

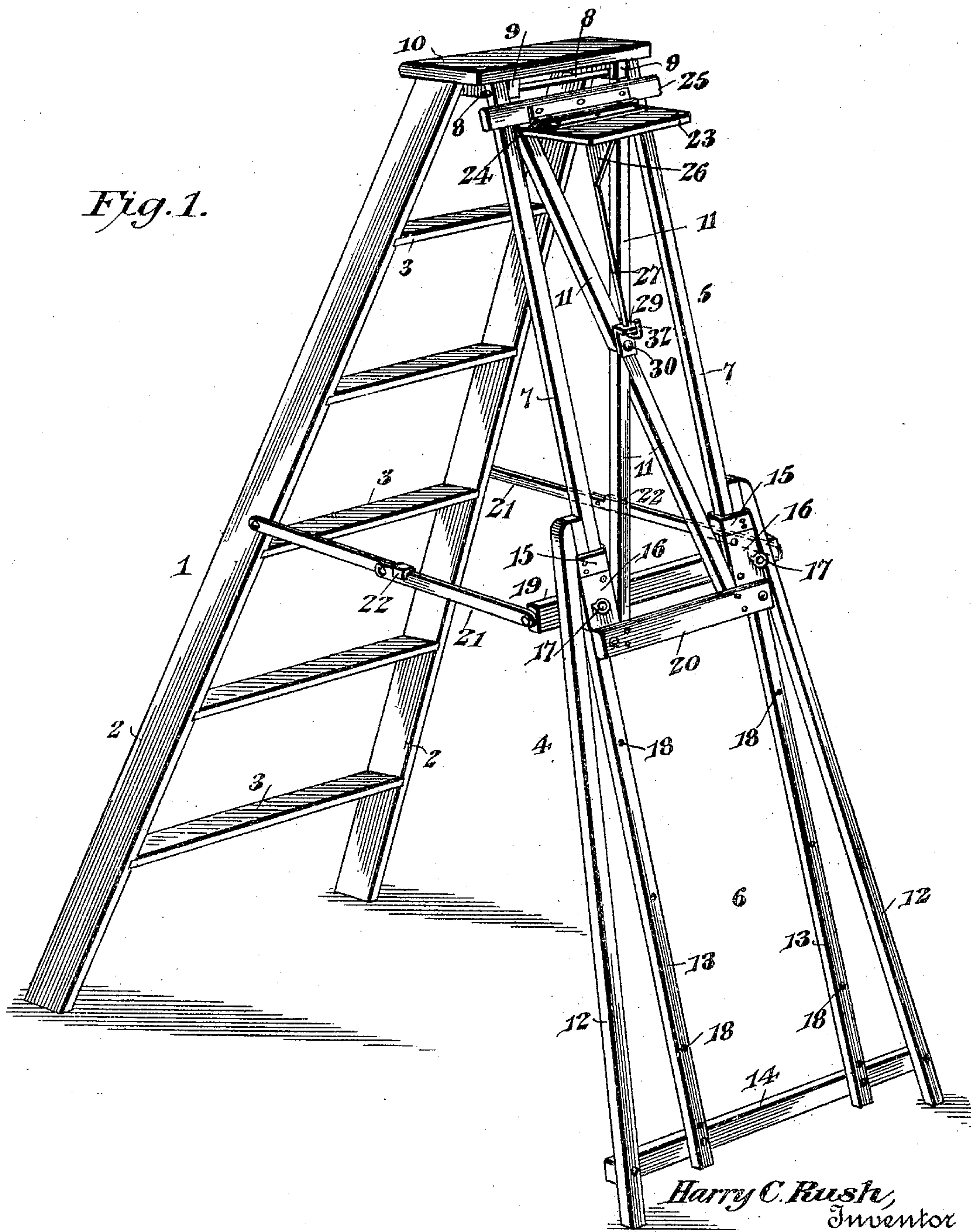
No. 798,117.

PATENTED AUG. 29, 1905.

H. C. RUSH.
STEP LADDER.
APPLICATION FILED DEC. 31, 1904.

2 SHEETS—SHEET 1.

Fig. 1.



