

UNITED STATES PATENT OFFICE.

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EXTENSION-FOOT FOR LADDERS, &c.

SPECIFICATION forming part of Letters Patent No. 742,288, dated October 27, 1903.

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To all whom it may concern:

Be it known that I, TRUEMAN L. CHARLES, a citizen of the United States, residing at Elm Valley, in the county of Allegany and State of New York, have invented certain new and useful Improvements in Extension-Foot for Ladders, &c.; and I do 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in an extension-foot for ladders, &c., and for hoisting and holding various other devices; and it consists in the provision of a rack or frame having an extension-shaft, which is provided with a rack-bar along one of its marginal edges, and the provision of a pinion suitably mounted in the frame and engaging the teeth of the rack-bar, whereby the extension-shaft may be moved longitudinally.

The invention consists, further, in various details of construction, combinations, and arrangements of parts, which will be hereinafter fully described and then specifically defined in the appended claim.

My invention is illustrated in the accompanying drawings, in which—

Figure 1 is a view showing the device as applied to the end of a ladder. Fig. 2 is an enlarged detail view of the extension member. Fig. 3 is a detail view showing a slight modification of the invention adapting the same for hoisting and supporting an object; and Fig. 4 is an edge view of the apparatus, showing the flange at the bottom of the board adapted to engage under the bottom of the ladder. Fig. 5 is a cross-sectional view on line 5 5 of Fig. 2.

Reference now being had to the details of the drawings by letter, A designates a board which has guide-strips B mounted thereon, the inner edges of which are preferably inclined, forming a dovetailed slot intermediate the same for the reception of the shaft D, which has its opposite walls beveled. Cross-pieces C connect the outer faces of the guide-

strips B, and set-screws E are carried in threaded apertures in the cross-pieces C and are provided for the purpose of engaging frictionally the outer face of the extension-shaft D to hold the same in any adjusted position. The handle D' is secured to said shaft, whereby the latter may be raised and lowered in adjusting the same. One end of the shaft D has a head H, as shown in Fig. 1 of the drawings, with spurs H' projecting from one end thereof, designed to engage the earth or any object for the purpose of preventing the shaft from slipping. Said head H has shoulders I, which are inclined and adapted to contact with the beveled ends J of the guide-strips B to limit the inner throw of the shaft.

Along one of the marginal edges of the shaft D is a rack-bar K, and N designates a pinion-wheel mounted upon a shaft journaled in one of the strips B, and said pinion is in mesh with the teeth of said rack-bar. A crank N', forming a part of the shaft on which the pinion is mounted, serves as means whereby the pinion may be rotated for the purpose of extending or closing the shaft. After the shaft has been adjusted in proper position the set-screws are tightened and the shaft held in such position.

In Fig. 4 of the drawings I have shown a different application of my invention, in which the upper ends of the guide-strips are formed into a head T, with radial spurs projecting therefrom, and adapted to engage an object to be hoisted and held in a raised position for various purposes.

While I have shown a particular construction of apparatus illustrating my mechanism, it will be understood that I may make alterations in the detailed construction without departing from the spirit of the invention.

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

An extensible supporting device for step-ladders, &c., comprising plates having guide-strips secured to one face thereof, straps connecting and secured to said strips and spanning the space intermediate the same, the

outer ends of said strips being inclined, an
extensible member positioned between said
strips and having inclined shoulders adapted
to fit against the inclined ends of the strips,
5 one end of said plate being provided, on its re-
verse side, with an extension adapted to en-
gage the end of a ladder, as set forth.

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

TRUEMAN L. CHARLES.

Witnesses:

DARRELL S. CHARLES,
JEREMIAH DRISCOLL.