

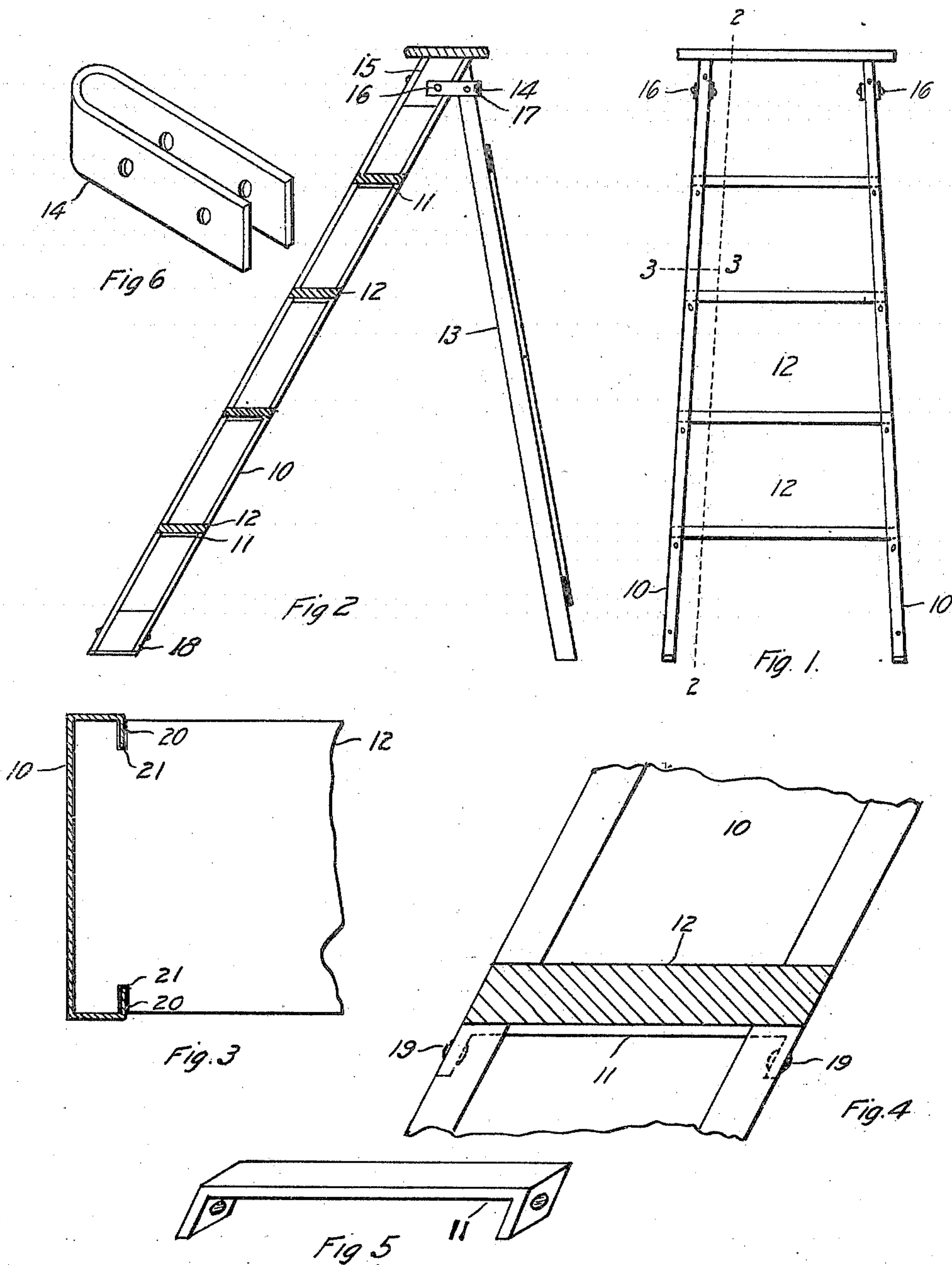
W. R. MATHES.

STEP LADDER.

APPLICATION FILED NOV. 12, 1908.

951,406.

Patented Mar. 8, 1910.



WITNESSES  
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# UNITED STATES PATENT OFFICE.

WESLEY R. MATHES, OF SPOKANE, WASHINGTON.

## STEP-LADDER.

951,406.

Specification of Letters Patent.

Patented Mar. 8, 1910.

Application filed November 12, 1908. Serial No. 462,206.

*To all whom it may concern:*

Be it known that I, WESLEY R. MATHES, a citizen of the United States, residing at Spokane, in the county of Spokane and State of Washington, have invented certain new and useful Improvements in Step-Ladders, of which the following is a specification.

This invention pertains to step-ladders and has for its object to provide a step-ladder that is light in weight, durable and substantial.

A particular feature of the ladder is its construction without the use of nails or screws, thereby overcoming many weaknesses in the art of constructing step-ladders.

The ladder stiles are made of sheet metal and so constructed as to be of great strength and to assist in retaining the ladder steps in their proper places. A bracket riveted to the ladder stiles transversely of the same underneath each step serves to retain the steps and furnishes a base for the same. A clevis shaped metal coupling serves to unite the ladder back or brace with the main portion of the ladder and will be given further consideration hereinafter.

In the drawings, Figure 1 is a front view of the ladder, Fig. 2 is a sectional view of the same taken on the dotted line 2—2 of Fig. 1, Fig. 3 is a sectional view taken on the dotted line 3—3 of Fig. 1, Fig. 4 is an enlarged view of a brokenaway portion of Fig. 2, Fig. 5 is an enlarged view of the bracket underneath the steps, and Fig. 6, is an enlarged view of the clevis shaped coupling uniting the rear or back of the ladder with the main portion thereof.

The front stiles 10 of the ladder are formed of sheet metal bent to channel form with the edges 20 bent inwardly and the edges of the steps 12 are notched to receive these inwardly bent edges. The construction of the stiles as above specified gives them great strength and the points thereof 20 serve the added purpose of assisting in holding the steps 12 in position, the points 20 being inserted in notches 21 cut into the steps 12.

Underneath each step 12 is a bracket 11

secured transversely of the ladder stiles 10 and to the same by means of the rivets 19. This bracket 19 serves as a support to the steps 12.

To the foot of each ladder stile is secured a block 18 which gives added support and strength to the ladder.

The metal coupling 14 is secured to the back 13 of the ladder near the top thereof by means of the bolt or rivet 17 and to the main portion of the ladder by means of the bolt or rivet 16 passing through the said coupling and the ladder stiles 10 near the top thereof.

A block 15 is secured to the ladder stiles 10 near the top thereof through which also the bolts or rivets 16 pass. The arrangement of this block 15 as shown gives added strength and rigidity to the ladder and furnishes a body to which the top step of the ladder may be secured.

It will be noticed that the clevis shaped coupling 14 provides a support for the rear stiles 13 of the ladder as regards the same being set to too great an angle and no rope or other connection between the front and rear of the ladder is necessary.

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

1. A ladder with the front stiles formed of sheet metal bent to channel form with the edges bent inwardly and the edges of the steps notched to receive these inwardly bent edges, substantially as described.

2. A step ladder with the front stiles formed of sheet metal bent to channel form with the edges bent inwardly, the edges of the steps notched to receive these inwardly bent edges and brackets supporting the steps underneath the same, substantially as described.

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

WESLEY R. MATHES.

Witnesses:

G. M. SLETTA,  
E. E. ADAMS.