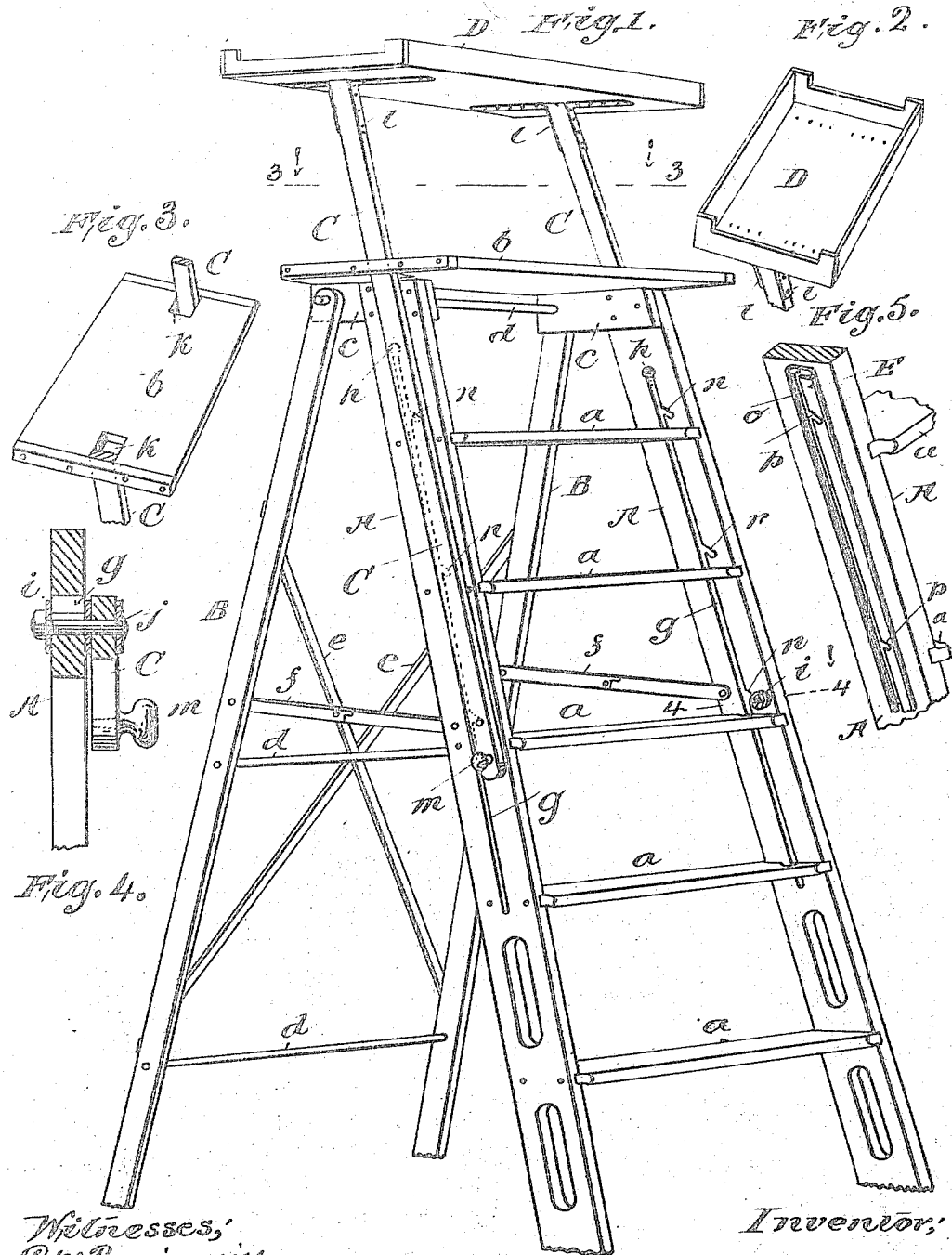
No. 656,946. Patented Aug. 28, 1900.

F. H. CORDUAN.

STEP LADDER.

(Application filed Jan. 11, 1900.

(No Model.)



Witnesses,
C. W. Benjamin
H. J. Bening

Inventor,
Frank H. Corduan,
by Richard A. Banning
Atty

UNITED STATES PATENT OFFICE.

FRANK H. CORDUAN, OF NEW YORK, N. Y., ASSIGNOR OF ONE-THIRD TO HUBERT A. BANNING, OF SAME PLACE.

STEP-LADDER.

SPECIFICATION forming part of Letters Patent No. 656,946, dated August 28, 1900.

Application filed January 11, 1900. Serial No. 1,033. (No model.)

To all whom it may concern:

Be it known that I, FRANK H. CORDUAN, a citizen of the United States, residing at No. 390 Fifth street, borough of Brooklyn, city and State of New York, have invented certain new and useful Improvements in Step-Ladders, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof.

