

June 24, 1941.

A. CUNNINGHAM

2,247,187

EXTENSION DEVICE

Filed July 11, 1940

2 Sheets-Sheet 1

Fig. 1.

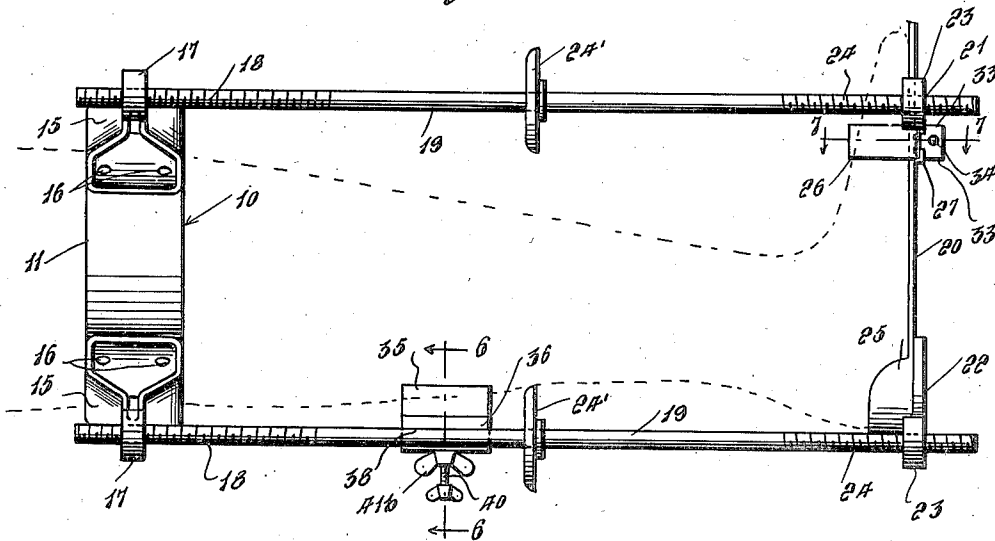


Fig. 2.

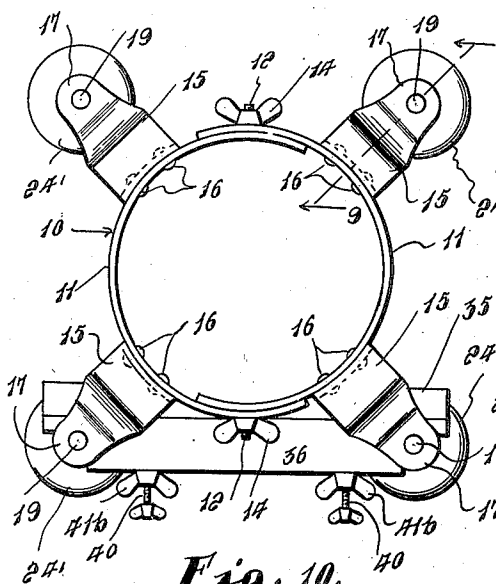


Fig. 10.

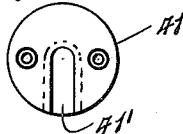
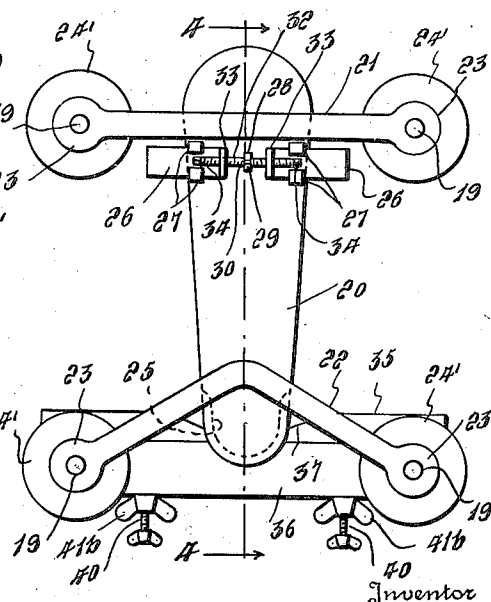


Fig. 3.



