Feb. 26, 1935. J. W. PEASE 1,992,391

STEPLADDER

Filed Sept. 8, 1933

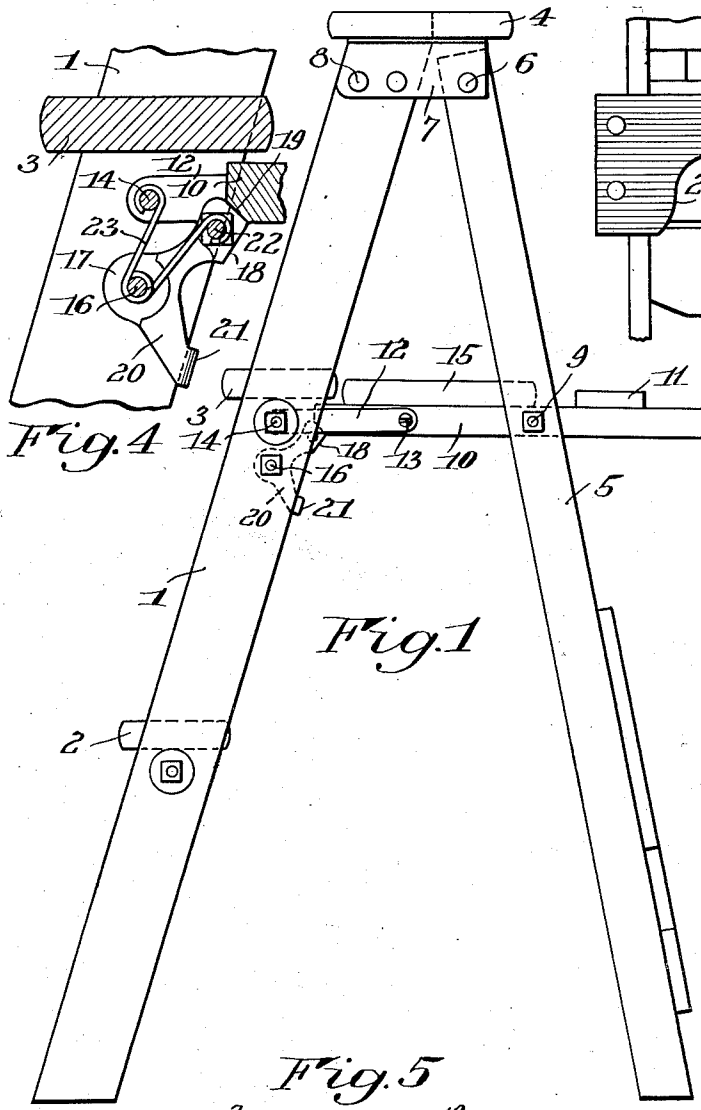

Fig. 1

Fig. 4

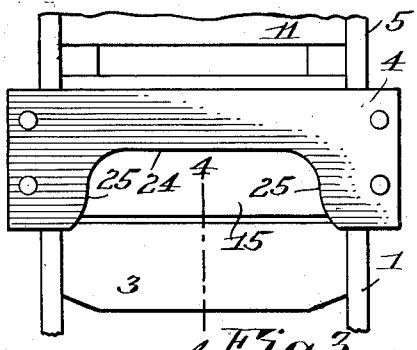

Fig. 3

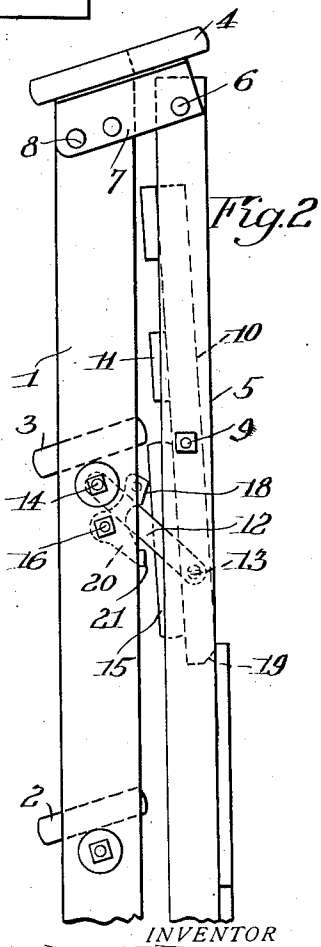

Fig. 2

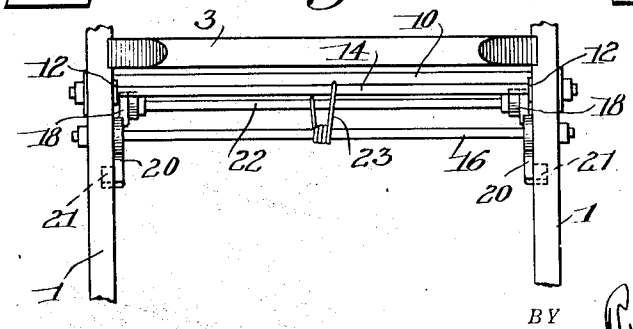

Fig. 5

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Patented Feb. 26, 1935 1,992,391

UNITED STATES PATENT OFFICE

1,992,391

STEPLADDER

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Application September 8, 1933, Serial No. 688,631

4 Claims. (Cl. 228—17)

My present invention relates to ladders and more particularly to folding stepladders, and it has for its object to provide an improved ladder of this type that will be simple, light and capable of being manufactured at low cost. The improvements are directed in part toward providing such a ladder with a firm and relatively spacious platform to afford standing room for working thereon at the greater heights; toward means for locking the ladder in extended position; toward simplifying and combining the platform, bracing, pail supporting and latching features, and toward providing a brace for the legs of the user when standing on the platform.

