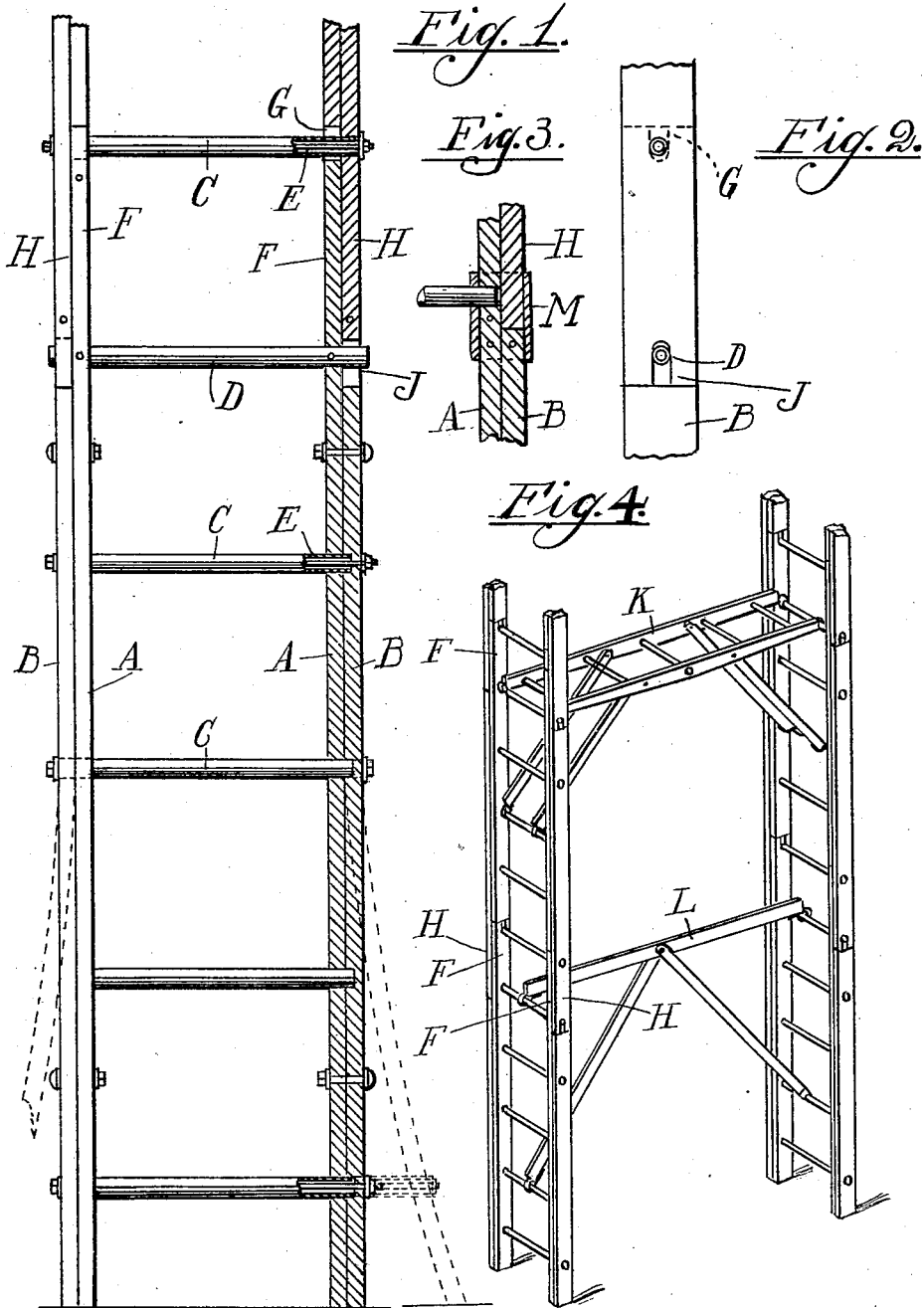


H. M. ACKLEY.  
SECTIONAL LADDER.  
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904,591.

Patented Nov. 24, 1908.



Witnesses:  
E. F. Wilson  
F. Schlotfeld

Inventor:  
Herbert M. Ackley  
By *Rudolph J. [Signature]*  
Attorney.

# UNITED STATES PATENT OFFICE.

HERBERT M. ACKLEY, OF CHICAGO, ILLINOIS.

## SECTIONAL LADDER.

No. 904,591.

Specification of Letters Patent.

Patented Nov. 24, 1908.

Application filed December 5, 1904. Serial No. 235,559.

*To all whom it may concern:*

Be it known that I, HERBERT M. ACKLEY, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, 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.

My invention relates to a novel construction in an extensible sectional ladder adapted for the ordinary uses to which ladders are applied, and which are particularly adapted for use in building temporary scaffolding for all purposes, the object being to provide a strong, durable and relatively light ladder which can be extended to any desired length and will safely support heavy weights, and consists in the features of construction and combinations of parts herein-after fully described and claimed.

In the accompanying drawings illustrating my invention: Figure 1 is a view partly in elevation and partly in section of a ladder constructed in accordance with my invention. Fig. 2 is a fragmentary detail elevation of the same. Fig. 3 is a fragmentary detail view in elevation showing a slightly modified form of construction. Fig. 4 is a perspective view showing the manner of building scaffolding with my said ladders.