The invention relates to step-ladders in general, and more especially to those used by mechanics and others for reaching places requiring an ascent to the top step or platform of the ladder.

The objects of the present improvement are to construct and connect suitable means for affording a safeguard when any one goes near the top of the ladder and also to hold or bring needed articles near at hand during the time of performing work on the ladder.

To these ends the invention consists in the construction and arrangement of the parts, as hereinafter more fully described, and pointed out or indicated in and by the claims.

In the drawings, Figure 1 is a perspective view of a step-ladder provided with the improvement constructed in what I deem the preferable form, the hand-rails and tray or receptacle being raised the distance of one step above the top of the ladder, but capable of elevation to the distance of three steps. Fig. 2 is a perspective view of the tray secured, as shown in Fig. 1, to the top of the hand-rails. Fig. 3 is a perspective view of the top step or "platform," as it is sometimes called, with the hand-rails in cross-section, as indicated by lines 3 3 of Fig. 1. Fig. 4 is a cross-section of one of the side pieces and hand-rail looking downwardly from the line 4 4 of Fig. 1. Fig. 5 shows a modified form of construction, in which a slotted or slitted curved metallic strip is attached to the side piece for receiving the pin which sustains the hand-rails in an elevated position.

In the drawings, A A represent the two side pieces of the ladder, *a* the steps thereof, *b* the top step or platform, which is secured on the cleats *c* at the upper end of the side pieces. The brace-frame shown consists of sides B B, dowels *d*, and cross-braces *e*, the upper dowel being passed through the cleats *c* and sides A B, so as to secure the brace-frame to the ladder and also act as a hinge on which it can swing to the limit of the jointed brace-bars *f*, as shown in Fig. 1. These parts are common to some of the forms of step-ladder now in use and the details thereof may be varied in the practical construction.

I prefer to construct the side pieces A A with a slot *g*, proceeding downwardly from an enlarged opening *h*, through which passes the head and washer *i* of a guiding and supporting pin *j*, secured to hand-rails C C alongside the side pieces A A. As shown, these hand-rails pass upwardly through slots *k* in the platform *b* and are secured by angle-irons *l* to the bottom of a tray or receptacle D for tools or other needed articles, and knobs *m* may be secured to them at or near their lower end. Receding from the slot *g* are recesses *n*, which receive the pin *j* and support the hand-rails at a given height or at one of several points on the ladder. The pin *j* is brought into the recesses by a lateral movement of the hand-rails. This construction and arrangement of the parts can be easily provided for in the manufacture of the ladder; but as one purpose of the improvement is to arrange, guide, and support in a simple and effective manner one or two movable hand-rails, which will serve to remove a source of danger when going to the top of the ladder, and, if desired, support a receptacle for tools, &c, it is evident that the guiding may be accomplished in several ways and that the arrangement of the pin and the recess in which it rests may be varied, while securing the results and advantages for which the improvement is designed.

Fig. 5 shows a modification in which a tubular or curved strip of metal E is used for the purpose of retaining the head or washer of a supporting-pin made to slide in the slot or slit *o* and rest at different points in the recesses *p*, so as to retain and support the hand-rails. The metallic strip E can be fixed to the side of a ladder already constructed, and it is also adapted for use on new ladders, if so desired.

The description given as to the structure

and details shown by the drawings is sufficient to enable others to make a practical application or use of the invention and to show its capability of modification.

It may be found desirable for the sake of compactness or other practical reasons to so arrange and construct the parts as to cause the hand-rails to move up and down on the inside of the side pieces instead of the outside, as shown, in which event the necessary changes of construction can readily be made. So, too, it is immaterial whether the supporting-pins be attached to the hand-rails, as shown, or to the side pieces, or to some attachment to the ladder. Other modifications may occur in practically constructing the ladder.

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

1. A step-ladder having a suitably-guided movable hand-rail alongside each of the main side pieces thereof and a receptacle secured to the upper end of said rails, the side pieces and adjacent hand-rails being provided, one of each with a pin and the others with recesses for receiving such pins, whereby said hand-rails and receptacle may be elevated and supported at a given height by bringing the pins by a lateral movement into the recesses.

2. A step-ladder having a movable hand-rail alongside one of the main side pieces thereof, said rail and side piece being provided, one with a pin, and the other with a slot for the same and also with one or more recesses receding from said slot, whereby the hand-rail may be guided by the pin and slot while being raised or lowered, and also supported at a given height by bringing the pin by a lateral movement into a recess therefor.

FRANK H. CORDUAN.

Witnesses:

HENRY T. BRENNAN,

H. T. BANNING.