To these and other ends, the invention resides in certain improvements and combinations of parts, all as will be hereinafter more fully described, the novel features being pointed out in the claims at the end of this specification.

In the drawing:

Fig. 1 is a side elevation of a stepladder in extended position constructed in accordance with and illustrating one embodiment of my invention;

Fig. 2 is a similar view of the ladder in folded position, the lower portion thereof being broken away;

Fig. 3 is a top plan view with a portion of the pail support broken away;

Fig. 4 is an enlarged fragmentary section through the top tread, platform and latch mechanism, taken vertically, on the line 4—4 of Fig. 3, and

Fig. 5 is a fragmentary front view of the same parts.

Similar reference numerals throughout the several views indicate the same parts.

Referring more particularly to the drawing, the ladder, as to its major elements, is the conventional stepladder comprising a ladder element 1 having treads 2 and 3 surmounted by a cap piece 4 and a supporting element or leg 5 that spreads to sustaining position, as in Fig. 1, or folds against the ladder element, as in Fig. 2. It is pivoted at 6 to bracket plates 7 at the two sides of the cap piece 4 by means of which the latter is secured to the ladder element at 8.

Pivoted between the leg element 5 at 9 is a platform frame 10, the rear portion of which is extended at 11 when the device is in operative position to provide a pail support at the rear for a well known purpose. The forward or inner end of the frame is connected by links 12 pivoted to it at 13 and to a transverse rod 14 below the top tread 3 to the side rails of the ladder element to constitute a folding brace that holds the ladder elements relatively rigid in use and folds in the manner shown in Fig. 2 when they are folded. This platform frame is provided between the elements with a platform 15 which extends in continuation of the top tread 3 in conjunction with which it constitutes a further enlarged platform providing ample standing room for the feet of the user. This relationship is rigidly maintained by latching arrangements, as follows:

Below the pivot rod 14 and parallel thereto there extends between the ladder rails 1 a similar rod 16, upon which is pivoted at each side a latch element 17 having an upwardly extending latch arm 18 that abuts in radial alinement a flat corner face 19 off the platform frame 10. A stop arm 20 on each latch element is provided with a laterally turned lug 21 which engages the adjacent rail 1 to determine this position. The latch arms 18 are connected for joint movement by a bar 22 and a spring 23 coiled about the pivot rod 16 has one arm engaging this bar and its other arm reacting against the pivot rod 14 so that the spring tends to hold the latches normally in engaging position. The pivotal centers 9 and 16 are such, with relation to the links 12, that as the ladder is unfolded and the platform brace extended, the frame 10 will displace the latches and snap into engaging position above and behind them. The platform is thus maintained with great rigidity and safety to the occupant, the stops 21 preventing the latches from yielding and the load being borne by the pivot rod 16 on a radial line through the latch arms 18. The latches are released by simply reaching the fingers beneath the tread 1 and drawing forward the latch bar 22 to carry the latches out of the path of the frame.

The combination tread and platform 3—15 is preferably at such a distance from the cap piece 4 that the calves of the legs of a standing occupant are in the region of the cap piece. The middle thereof, in the further practice of my invention, is cut away, as indicated at 24 in Fig. 3, in a manner providing abrupt lateral shoulders 25 approximately centrally above the platform, whereby the said occupant may brace his legs laterally against these rigid parts and balance himself with greater ease. Additionally, particularly with a short two-tread pantry ladder, such as that illustrated, this cutaway portion permits the platform to act as a chair seat, of which the cap piece constitutes the back. A further advantage is that the greatly reduced width of the cap piece 4 at the center furnishes a convenient handle which may be grasped readily with the hand in carrying the ladder about.

I claim as my invention:

1. In a stepladder, the combination with a ladder element having treads and a supporting element hinged thereto, of a platform pivoted upon and foldable with the supporting element but adapted when extended to constitute a standing surface in continuation with the top tread of the ladder element, and a flat cap piece board on the latter less than knee high above said top tread cut away at its middle on the front or tread side to form abrupt lateral shoulders approximately centrally above the combined platform and constituting lateral leg braces for the occupant of the latter.

2. In a stepladder, the combination with a ladder element having a cap board and treads and a supporting element hinged thereto, of a platform pivoted upon and foldable with the supporting element but adapted when extended to constitute a standing surface directly beneath the cap board and also a brace between the folding parts in continuation with the top tread of the ladder element, and a releasable latch on the ladder element cooperating directly with the free edge of the platform to lock it in such extended position.

3. In a stepladder, the combination with a ladder element having a cap board and treads and a supporting element hinged thereto, of a platform pivoted upon and foldable with the supporting element but adapted when extended to constitute a standing surface directly beneath the cap board and also a brace between the folding parts in continuation with the top tread of the ladder element, links pivoted to the latter and to the platform constituting a spreading brace between the elements, and a releasable latch on the ladder element cooperating directly with the free edge of the platform to lock it in such extended position.

4. In a stepladder, the combination with a ladder element having treads and a supporting element hinged thereto, of a platform pivoted upon and foldable with the supporting element but adapted when extended to constitute a standing surface in continuation with the top tread of the ladder element, links pivoted to the latter and to the platform constituting a spreading brace between the elements including a rod extending between the side rails of the ladder element beneath said top tread providing one pivot for the links, a second rod adjacent to the first also extending between the side rails of the ladder element, latches pivoted on the second rod to engage the platform and lock it in position when extended, said latches having stop arms engaging the rails, a releasing bar connecting the latches for joint movement, and a spring coiled about the latch pivot rod with one end engaging the releasing bar and the other reacting against the link pivot rod to normally maintain the latch in engaging position.

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