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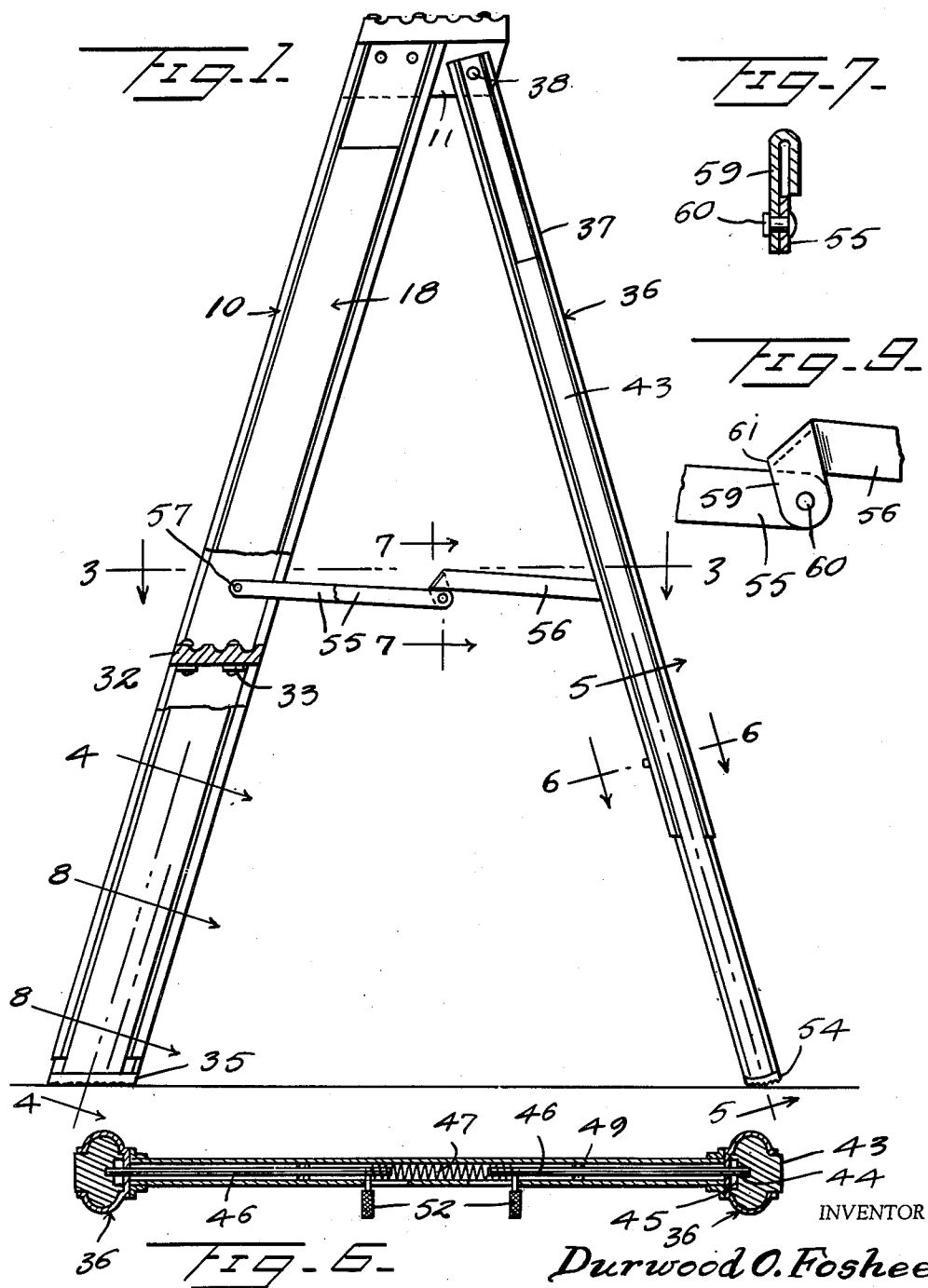
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JOINT FOR A SPREADER FOR AN EXTENSION STEPLADDER

