

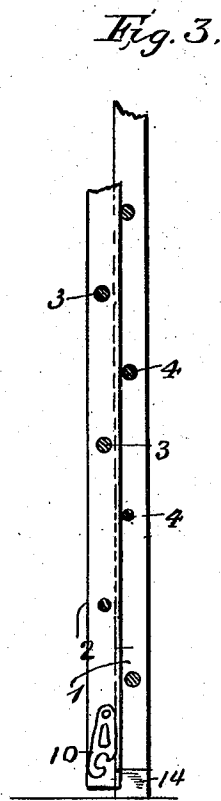
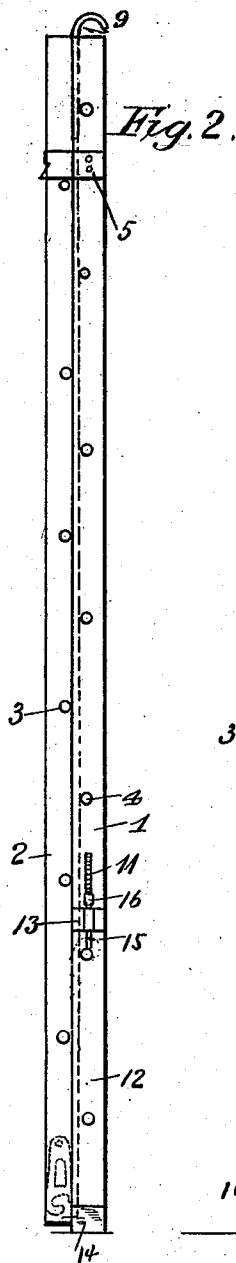
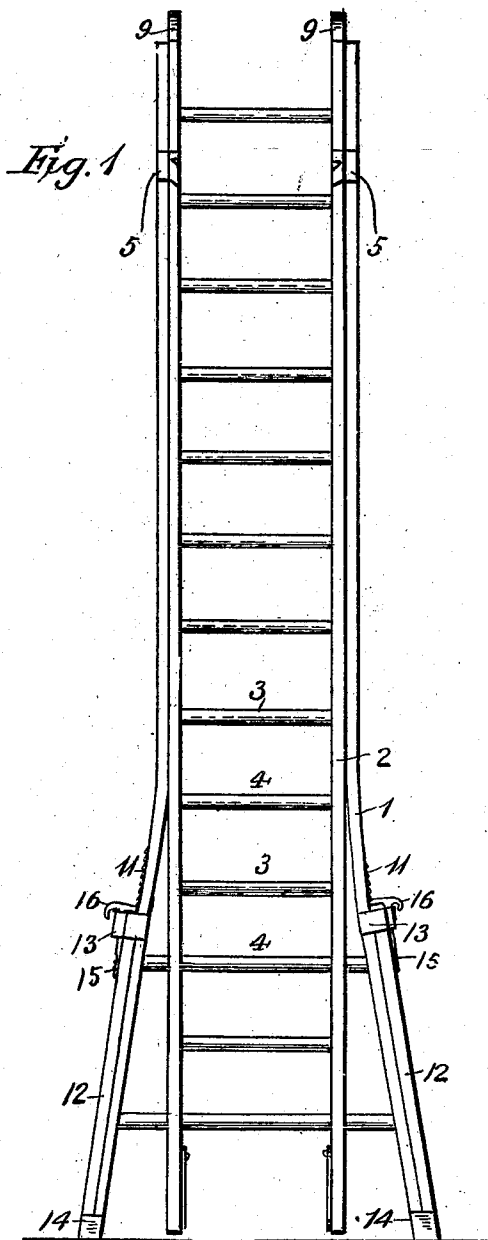
No. 858,839

PATENTED JULY 2, 1907.

H. UPTON.
LADDER.

APPLICATION FILED JAN. 7, 1907.