Harry C. Rush,
Inventor

Witnesses
Jas. E. McLaughlin
J. J. Riley.

By *E. G. Figg*
Attorney

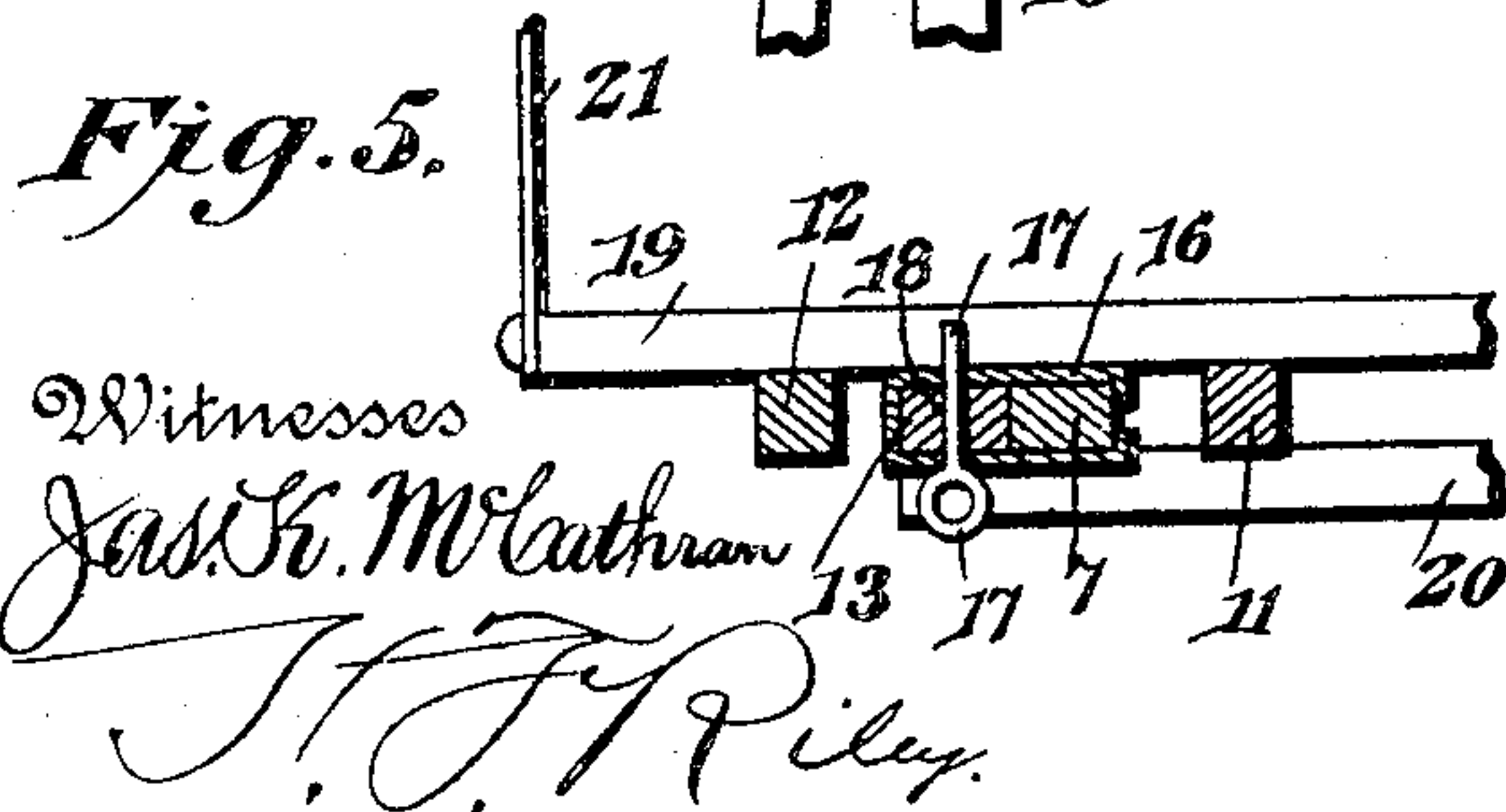
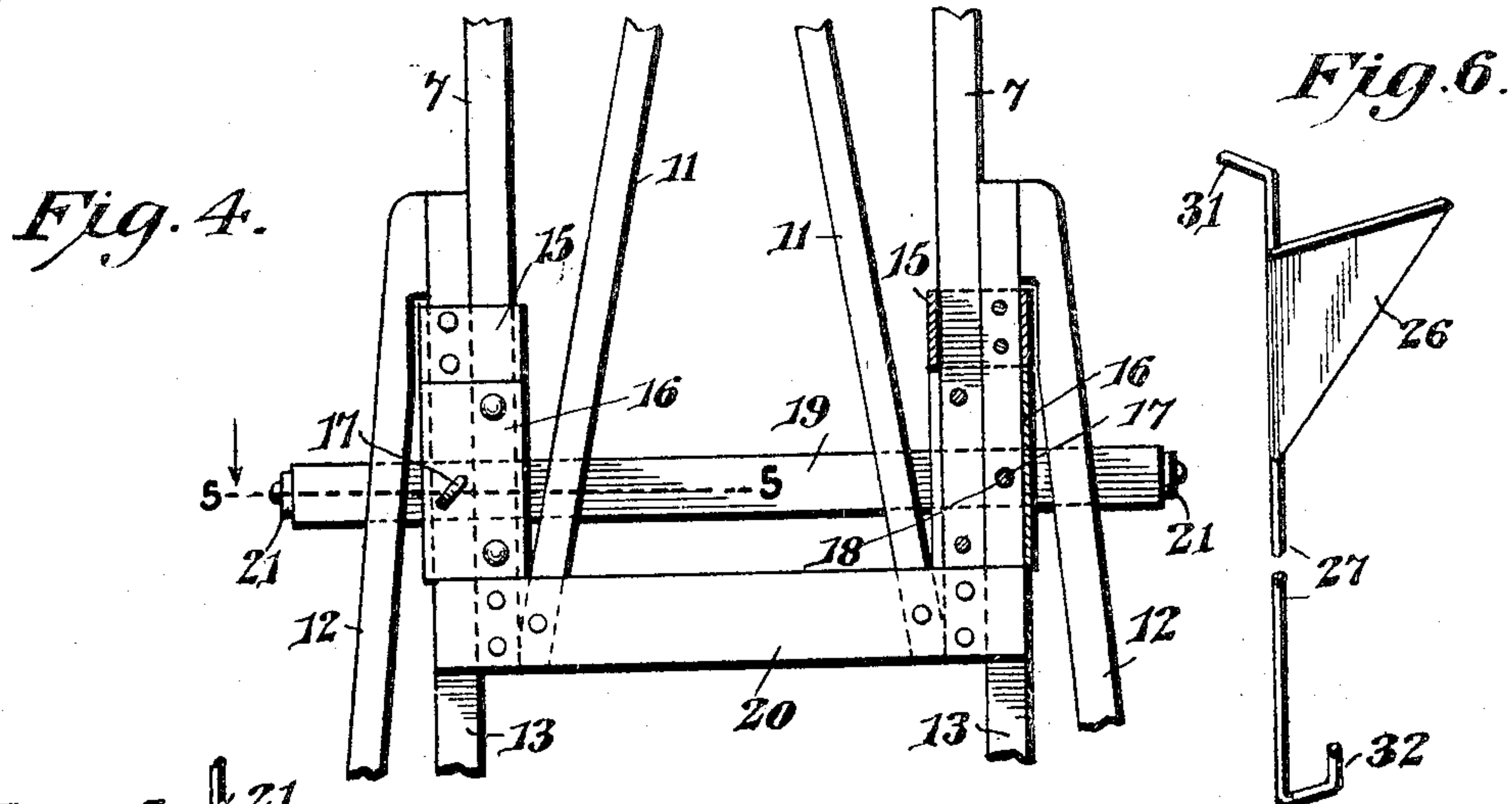
