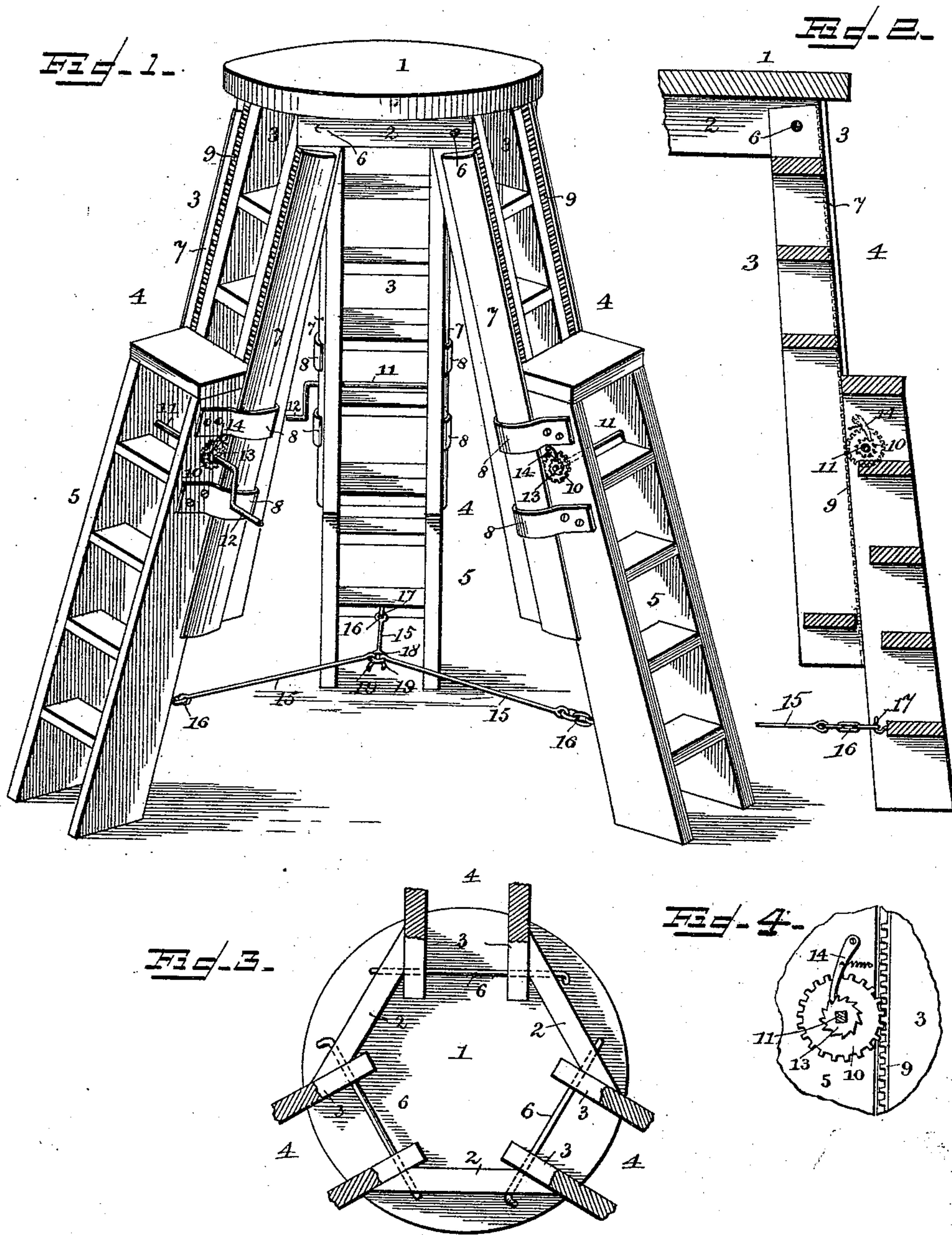


(No Model.)

I. H. ODOM.  
EXTENSION LADDER.

No. 461,366.

Patented Oct. 13, 1891.



Witnesses

Chas. H. Ourand

*H. F. Riley*

Inventor

Isaac H. Odom

By his Attorneys,

*C. A. Snow & Co.*



# UNITED STATES PATENT OFFICE.

ISAAC H. ODOM, OF OAKESDALE, WASHINGTON.

