

(No Model.)

E. ROW.

LADDER.

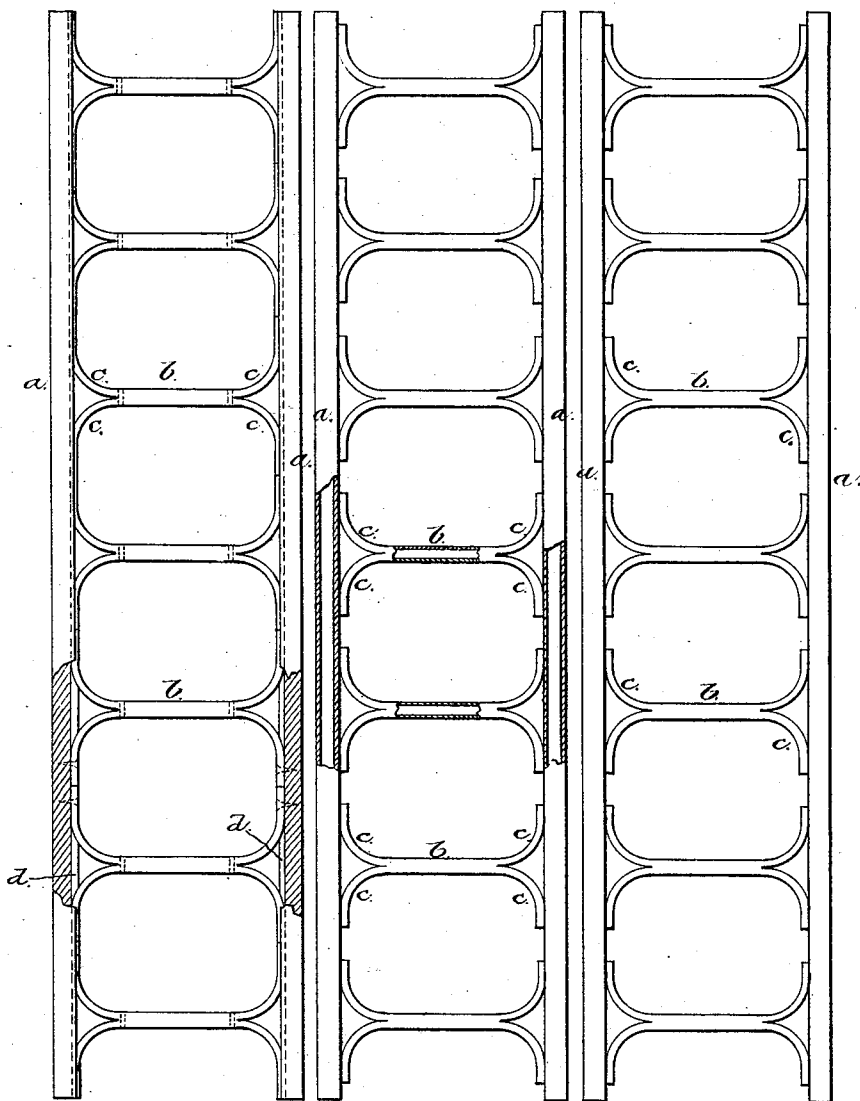
No. 247,416.

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Fig. 1.

Fig. 2.

Fig. 3.



WITNESSES

John A. Ellis.
Philip C. Mason.

INVENTOR

Edward Row,
by Anderson Smith
his ATTORNEYS

UNITED STATES PATENT OFFICE.

EDWARD ROW, OF INDIANA, PENNSYLVANIA.

LADDER.

SPECIFICATION forming part of Letters Patent No. 247,416, dated September 20, 1881.

Application filed July 23, 1881. (No model.)

To all whom it may concern:

Be it known that I, EDWARD ROW, a citizen of the United States, resident of Indiana, in the county of Indiana and State of Pennsylvania, have invented a new and valuable Improvement in Ladders; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a side view of my invention made of wood. Fig. 2 is a view of the same made of metal, and Fig. 3 is a similar view made of both wood and metal.

This invention relates to improvements in ladders; and it consists in the construction and novel arrangement of parts, as hereinafter set forth.

The object of this invention is the production of a ladder in which the rounds are inserted without boring holes through the sides.

In the annexed drawings, the letters *a* represent the sides, and letters *b* the rounds, of the ladder. These rounds have the ends split, as shown, forming branches *c*, by which the rounds are secured to the sides.

In putting the parts together the sides are preferably grooved, as shown at *d*, and in these sides the branches *c* are placed and secured.

This ladder may be made of wood or metal,

or both. Fig. 1 represents it made of wood. The rounds have a metal band or rivet placed at the proper point near each end, and there the ends are split, bent, and steamed until they take the proper shape. In this form the branches are given such length that when the rounds are in place the ends of the branches of one round meet the ends of the branches of the next round, thereby forming a firm continuous brace throughout the entire length of the ladder.

Fig. 2 represents a ladder made of metal. In this form the sides and rounds are metal tubes, and the rounds are made in branched form at the ends and secured.

Fig. 3 represents a ladder made with wooden sides and metal rounds, the latter being made as before described.

These constructions involve the production of a ladder which can be readily taken apart for packing and one in which a broken part can be renewed without separating the whole structure.

What I claim is—

1. The combination of the sides *a* with the rounds *b*, having the branches, as set forth.

2. The combination of the grooved sides with the rounds having the branches, as set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

EDWARD ROW.

Witnesses:

WM. BRILHART,
J. A. THOMPSON.