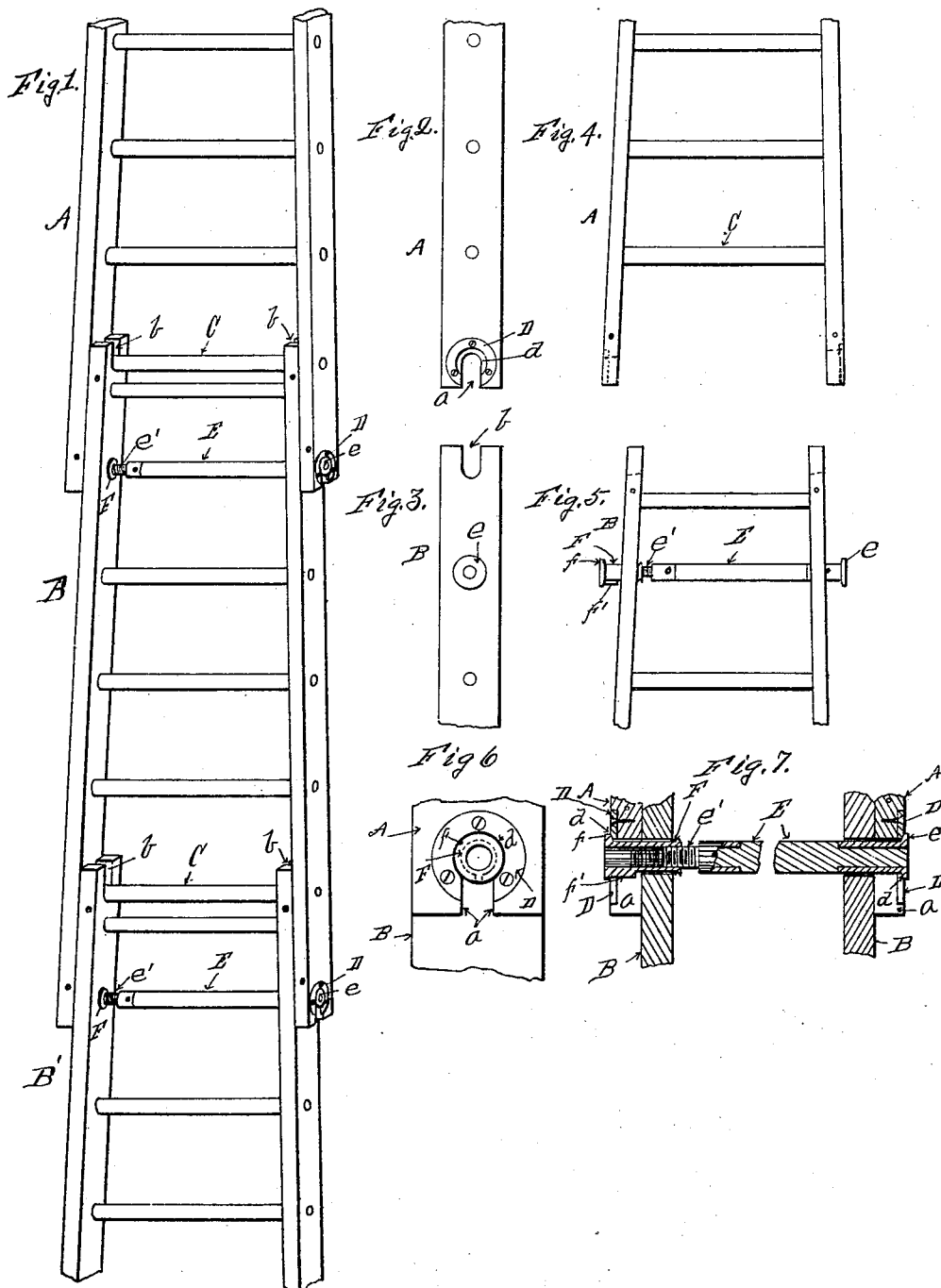


No. 700,690.

Patented May 20, 1902.

B. P. HOGAN.
SECTIONAL LADDER.
(Application filed Nov. 12, 1901.)

(No Model.)



Witnesses.
H. J. Ingram
G. J. Smith

Inventor
Bertice P. Hogan
By *H. J. Ingram*
Att'y.

UNITED STATES PATENT OFFICE.

BERTICE P. HOGAN, OF ERIE, PENNSYLVANIA, ASSIGNOR TO AMERICAN MANUFACTURING CO., A COPARTNERSHIP CONSISTING OF GLEN G. MEAD AND CHARLES W. SPENCER, OF ERIE, PENNSYLVANIA.

SECTIONAL LADDER.

SPECIFICATION forming part of Letters Patent No. 700,690, dated May 20, 1902.

Application filed November 12, 1901. Serial No. 82,013. (No model.)

To all whom it may concern:

Be it known that I, BERTICE P. HOGAN, a citizen of the United States, residing at Erie, in the county of Erie and State of Pennsylvania, have invented certain new and useful Improvements in Sectional Ladders; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, forming part of this specification.