Filed Jan. 2, 1951

2 SHEETS—SHEET 1



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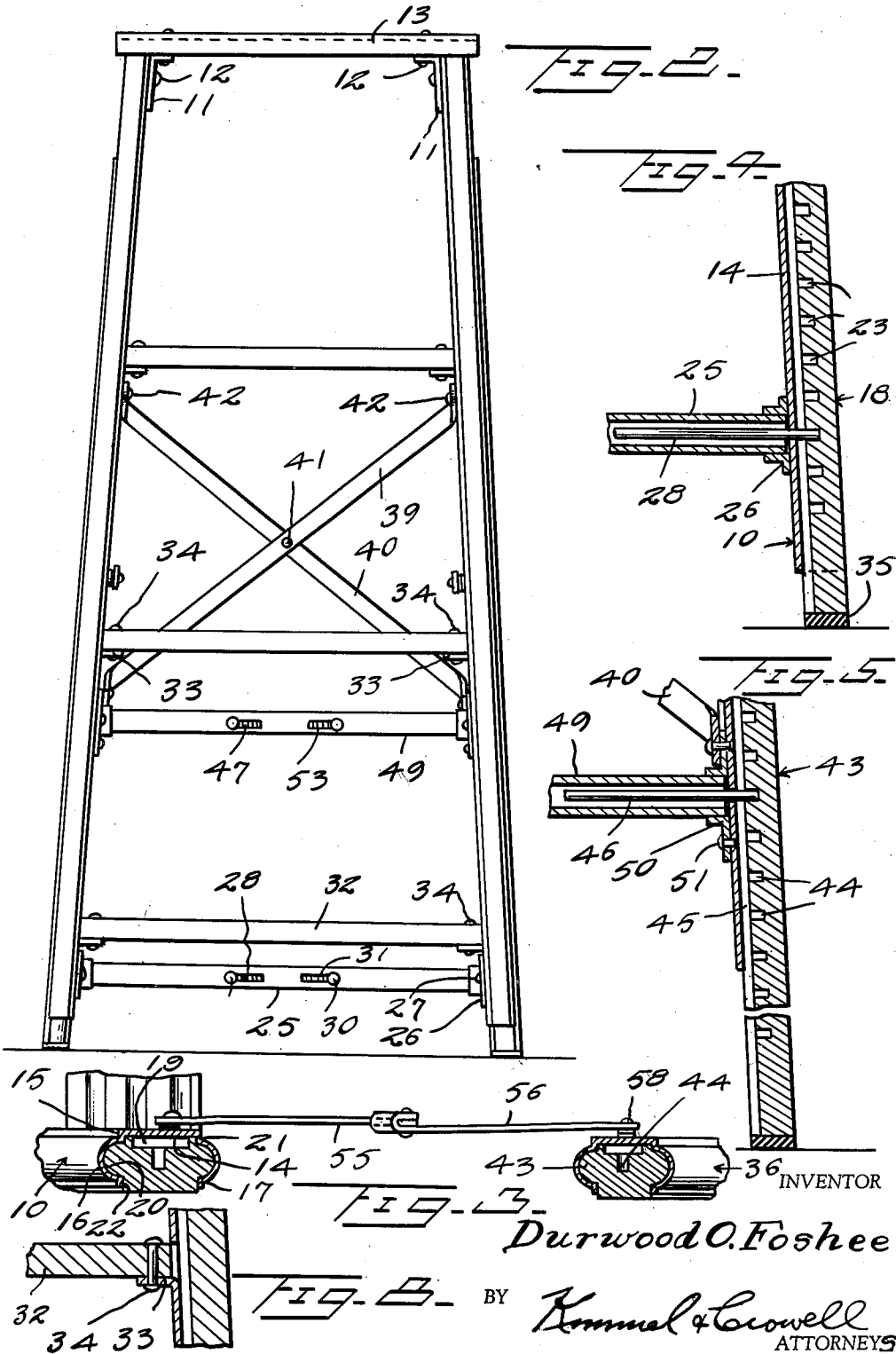
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2 SHEETS—SHEET 2



UNITED STATES PATENT OFFICE

2,633,376

JOINT FOR A SPREADER FOR AN
EXTENSION STEPLADDER

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Application January 2, 1951, Serial No. 203,895

1 Claim. (Cl. 287—92)

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This invention relates to stepladders and is an improvement over the construction embodied in my copending application, Serial No. 138,429, filed January 13, 1950, for Extension Stepladder.

An object of this invention is to provide a stepladder construction having extensible legs with the base legs formed of extruded channels.

Another object of this invention is to provide an extensible stepladder which will stand firm in extended position.

A further object of this invention is to provide an improved collapsible bracing means between the front and rear legs.

With the above and other objects in view, my invention consists in the arrangement, combination and details of construction disclosed in the drawings and specification, and then more particularly pointed out in the appended claim.

In the drawings:

Figure 1 is a detailed side elevation of an extension stepladder partly broken away and in section embodying this invention.

Figure 2 is a detailed front elevation of the stepladder.

Figure 3 is a fragmentary sectional view taken on the line 3—3 of Figure 1.

Figure 4 is a fragmentary sectional view taken on the line 4—4 of Figure 1.

Figure 5 is a fragmentary sectional view taken on the line 5—5 of Figure 1.

Figure 6 is a fragmentary sectional view taken on the line 6—6 of Figure 1.

Figure 7 is a sectional view taken on the line 7—7 of Figure 1.

Figure 8 is a fragmentary sectional view taken on the line 8—8 of Figure 1.

Figure 9 is a fragmentary side elevation of one of the bracing members.