Alfred Cunningham

By X. F. Randolph

Attorney

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2 Sheets-Sheet 2

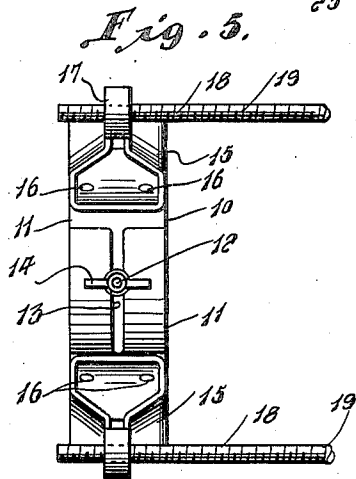
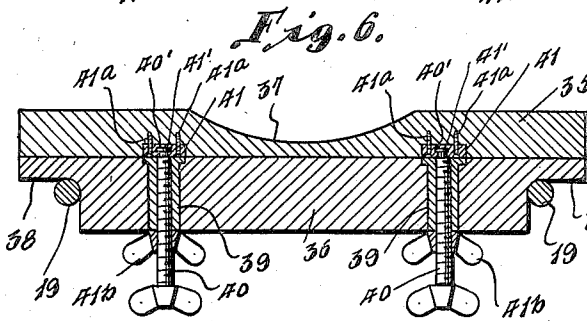
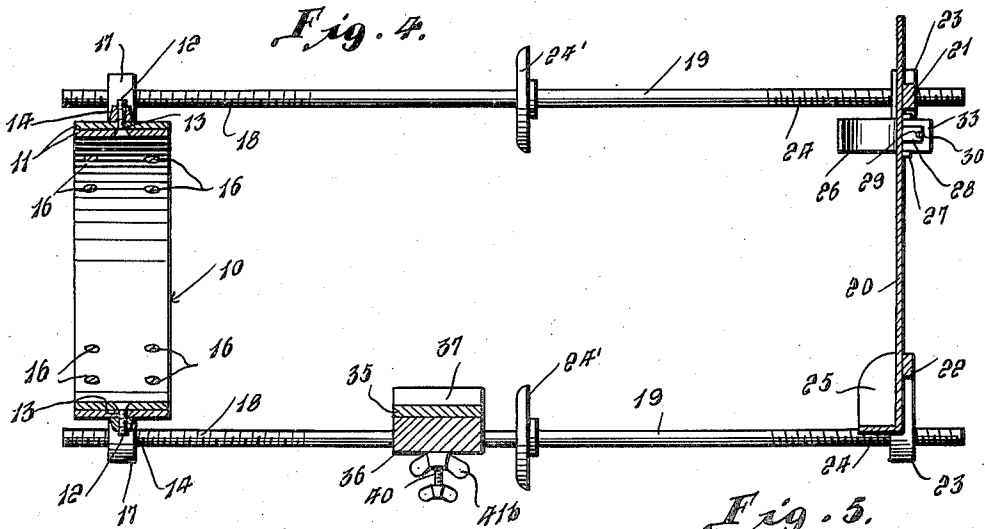


Fig. 7.

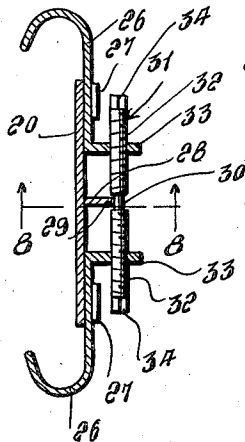


Fig. 8.

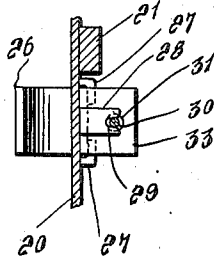
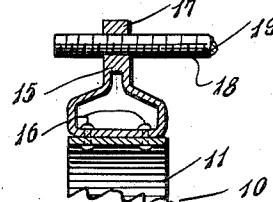


Fig. 9.



Inventor

Alfred Cunningham

By *L. F. Randolph*

Attorney

UNITED STATES PATENT OFFICE

2,247,187

EXTENSION DEVICE

Alfred Cunningham, Sayre, Pa.

Application July 11, 1940, Serial No. 344,999

2 Claims. (Cl. 128—84)

This invention relates to an extension device or apparatus.

It is particularly aimed to provide a construction which is adapted to be applied after application of a plaster of Paris or equivalent cast and removal of portions thereof where necessary to accommodate the extension device or apparatus, a window or windows being also cut into the cast where desired.

The invention is particularly applicable to use in setting leg fractures although it may be constructed and arranged for other fractures as preferred.

The invention especially dispenses with the use of well known weights and pullers and the application of spikes through the leg.

The more specific objects and advantages will become apparent from a consideration of the description following taken in connection with accompanying drawings illustrating an operative embodiment.