3 SHEETS—SHEET 1.



Inventor:
Harold Upton,

Witnesses:
W. F. McQuinn
Whitaker

By *Sam Rogers & Co.*
Attorneys

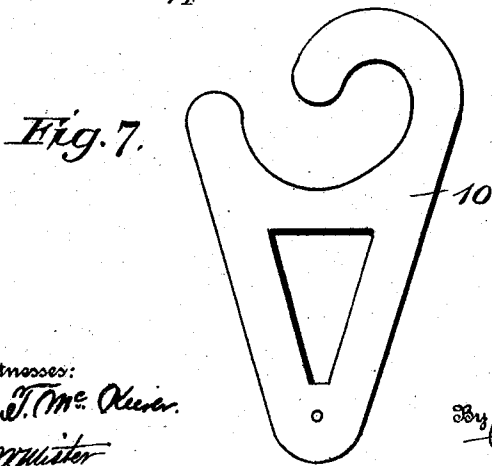
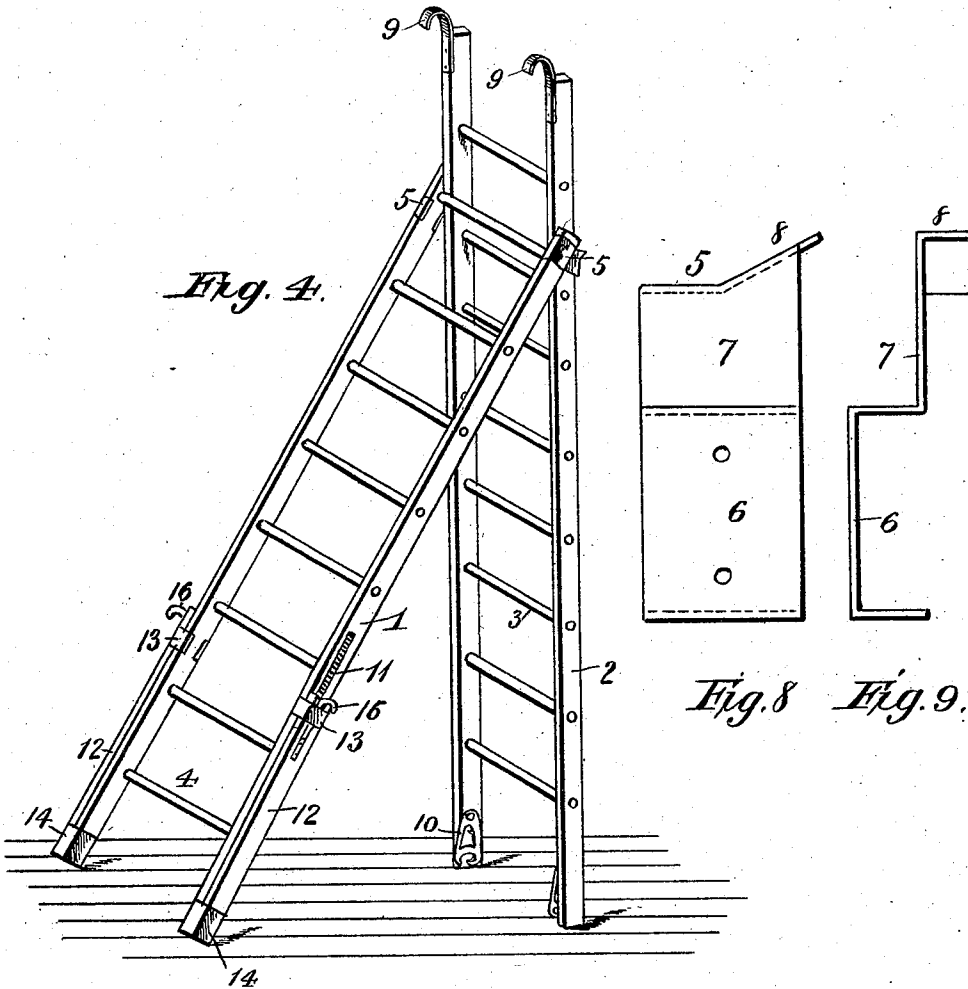
No. 858,839.

PATENTED JULY 2, 1907.

H. UPTON.
LADDER.

APPLICATION FILED JAN. 7, 1907.