Extensible sectional ladders require great strength and, furthermore, must be so made as to be easily coupled and uncoupled, but at the same time, when coupled, must be held rigidly in alinement so as to render them substantially as stiff as a single ladder to prevent swaying as far as possible. To these and other ends, my said ladder comprises the side bars each of which consists preferably of two pieces or bars A and B, preferably of wood, bolted or otherwise secured together, in which the rungs C and D are secured, the said rungs C passing through openings in the bars A and at their extreme ends entering recesses in the inner faces of the bars B. The said rungs are preferably made of gas-pipe or other tubing and through some of the same bolts E are adapted to pass which engage the outer faces of the bars B and serve to hold the latter and said bars A against spreading in an obvious manner. The said bars A of the

lowermost section of the ladder are of greater length than the bars B and project above the uppermost ends of the latter, and through said extended ends indicated by F the said rung D passes, the free ends of the latter projecting beyond the outer faces of said extensions F and said rung being disposed a short distance above the upper ends of the bars B. In their upper ends, said extensions F are provided with recesses G of a width equal to the diameter of said rungs C and D.

In the sections which are mounted upon the said lowermost section the said bars A and B are of the same length but are relatively offset or staggered so as to form the extensions F at one end and similar extensions H of the bars B at the other ends of said ladder sections, the said extensions H being provided in their ends with recesses J of greater depth than said recesses G in said extensions F and equal in width to the diameter of the rungs, the depth of said recesses J being slightly greater than the distance between the upper ends of said bars B and the farthest removed points in the periphery of the projecting ends of the rung D. The depth of the recess G is likewise greater than the distance between the lower ends of the bars A and the farthest removed point in the periphery of the lowermost rung C, so that when said rungs C and D are received in said recesses G and J respectively, the said bars A and B of an upper section will rest directly on the ends of the bars A and B of the next lower section and such bars will be held in proper relative positions by the said rungs C and D. It will also be noted that in mounting one section upon the other the recesses J will engage with the projecting ends of the rungs D before said recesses G engage the rung C of the upper section, thus enabling said upper section to be more easily mounted as will be obvious.

Instead of the recesses in the ends of the extensions F and H which engage the rungs to interlock adjacent sections with each other, it will be obvious that pockets may be provided as at M in Fig. 3, in which the ends of the extensions H are received, and where said pockets are employed the projecting ends of the rungs D are omitted.

I prefer to make the side bars of two pieces rather than a single piece of double thickness for the reason that two pieces are

relatively stronger than one and more convenient in the manufacture of said ladders as will be obvious.

5 To form a scaffold, the ladders are set up parallel with each other and are connected by means of cross-braces K and L in a well known manner.

10 As shown in dotted lines in Fig. 1, the bars B of the lowermost section may be bent to increase the width of such section at its base for obvious reasons.

I claim as my invention:

15 1. In sectional scaffolding, sectional ladders each having double side-bars, the two members of each side bar being staggered with relation to each other to provide single projections at each end of the ladder, the ends of the members of each side bar constituting end supporting surfaces disposed  
20 at different elevations adapted to support the ends of the corresponding members of the side bars of the next adjacent section, the end rungs of said ladders passing through the projecting portions of said side bar  
25 members and being adapted to engage the end portions of the projecting portions of the side bar members of the adjacent sections to maintain the same in relative alinement.

30 2. In sectional scaffolding, sectional ladders each having double side-bars, the two members of each side bar being staggered with relation to each other to provide single projections at each end of the ladder, the  
35 ends of the members of each side bar constituting end supporting surfaces disposed at different elevations adapted to support the ends of the corresponding members of the side bars of the next adjacent section,  
40 the end rungs of said ladders passing through the projecting portions of said side bar members and the free ends of said projecting portions of said side bar members being provided with longitudinal recesses

adapted to receive and engage said end 45 rungs of adjacent sections to maintain the same in relative alinement.

3. A sectional ladder comprising a plurality of units each having double side bars relatively offset to form extensions at both 50 ends of said unit, said extensions being provided at their ends with recesses adapted to engage rungs of the next adjacent units, one rung of each unit extending through the free ends of one pair of said side bars and providing projections to enter the recesses of 55 the other pair of said side bars of the next adjacent section.

4. A sectional ladder consisting of a plurality of separable ladder sections each comprising two pairs of side bars secured together and relatively offset to form double side bars and projections of single thickness at each end of same, said projections being provided in their ends with recesses, said recesses in one pair of said projections being deeper than the recesses in the other pair thereof, a rung passing through one pair of said projections adjacent the ends of the other pair of said side bars and adapted to 70 engage the recesses in the free ends of the corresponding pair of side bars of the next adjacent ladder section at their outer ends, a rung secured in the projecting end portions of the other pair of side bars of said section 75 at the other end of the latter and adjacent the ends of the first-named pair of said bars, the distance between the said inner ends of said pairs of bars and said adjacent rungs being less than the respective depths of the 80 recesses receiving said rungs.

In testimony whereof I have signed my name in presence of two subscribing witnesses.

HERBERT M. ACKLEY.

Witnesses:

RUDOLPH WM. LOTZ,  
F. SCHLOTTFELD.