My invention relates to improvements in sectional ladders, and particularly to mechanism for securing the sections of a ladder together, and has for its object the construction of mechanism for clamping the sections of a ladder together, so that said clamping mechanism has no removable or loose parts liable to become displaced and lost in the handling of the ladder-sections.

Heretofore in the construction of sectional ladders the clamping mechanism has been usually constructed so as to embody loose nuts adapted to be screwed up to clamp the sections of the ladder together, which nuts frequently become unscrewed and lost, thereby making the mechanism inoperative until they are replaced. To overcome this defect, I construct a clamping mechanism in the shape of a rung-section having a flange on one end thereof and a screw-thread on the other, and an internally-screw-threaded sleeve or thimble having a flange on the outer end thereof, into which the screw-threaded end of the rung extends, so that when the rung is rotated in one direction the parts are drawn together and when rotated in the opposite direction moved apart. These and other features of my invention are hereinafter fully set forth and described, and illustrated in the accompanying drawings, in which—

Figure 1 is a view in perspective of a sectional ladder embodying my invention. Figs. 2 and 3 are side views in elevation of portions of the upper sections therefor, detached from each other. Figs. 4 and 5 are front views in elevation of the same. Fig. 6 is an enlarged end view of the sleeve end of the clamping mechanism. Fig. 7 is a transverse section of

the clamping mechanism, securing the ladder-sections together.

In the drawings illustrating my invention, A B B' are three sections of a sectional ladder of the usual construction. In the upper ends of the sections B' B, I make U-shaped slots *b*, adapted to receive the lower ladder-rungs C of each superimposed section. The upper ends of each of said sections are also made narrower than the lower ends, so that they will slip together, as illustrated in Fig. 1. In the lower ends of the sections A and B, I also make U-shaped slots *a*, and on each of the outer faces of these slots I place a plate D, provided with a concave depression *d*. (Clearly shown in Figs. 2 and 7.)

Through the upper parts of the sections B and B' of the ladder I place a loose rotatable rung-section E, one end of which extends beyond the side of the ladder-section sufficiently to engage the U-shaped slot *a* at one side of the next upper section, and is provided with a beveled collar *e*, adapted to be drawn into the depression *d* in the plate D thereon. The opposite end of the rung-section E is provided with a screw-thread *e'*, which enters an internally-screw-threaded sleeve F, which forms the remainder of the rung and extends through the opposite side of the ladder-section, and is adapted to engage the U-shaped slot *a* at the other side of the upper section, and is provided with a beveled collar *f*, adapted to fit into the depression *d* of the plate D thereon. This sleeve F is also provided with a lateral lug *f'* to prevent its rotating in the slot *a*, so that when the sections are placed together and the rung-section E is rotated, so as to screw the screw-thread *e'* thereon into the sleeve F, the parts will be drawn together, so as to cause the collars *e* and *f* to enter the depressions *d* in the plates D on both sides of the ladder and firmly clamp the sections thereof together, and the reverse rotation of the section E of the rung will quickly relieve the sections, so that they can be taken apart. It will be readily seen that the parts E and F of the clamping mechanism are always attached to the ladder-sections and are not liable to become misplaced and lost in the handling of the ladder-sections and that the rung E F also forms a rung of the ladder the same as the other rungs therein.

Having thus described my invention so as to enable others to construct and use the same, what I claim as new, and desire to secure by Letters Patent of the United States, is—

5 1. The combination in a sectional ladder of one section the end of which overlaps the sides of the end of another section, a loose rotatable rung mounted on the telescoping section, a fixed collar on one end of said rung adapted
10 to engage one side of the overlapping section, and a fixed internally-screw-threaded non-rotatable collar on the opposite end of said rotatable rung adapted to engage the other side of the overlapping section, substantially as
15 and for the purpose set forth.

2. In a sectional ladder, the combination of overlapping ends having U-shaped recesses therein, recessed plates on the outer faces of said slots, a loose rotatable rung extending
20 through one side bar and having a collar on its outer end adapted to enter the recessed plate at one side of the latter section, and a screw-thread on its inner end, a non-rotatable sleeve extending through the other side bar
25 and having a collar on its outer end adapted to enter the recessed plate at the other side of the ladder-section, and an internal screw-thread on its inner end to receive the screw-

thread on the inner end of the loose rung, substantially as and for the purpose set forth. 30

3. The combination in a sectional ladder, of side-bar sections having slots *b* in their upper ends adapted to engage the round *C* in an overlapping section *A* provided with slots *a* in the lower end thereof, a countersunk plate *D* on
35 the outside of each of the slots *a*, a loose rotatable round *E* extending through and beyond one of the side bars of the section *B* and having a beveled collar *e* on its outer end adapted to enter the recess *d* on the plate *D*
40 at one side of the ladder-section *A*, and a screw-thread *e'* on its inner end, a non-rotatable sleeve *F* extending through and beyond the other side bar of the section *B* and having
45 a beveled collar *f* on its outer end adapted to enter the recess *d* on the plate *D* at the other side of the ladder-section *A*, and an internal screw-thread in its inner end adapted to receive the screw-thread *e'* on the loose rung *E*,
50 substantially as and for the purpose set forth.

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

BERTICE P. HOGAN.

Witnesses:

HAROLD M. STURGEON,
GLEN G. MEAD.