3 SHEETS—SHEET 2.



Witnesses:
L. J. Mc. Kinn.
J. M. Winter

Inventor:
Harold Upton,

By *Sam. Rogers & Co.*
Attorneys

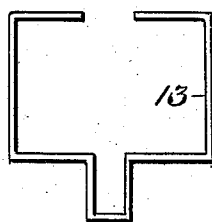
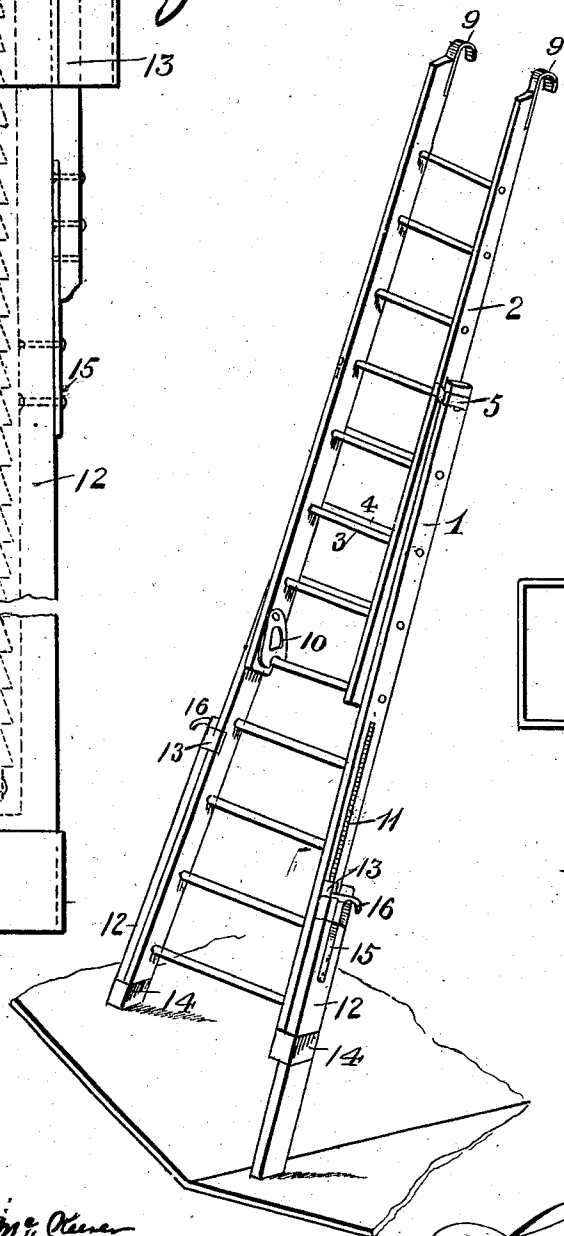
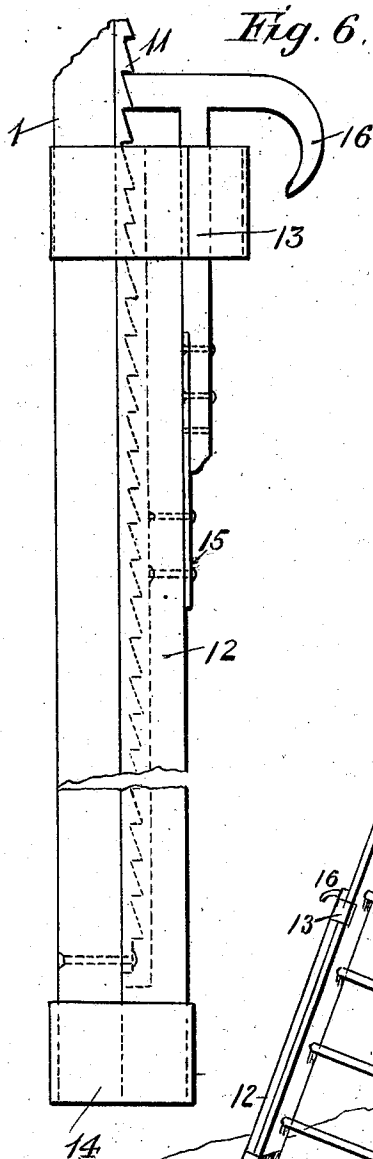
No. 858,839.

PATENTED JULY 2, 1907.

H. UPTON.
LADDER.

APPLICATION FILED JAN. 7, 1907.

3 SHEETS—SHEET 3.



Witnesses:
L. T. McQuinn
J. M. Miller

Inventor:
Harold Upton,

By *Sam. Bayne*
Attorney

UNITED STATES PATENT OFFICE.

HAROLD UPTON, OF HUDSON, WISCONSIN.

LADDER.

No. 858,839.

Specification of Letters Patent.

Patented July 2, 1907.

Application filed January 7, 1907. Serial No. 351,204.

To all whom it may concern:

Be it known that I, HAROLD UPTON, a citizen of the United States, residing at Hudson, in the county of St. Croix and State of Wisconsin, have invented certain new and useful Improvements in Ladders, of which the following is a specification.

My invention relates to improvements in step-ladders, convertible into the extension type. Its objects are, principally, to accommodate the ladder to various conditions as circumstances and environments may require, especially for the convenience or use of workmen; to insure safety and efficiency in the use of the ladder; and to promote simplicity of construction, economy of manufacture and facility in handling or manipulating the ladder.

Said invention consists of certain features or instrumentalities substantially as hereinafter fully disclosed and specifically pointed out by the claims.

