G. H. FOX.

Adjustable Ladder-Truss.

No. 204,962. Patented June 18, 1878.

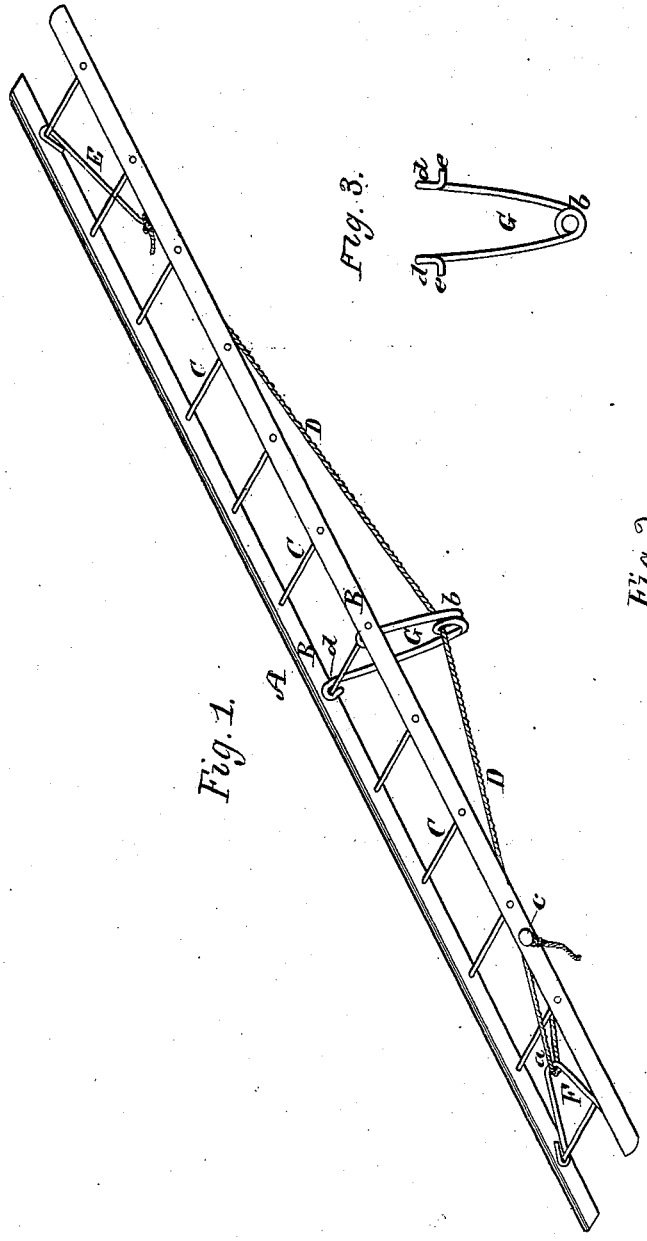

Fig. 1.

Fig. 3.

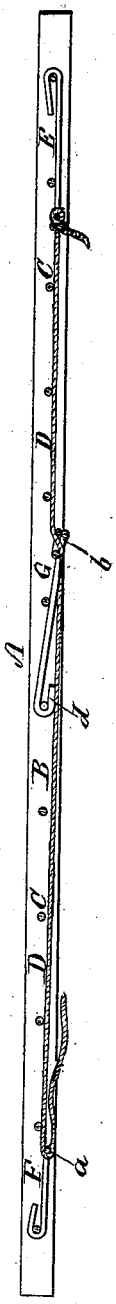

Fig. 2.

Witnesses.
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UNITED STATES PATENT OFFICE.

GEORGE H. FOX, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN ADJUSTABLE LADDER-TRUSSES.

Specification forming part of Letters Patent No. **204,962**, dated June 18, 1878; application filed March 30, 1878.

To all whom it may concern:

Be it known that I, GEORGE H. FOX, of Boston, in the county of Suffolk and State of Massachusetts, have invented new and useful Improvements in Adjustable Truss for Ladders, of which the following is a specification:

This invention relates to means for stiffening and strengthening long ladders, by providing them with an adjustable truss, which may be applied or removed very expeditiously, and which occupies very little space when not in use.

The invention consists in the employment of a rope or its substitute, provided with suitable means for attaching it to or removing it from the ladder in an expeditious manner, and in a strut or brace, to be also attached to the ladder, and serving to maintain the rope at the desired distance from the latter, to obtain a truss by which the ladder is stiffened.

The drawings accompanying this specification represent, in Figure 1, a perspective elevation of a ladder provided with my invention, and in Fig. 2 a longitudinal section of the same. Fig. 3 is a view of the brace, to be explained.

In these drawings, A represents a ladder of any ordinary construction, the side rails or supports of which are shown at B B, and its "rounds" at C C, &c.

In carrying out my invention I provide a rope, D, of wire or other proper material, and to one end of this rope I secure a hook, E, which is adapted to hook over and take a secure hold upon one of the rounds of the ladder, and in use this hook is to be secured to the round nearest one end of the ladder.

To the opposite end of the ladder, and clasping the last round thereat, I employ a second hook, F, and through the eye or bend *a* of such hook I pass the free end of the rope, while intermediate between the ends of the ladder and at about its center I affix a brace, G, which, when in active use, stands out at right angles to the body of the ladder, and has an eye, *b*, at its end, through which the rope passes.

The rope, secured to one end of the ladder, as stated, and passing through the eye of the brace G, is drawn very taut, and its free end, after passing through the loop or hook F, is made fast by belaying it about a pin or stud, *c*, affixed to the adjacent part of the ladder, or in any suitable manner.

The brace G serves to maintain the central portion of the rope at the proper distance from the ladder; and in this manner I provide an efficient truss, which very greatly stiffens and strengthens such ladder.

The brace and its hooks E and F are readily detachable from the ladder, if desired; but when such ladder is not in active use, they are to be folded flat down upon it, as shown in Fig. 2 of the drawings, and thus do not add to the bulk or size of the latter.

The entire truss, composed of the rope D, hooks E and F, and brace G, may be removed from one ladder and applied to another easily and expeditiously. In order that the brace G may be turned down upon the ladder, when the latter is not in use, I form each end with a hook, *d*, to clasp the round of the ladder, while the extremity of each hook I bend at right angles, as shown at *e* in Fig. 3 of the drawings, which find a bearing against the edges of the side rails of the ladder, and serve to hold the brace at right angles to the body of the ladder against the pressure or strain of the rope, which would tend to crowd it down upon the ladder. When the ladder is not in use, the ends of the brace are crowded together until the ears *e* are released from the sides of the ladder, when the brace may be folded down upon the ladder, as shown in Fig. 2 of the drawings.

I do not confine myself to the precise construction of parts as herein shown and described, as these may be easily varied without losing sight of the principle of my invention, which I consider to embrace the combination, with a ladder, of an adjustable truss.

Having thus described the nature and purposes of my invention, I claim as my invention, and desire to secure by Letters Patent of the United States, the following:

1. A ladder-truss consisting of a rope or its equivalent means, for attaching the end of the same to the ladder, and an intermediate strut, the whole adapted for ready application to and removal from any ordinary ladder, and

adjustable to varying lengths of ladders, substantially as set forth.

2. The hooks E and F and brace G, as adapted to fold down upon the body of the ladder, substantially as and for purposes stated.

3. The hooks E and F and brace G, as adapted to fold down upon the body of the ladder, and readily removable from the ladder, substantially as and for purposes stated.

4. The brace G, as formed with the hooks *d d* and ears *e e*, substantially as and for purposes stated.

GEO. H. FOX.

Witnesses:
F. CURTIS,
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