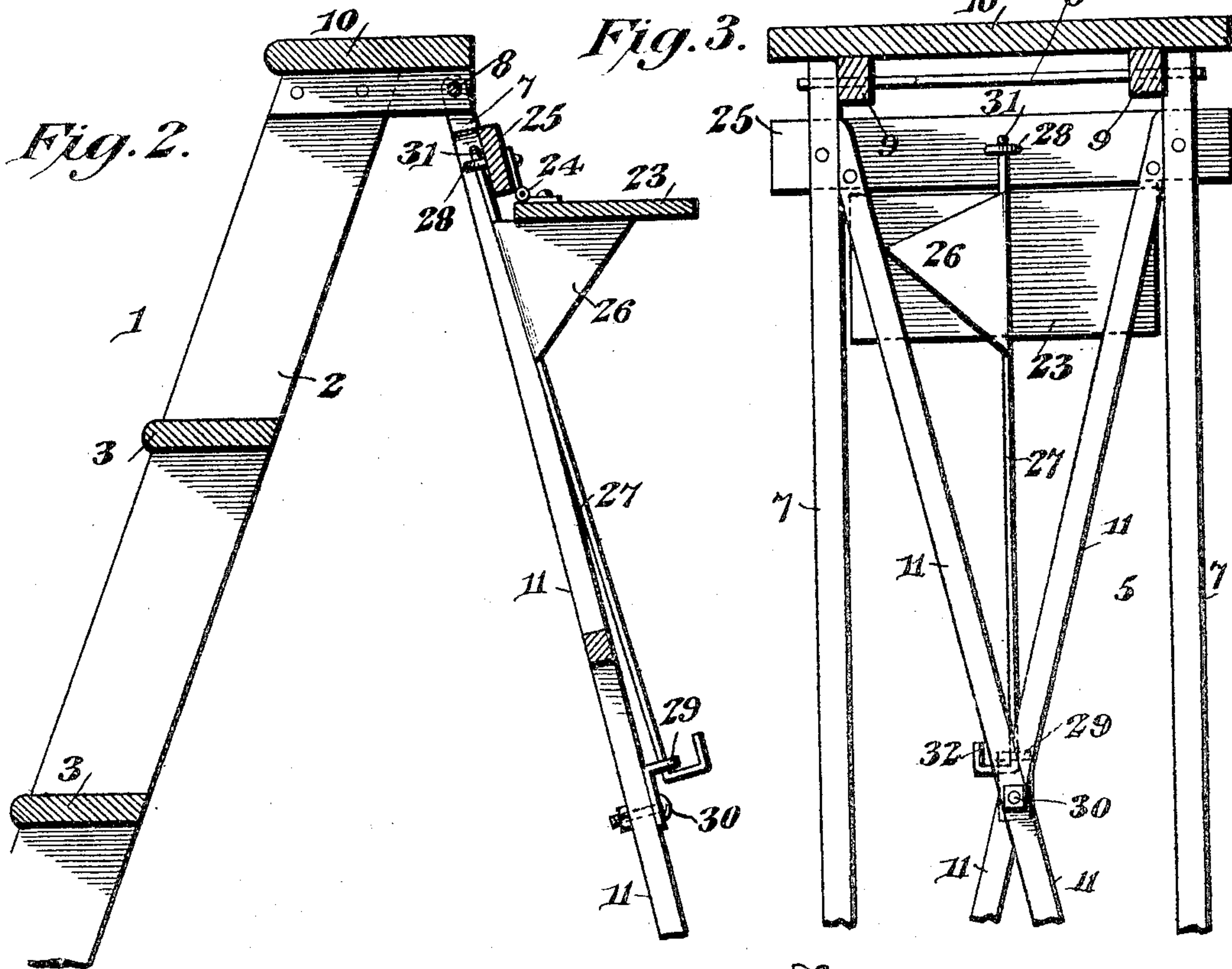
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2 SHEETS—SHEET 2.