In said drawings:

Figure 1 is a view in side elevation showing the extension device or apparatus applied to a fractured leg;

Figure 2 is an end elevation of the apparatus;

Figure 3 is an end elevation of the apparatus taken at the opposite end to Figure 2 and looking toward the left in Figure 1;

Figure 4 is a central longitudinal sectional view taken on the plane of line 4—4 of Figure 3;

Figure 5 is a fragmentary plan view;

Figure 6 is a cross section taken on the plane of line 6—6 of Figure 1;

Figure 7 is a horizontal section taken on the plane of line 7—7 of Figure 1;

Figure 8 is a detail section taken on the line 8—8 of Figure 7;

Figure 9 is a detail section taken on the line 9—9 of Figure 2, and

Figure 10 is an inverted plan view of one of the screw rod swivel plates.

Referring specifically to the drawings wherein like reference characters designate like or similar parts, a metallic or other band is provided at 10 adapted to encircle the leg at a distance from the foot, as suggested in Figure 1. This band consists of two arcuate sections 11, whose ends overlap, one end of each section carrying a screw 12 which passes through an elongated slot 13 in the opposite end portion of the co-acting section and then receives a wing nut or the like 14 to clamp the sections in adjusted positions.

A suitable number of lugs 15 are riveted at 16 to the band sections 11 and each has a portion

17 having bores screw threaded on portions 18 of rods 19.

A foot supporting plate is provided at 20 which has a straight bar 21 welded transversely thereof and a V-shaped bar 22 welded transversely thereof. Said bars 21 and 22 have terminal portions 23 engaged by screw threaded portions 24 on the rods 19. The rods 19 have discs or manipulating members 24' thereon which are manually turnable in order to rotate the rods and it will be noted that the screw threaded portions 18 have their screw threads of the same pitch and opposite to the pitch of the screw threads 24 so that the rotation of the rods 19 will serve to move the band 10 and plate 20 toward or away from each other according to the direction of rotation of the rods.

Said plate 20 has a U-shaped heel rest 25 integral therewith and also has a pair of hook shaped foot clamps or anchoring members at 26 which are positioned and overlapped by lugs 27 integral with plate 20. The latter also has a bearing 28 provided with a notch 29 to receive a grooved or reduced portion 30 of an adjusting screw rod 31, having opposite screw threaded portions 32 which are screw threaded in lugs 33 of the jaws or anchor members 26, the ends of the rod 31 being shaped at 34 to facilitate wrench engagement. It will be clear that upon turning the rod 31, it will slide the anchor members 26 toward or away from each other according to the direction of turning to engage or disengage the foot.

A rest or support for the leg is provided which consists of sections 35 and 36, the former preferably being dished or concave at 37 to conform to the shape of the leg or cast thereabout. Section 36 is notched at its ends as at 38 whereby it may removably and slidably adjustably rest on a pair of the rods 19. Fastened to the section 36 are socket members 39, having rods 40 screw threaded therein, and which have heads 40' applied to and swivelled in undercut slots 41' of blocks 41 fastened as at 41a to section 35. The rods 40 are adjustable to raise or lower the section 35. Wing lock nuts 41b are threaded on rods 40.

The use of the device is suggested in Figure 1 in connection with a dotted leg which has been set after a fracture. It will be understood, that the leg is first set in a cast of plaster of Paris or the equivalent. The plaster of Paris is cutaway or broken, so that the device of my invention may be applied and in the case of a compound fracture,

the cast is cut all around, and a window is cut in the cast over the fracture.

Various changes may be resorted to provided they fall within the spirit and scope of the invention as hereinafter defined by the appended claims.

I claim as my invention:

1. A device of the class described comprising parallel rods, a leg engaging band, means on the band screw threaded to said rods, a foot support screw threaded to said rods opposite to the first mentioned screw threads whereby turning of the rods will move said band and foot support relatively to each other, a leg rest supported by certain of the rods located between the leg engaging band and foot support, said band comprising arcuate sections, bolts adjustably securing the sections together for contraction and expansion, said foot support comprising a plate, a heel rest thereon, foot engaging devices slidably mounted

on said foot support for adjustment in a direction transversely of the rods, and opposite screw thread means co-acting with said devices to move them toward and away from each other.

2. A device of the class described comprising a foot support, a band spaced therefrom, connecting and mounting means for connecting said support and band together, a leg support intermediate of said foot support and band, said leg support having a section provided with notches whereby it engages and is slidably mounted on said means, a leg supporting section disposed on the first mentioned section and having a portion shaped to provide a rest for the underside of the leg, said leg support being held in engagement with said means by engagement with the leg, and means mounted by the first mentioned section operable to adjustably move the other section transversely with respect to said means.

ALFRED CUNNINGHAM.