Referring to the drawings the numeral 10 designates generally a pair of front channel-shaped leg members which are secured at their upper ends by means of angle members 11 and fastening devices 12 to a top step 13. The channel members 10 are generally of substantially C-shape and as shown in Figure 3 each front leg member 10 is formed of an inner flat wall 14 having substantially right angular outwardly extending flanges 15 integral therewith. Each flange 15 has formed integral therewith a transversely arcuate guide member 16, the concave inner sides of the guide member 16 being disposed in confronting relation. The outer edges of the arcuate guide members 16 are formed with outwardly projecting flanges 17. An extensible leg member generally designated as 18 is slidable

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within each channel member 10 and is formed with an elongated wooden strip which is provided on the inner side thereof with a longitudinally extending channel 19 confronting the inner wall 14. The opposite longitudinal edges of the strip or extensible leg member 18 is formed with rounded bead shaped edges 20 engaging in the concave sides of the guide member 16 and is also formed with a rabbet 21 within which the flange 15 is adapted to engage. The leg member 18 is also formed with a rabbet 22 adjacent the outer edge thereof with which the flange 17 is adapted to engage. The inner side of each leg member 18 is formed with a plurality of vertically spaced apart sockets or keepers 23 which communicate with the channel or cutout 19.

The leg members 18 are adapted to be adjusted lengthwise of the channel members 10 by means of a pair of spring pressed leg locking bolts 24 which are slidably disposed in a horizontally disposed housing 25 of tubular configuration which is provided at each end thereof with a flanged fitting 26 secured by fastening means 27 to the inner sides of the channel members 10. The tubular member 25 is positioned adjacent the lower ends of the legs or channel members 10, and the bolts 24 are spring pressed outwardly to locking position by means of spring 28 which engages between forwardly projecting pins or operators 30 which are slidable through longitudinal slots 31 formed in the guide tube 25. A plurality of vertically spaced apart steps 32 are secured between the leg members 10, and the latter as shown in Figure 2 are disposed in upwardly convergent relation. The steps 32 engage inwardly projecting lugs or brackets 33 which are struck from the inner wall 14 and the steps 32 are secured to the lugs 33 by fastening means 34. Each extensible leg member 18 has secured to the lower end thereof a rubber shoe or anti-friction member 35 so that the extensible legs 18 will not slip on a smooth surface.

The stepladder also includes a pair of rear collapsible leg members generally designated as 36 which are formed of channel shaped leg members 37 pivoted as at 38 to the angle members 11. The channel members 37 are of substantially the same configuration as the channel members 10, being of substantially C-shape, and the channel members 37 are braced in upwardly convergent relation by means of a pair of crossed bracing members 39 and 40. The bracing members 39 and 40 are secured together by a central securing member 41 and are secured at their upper ends to the inner sides of the channel members 37 by fasten-

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ing devices 42. The leg members 36 also include extensible legs 43 which are slidable in the channel members 37 and have the same configuration in cross section as the leg members 18. The extensible leg members 43 are formed with sockets or keepers 44 communicating with a longitudinal channel 45 formed on the inner side of each leg member 43, and spring pressed locking bolts 46 are engageable in selected sockets 44. The spring pressed bolts 46 are constantly urged outwardly to locking position by a spring 47 which engages between operators 52 carried by the bolts 46. The bolts 46 are slidable in a tubular housing or guide 49 which is formed at the opposite ends thereof with a flanged fitting 50 secured by fastening means 51 to the inner sides of the channel members 37.

The lower ends of the bracing members 39 and 40 are secured to the upper one of the fastening members 51 which secure the fittings 50 to the channel members 37. Each pin or operator 52 which is secured to the inner end of a bolt 46 slidably engages through an elongated slot 53 formed in the guide tube 49. The lower end of each extensible leg 43 has secured thereto a shoe 54 which is preferably formed of rubber or the like so as to prevent slipping of the leg members 43 on a smooth surface. The rear leg members 36 are adapted to be held in extended operative position by means of a pair of connected together links 55 and 56. The forward end of link 55 is pivotally secured as at 57 to the inner side of a leg member 10, and the rear end of link 56 is pivotally secured as at 58 to the inner side of a rear leg member or channel 37. The inner end of link or bracing member 56 is provided with a reverted and obliquely bent extension 59 which is pivoted by means of a pivot 60 to the inner end of link 55. The obliquely exposed extension 59 forms a stop member 61 which is engageable with the upper edge of the link 55 so that the two links 55 and 56 will be disposed in substantially parallel relation when these links are in extended operative position.

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The stepladder hereinbefore described is so constructed that the upper or stationary leg members which are channel shaped in transverse section may be formed by the extrusion process. The channel shaped leg members, both stationary and pivoted are adapted to be formed out of relatively light weight metal such as aluminum or the like so that the stepladder will be of relatively light weight.

What is claimed is:

A joint for a collapsible bracing means formed of a pair of flat elongated straight links, one end of one of said links being reversely folded upon itself at an acute angle to the remainder of said one link and spaced therefrom a distance substantially equal to the thickness of said link, the folded portion having an aperture therein, one end of the other link engaging between said one end and the reversely folded portion thereof, said one end of said other link having an aperture therein, and a pivot pin extending through said apertures securing said other link to said reversely folded portion, an edge of said reversely folded portion engaging the adjacent edge of said other link to thereby form a stop and hold said links in substantially parallel extended position.

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