Harry C. Rush, Inventor

By *E. G. Figgers*

Attorney

UNITED STATES PATENT OFFICE.

HARRY C. RUSH, OF DAWSON, PENNSYLVANIA, ASSIGNOR OF ONE-FOURTH
TO PHILIP C. MOORE, OF DAWSON, PENNSYLVANIA.

STEP-LADDER.

No. 798,117.

Specification of Letters Patent.

Patented Aug. 29, 1905.

Application filed December 31, 1904. Serial No. 239,214.

To all whom it may concern:

Be it known that I, HARRY C. RUSH, a citizen of the United States, residing at Dawson, in the county of Fayette and State of Pennsylvania, have invented a new and useful Step-Ladder, of which the following is a specification.

The invention relates to improvements in step-ladders.

10 The object of the present invention is to improve the construction of step-ladders and to provide a simple and comparatively inexpensive one of great strength and durability adapted in addition to performing the func-
15 tions of an ordinary step-ladder to be used on sloping ground, stairways, and other uneven surfaces.

20 A further object of the invention is to provide a foldable step-ladder of this character capable of ready adjustment to vary the length of its leg for adapting it to the character of the place in which it is to be used.

25 With these and other objects in view the invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended, it being understood that various changes in the form, proportion,
30 size, and minor details of construction within the scope of the claims may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

35 In the drawings, Figure 1 is a perspective view of a step-ladder constructed in accordance with this invention. Fig. 2 is a vertical longitudinal sectional view of the upper portion of the ladder. Fig. 3 is a transverse sectional view illustrating the arrangement of
40 the parts when the hinged shelf is folded. Fig. 4 is a rear elevation, partly in section, of the central portion of the leg, illustrating the construction for adjustably connecting the upper and lower sections of the same.
45 Fig. 5 is a detail sectional view on the line 5 of Fig. 4. Fig. 6 is a detail perspective view of the pivotal support for the hinged shelf.

50 Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 designates the ladder proper, which is composed of sides 2 and connecting-steps 3. The front member or ladder proper may be of any desired construction, and it is supported in an inclined position by a rear leg 4, composed of upper and lower sections 5 and 6, which are slidably connected and which are capable of adjustment to vary the length of the rear leg to enable the step-ladder to be
60 firmly placed on sloping or other uneven ground, on stairs, and any analogous places; but the step-ladder is adapted to perform all functions of an ordinary step-ladder. The upper section 5 is composed of parallel side
65 bars 7, hinged at their upper ends to the front member or ladder proper by means of a pin-tle 8, which pierces the side bars 7 and the rear ends of a pair of cleats 9. The cleats 9 are secured to the lower face of the top step
70 or platform 10 of the ladder 1. The parallel side bars 7 are braced by oppositely-inclined bars 11, crossed at the center and secured at their ends to the parallel side bars at the terminals thereof. The bars or braces 11 are re-
75 cessed at their point of crossing to arrange them in the same transverse plane as the parallel side bars 7.

The lower section 6 is provided with outer inclined supporting-bars 12 and inner parallel
80 slidable bars 13, secured at their upper ends to the inclined bars 12 and connected with the latter near their lower ends by a transverse bar 14. The bars 12 converge toward their upper ends and form a lower tapering section
85 for the leg, which presents a broad base to the supporting-surface. The lower ends of the outer upwardly-converging bars of the lower section extend below the inner straight bars 13 and form the supporting portions for the
90 legs of the step-ladder.

The upper and lower sections are slidably connected with each other by means of guides 15 and 16. The upper guides 15, which consist of substantially rectangular boxes, re-
95 ceive and embrace the parallel bars of the upper and lower sections and are secured by suitable fastening devices to the bars 13 of the lower slidable section. The other guides 16, which are elongated, are substantially rec-
100 tangular in cross-section and receive the parallel bars, being secured to the bars 7 of the

upper section by suitable fastening devices. These lower guides are provided with perforations receiving pins or keys 17, adapted to engage the parallel bars of the lower section, and the latter are provided at intervals with perforations 18, adapted to register with the perforations of the guides, whereby the sections of the leg are secured in their adjustment. The parallel bars of the upper section are connected by inner and outer cross-bars 19 and 20, arranged as clearly shown in Fig. 4 of the drawings. The cross-bar 19 is extended laterally beyond the side bars of the upper section and are connected by foldable braces 21 with the front member or ladder 1. The foldable braces are composed of two sections or members pivoted together at their inner ends and similarly secured at their outer ends to the front member or ladder 1 and the leg 4. The inner ends of one of the members of each brace is extended beyond the pivot and is provided with a lug 22 for engaging the other member for limiting the downward movement of the said members when the parts are arranged horizontally, as illustrated in Fig. 1 of the drawings. By this construction the pivoted members are adapted to form a rigid brace for connecting the front member or ladder proper and the leg.

