in the chain nearer the plate D, as desired. The plate D

preferably reciprocates in a groove *a* in each side of the frame A. Within the plate D, I arrange an opening through which one end of the pulley-bracket G may pass, as shown in Figs. 1 and 2.

The pulley-bracket G is preferably provided at the end adapted to pass through the opening in the plate D, with the projection *g* at an angle to the bracket G, and which will when the bracket is placed in position in contact with the plate D engage with the rear of the plate, as shown in Fig. 2. I also provide rib H for the bracket G, which extends beneath the bracket when the bracket is in position attached to the plate, said rib engaging at its end with the plate D and for the purpose of holding the bracket G in a horizontal position when the bracket is secured to the plate in the manner described.

The bracket G carries the pulley J, the pulley being preferably mounted between the ears *j j*, depending from the bracket at one end thereof. With this arrangement of the bracket it is apparent that the bracket may be attached and detached very quickly and that when attached its position remains positive.

The chain or rope K, which passes over the pulley J, is secured to the block L, which engages the bandages *l l*, secured to the patient's foot, (not shown,) and also carries the weights M, adjusted by means of pin N and weight-holder O. I preferably arrange the weights, as shown in Fig. 1, with the openings *m m'* at right angles to each other, so that the weight may be brought in contact with the holder through the opening *m'* and then will be allowed to slide downward upon the holder O, said holder passing through the opening *m*. The holder O is preferably made of a piece of steel or other suitable material bent at about midway between its ends and having at its ends portions *o o*, projecting from the side of the holder and forming a recess for the weights M.

The frame A is provided with a cover P and removable bottom Q, each of which (the bottom and the cover) is provided with tongues adapted to engage with grooves on the inner surface of the sides and one end of the frame

A. When the bottom is placed in the frame, the frame then becomes a box, into which may be put the weights, chains, pulley-bracket, blocks L, bandages /, &c., making a very complete and closely-compacted package.

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

1. In a device for applying traction for patient's leg; a frame; a means for securing the same to a bedstead; a plate adapted to reciprocate in said frame; a means for adjustably securing said plate in said frame; a detachable pulley-bracket adapted to engage said plate; a pulley mounted in said bracket; a chain connected at one end with the leg of a patient and at the other end carrying weights, substantially as described.

2. In a device for applying traction for patient's leg; a frame; a plate arranged to reciprocate therein; a means for adjustably securing said plate in said frame; a pulley-bracket provided with a projecting portion at one end arranged at right angles to the main portion of the bracket, together with a rib secured to said bracket; said projecting portion and rib arranged to engage said plate on opposite sides thereof when the pulley-bracket is in position

for operation; a chain passing over said pulley, substantially as described.

3. In a surgical apparatus; a frame; a reciprocating plate; a means for adjustably securing said plate and said frame; pulley-bracket; a means for removably connecting said pulley-bracket with said plate; a pulley mounted in said bracket, all substantially as described.

4. In a surgical apparatus, a frame; a means for securing said frame to a bed; a plate adapted to reciprocate in said frame; a means for adjustably securing said plate in position; with a removable pulley-bracket arranged to engage said plate; a chain adapted to be secured to the patient's leg; weights adjustably secured to said chain; said frame provided with a bottom and cover in such a manner that it may be used as a box for containing the other parts of the apparatus, when not used as a surgical apparatus.

Signed at Albany, New York, this 7th day of May, 1904.

GEORGE ELMER GORHAM.

Witnesses:

FREDERICK W. CAMERON,  
LOTTIE PRIOR.