## EXTENSION-LADDER.

SPECIFICATION forming part of Letters Patent No. 461,366, dated October 13, 1891.

Application filed April 11, 1891. Serial No. 388,536. (No model.)

*To all whom it may concern:*

Be it known that I, ISAAC H. ODOM, a citizen of the United States, residing at Oakesdale, in the county of Whitman and State of Washington, have invented a new and useful Extension-Ladder, of which the following is a specification.

The invention relates to improvements in extension-ladders.

The object of the present invention is to simplify and improve the construction of extension step-ladders and to enable the platform at the top to be arranged at a great height with perfect safety and to provide means whereby they may be conveniently manipulated.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is a perspective view of an extension step-ladder. Fig. 2 is a vertical sectional view. Fig. 3 is a reverse plan view. Fig. 4 is a detail view.

Referring to the accompanying drawings, 1 designates a circular platform, which has secured to its lower face triangularly-disposed bars 2, provided with beveled ends and arranged at intervals across the platform near the edge of the same and forming recesses and having pivoted within their ends the upper sections 3 of extension-ladders 4. The extension-ladder 4 is composed of sections 3 and 5, and section 3 has its upper end hinged by a rod 6, which passes through perforations of the bars 2 and the upper end of the section 3 and is adapted to be removed when it is desired to separate the extension-ladder from the platform. The sections 3 and 5 of the extension-ladder 4 slide on each other, and the section 3 is provided on the outer faces of its sides with cleats 7, which are engaged by hooks 8, constructed of flat metal and secured to the outer faces of the other sections near the top thereof. The sections, which may be two or more, are adjusted by means of rack-bars 9, arranged on the outer edges of the sides of the upper section, and cog-wheels 10, mounted on a shaft 11 and arranged to engage the rack-bars. The shaft 11 is journaled in suitable bearings of the

lower section and is provided at one end with a crank-handle 12. The cog-wheels 10 are provided with integral ratchet-wheels 13, which are engaged by spring-actuated pawls 14, whereby the sections are secured at any point of adjustment.

The ladders are braced and are prevented from slipping outward by stay-rods 15, each of which is provided at one end with an eye, and links 16 are attached to the eye and are adapted to engage hooks 17 on the rear edges of steps of the lower section. One of the rods is provided at its other end with an eye 18, and the other rods are provided with hooks 19 to engage the eye 18. The links enable the stay-rods to be adjusted to the positions of the sections of the ladders.

The extension-ladders and platform form a tripod, and the base or outer ends of the lower sections are considerably beyond the edge of the platform, which brings the latter greatly within the center of gravity at every point, thereby enabling extension step-ladders to be constructed of great length with perfect safety. The extension step-ladder may be mounted on suitable running-gear and made portable.

From the foregoing description and the accompanying drawings the construction, operation, and advantages of the invention will readily be understood.

What I claim is—

1. An extension step-ladder comprising the circular platform 1, the bars 2, triangularly disposed on the lower face of the platform and arranged at intervals, the extension-ladders composed of sections and hinged between the bars 2, and means for securing the sections in their adjustment, substantially as described.

2. An extension-ladder comprising the circular platform, the bars secured to the lower face of the same, the extension-ladders hinged to the bars and composed of an upper section provided with rack-bars, the lower section sliding on the upper section, shafts journaled in suitable bearings, cog-wheels mounted on the shafts and arranged to engage the rack-bars, and the pawls and ratchets, substantially as described.

3. An extension step-ladder comprising the circular platform, the bars 2, secured to the lower face of the same, the extension-ladders hinged to the bars and composed of an upper

section provided with cleats arranged on its  
sides and the lower section provided with  
hooks engaging the cleats, the rack-bars at-  
tached to the upper sections, the shafts jour-  
5 naled in suitable bearings of the lower sec-  
tions, cog-wheels mounted on the shafts, and  
pawls and ratchets, substantially as described.

In testimony that I claim the foregoing as  
my own I have hereto affixed my signature in  
presence of two witnesses.

ISAAC H. ODOM.

Witnesses:

JAMES A. HUNTER,  
W. TALBOTT.