The step-ladder is provided at the back with a shelf 23, connected by hinges 24 to a cross-bar 25, which is secured to the side bars 7, near the upper ends thereof. This shelf, which is adapted to fold against the bars 5, is maintained in a horizontal position by an upright pivotally-mounted support 26. The support 26, which extends outward from a pintle-rod 27, is substantially triangular and is constructed of suitable metal and may be either formed integral with the pintle-rod or be secured to the same by any suitable means. The support presents a horizontal upper edge to the shelf when it is extended, as shown in Fig. 2. The pintle-rod, which extends above and below the support, is arranged in suitable bearings 28 and 29. The lower bearing consists of a substantially L-shaped bracket or plate secured to the cross bars or braces 11 by a fastening device 30, which passes through the said bars or braces 11 at their point of crossing. The fastening device 30, which preferably consists of a bolt, serves to fasten the bars or braces 11 together in addition to securing the bearing-bracket to the same.

The upper and lower ends of the pintle-rod are bent to form arms 31 and 32, extending outward from the said pintle-rod at right angles to each other and forming stops for limiting the movement of the support. The arm 31 at the upper end of the pintle-rod limits the movement of the support in one direction when the said support is in its extended or operative position and the lower arm limits the

movement of the support when the same is in its folded position.

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

1. A step-ladder provided with a leg, comprising an upper section having an extended cross-bar, a lower section slidably connected with the upper section, means for securing the sections in their adjustment, and a foldable brace connected with the extended portion of the cross-bar.

2. A step-ladder provided with a leg, comprising an upper section having an extended cross-bar, and an upwardly-tapered lower section having parallel bars slidably connected with the upper section, means for securing the sections in their adjustment, and foldable braces connected with the ends of the extended cross-bar.

3. A step-ladder provided with a shelf hinged to the leg of the step-ladder, and a pivoted support having a pintle-rod extending longitudinally of the leg and provided with arms arranged at an angle to each other for limiting the swing of the pintle-rod.

4. A step-ladder provided with a leg having side bars and crossed braces connecting the bars, a bearing-bracket having a fastening device piercing the braces at the point of crossing, a shelf hinged to the leg, and a pivoted support for the shelf having a pintle-rod mounted on the bearing-bracket.

5. A step-ladder provided with a leg having crossed braces and provided with a transverse bar, upper and lower bearings, the lower bearing being mounted on the braces at their point of crossing, a shelf hinged to the transverse bar, and a pivoted support having a pintle-rod arranged in the upper and lower bearings.

6. A step-ladder provided at its leg with a hinged shelf and having upper and lower bearings, and a substantially triangular pivoted support provided with a pintle-rod arranged in the bearings and having its terminals bent to form arms for limiting the swinging movement of the support.

7. A step-ladder provided with a leg comprising an upper section having parallel straight bars, and means for connecting the same, and a lower section provided with inner parallel straight bars and upwardly-converging outer bars secured at their upper ends to the inner parallel bars and forming the supporting portions for the leg at their lower ends, the inner parallel bars of the lower section being slidable on the parallel bars of the upper section, and the said lower section being provided with a cross-bar extending entirely across it and secured to the inner and outer bars, and means for securing the sections of the leg in their adjustment.

8. A step-ladder provided at its leg with a hinged shelf and having upper and lower bearings, a substantially triangular pivoted support for the shelf provided with a pintle-rod arranged in the bearings, and means for limiting the swinging movement of the support.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

HARRY C. RUSH.

Witnesses:

O. S. LAUGHREY,
JOHN H. SIGGERS.