In the accompanying drawings illustrating the preferred embodiment of my invention—Figure 1 is a view in front elevation thereof, with one ladder-section partially elevated. Fig. 2 is a side elevation, and Fig. 3 is a sectional elevation of the same. Fig. 4 is a perspective view of the ladder-sections differently assembled, as for paper-hangers' use particularly in readily working in corners of rooms. Fig. 5 is a view showing the ladder-sections as adjusted, especially when using the ladder in upright position upon a house-roof. Fig. 6 is a broken detailed side view disclosing more fully the ratchet and pawl or dog arrangement employed in connection with the ladder-sections. Fig. 7 is a detached side view of one of the rung-engaging hooks for superposing one ladder section upon the other. Figs. 8 and 9 are side and plan views of one of the couplings or brackets effecting connection between the ladder-sections. Fig. 10 is a plan view of one of the pawl or dog receiving keepers.

In carrying out my invention, I employ principally two ladder-sections 1, 2 whose rungs 3, 4, respectively, alternate and which ladder-sections are movably connected together by means of stepped brackets 5, each having one arm or step 6 practically a rectangle, one side being omitted, and embracing a lateral member of one ladder-section and suitably secured thereto. The other step or arm 7 of said bracket has a sleeve-terminal 8 receiving the opposite lateral member of the other ladder-section and is deflected downward and outward opposite the forward edge of the latter to allow the same to be moved away from the aforesaid ladder-section at the desired angle of inclination as in using the ladder, as well understood. This form of bracket, it will be noted, serves when the step-ladder sections are spread apart and with the lateral portions of one ladder-section resting upon the top rung of the opposite ladder-section as indicated in some of the views, to retain the same in such position, and yet,

when said ladder-sections are brought together, allows them to be slid one upon the other, as in forming an extension ladder thereof.

The upper ends of the lateral portions of one of the ladder-sections are equipped with hooks 9 which, among other purposes, may serve to remove or hold the ladder outward from the wall of the room when required for use therein, as in papering the same. Also said hooks may be effective for engagement with the ridge or upper edge of a gable or other roof for the retention of the ladder in place when it may be desired to rest it thereon in a prone position for use, as an improvised means for the safety of a workman, as in painting the wall of an adjoining house extending above said roof. The lateral portions of the same ladder-section are also equipped, near their lower ends, upon the inner sides, with peculiarly constructed pivoted hooks 10 effective for engagement with any desired rung of the opposite ladder-section as in forming an extension-ladder, which will be readily appreciated. Each hook has its engaging end-portion of practically arcuate outline, with the beak thereof curved well inward toward its central concaved surface and terminating quite closely to the opposite hook-terminal, space being left between said beak and the latter to just permit the passage of a ladder-rung and the effective retention thereof in the hook against its possible disengagement therefrom. The other ladder-section has its lateral members which preferably diverge outward and downward toward their lower ends equipped upon the outer sides with serrated or notched bars 11 suitably bolted thereto; and upon these ladder-section diverging portions are arranged slidable sections 12 forming legs or extensions as disclosed whereby either may be adjusted, as presently seen, to accommodate the foot of the ladder to an uneven surface, or inclination, as for use upon a house-roof, an example of which is above noted. Each leg-section or extension is coupled to the ladder-section by sleeves 13, 14 secured to the upper end of said leg-section and the lower end of said ladder-section, respectively as shown. Also having their flat spring-plate extensions 15 secured to said leg-sections, are pawls or dogs 16 preferably of hammer-head outline and adapted to engage the notches or serrations of the bars 11 for the retention in place of said leg-sections at the requisite points of adjustment. The sleeves 14 are provided with outstanding extensions or supplemental sleeves 16 which receive and guide the pawls or dogs 16 as the latter are sprung outward in disengaging them from the notched or serrated bars 11, as will be readily understood.

It will also be noted that these ladder-sections, as assembled herein, may be adapted for erecting staging by supporting the stringers or joist forming members of such staging upon opposite rungs of the ladder-sections. Also they may serve as supports for scaffolding

for paper-hangers' use, as will be apparent. These improvised uses, together with others, for which the ladder-sections may be appropriated are, of course, simply incidental to the invention, although of great
5 convenience and utility. It will be further noted that the adjustable leg-sections or extensions may be employed in connection with ladders of other type than the step-ladder class, or such of greater length, when required.

10 I claim—

A device of the character described, comprising ladder-sections, one having its lateral portions diverging downward and laterally at their lower ends and equipped with

slidable leg-sections, sleeves fixed to said diverging lateral portions and to said leg-extensions respectively, the sleeves 15 fixed to said lateral ladder portions having supplemental sleeve extensions, said ladder lateral portions also being equipped with notched or serrated bars and said slidable leg-extensions having pawls engaging said notched bars, said supplemental sleeve-extensions adapted to receive 20 said pawls as they are retracted or disengaged from said notched bars.

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

HAROLD UPTON.

Witnesses:

J. A. ANDREWS,
H. J. PENFIELD.