

No. 680,428.

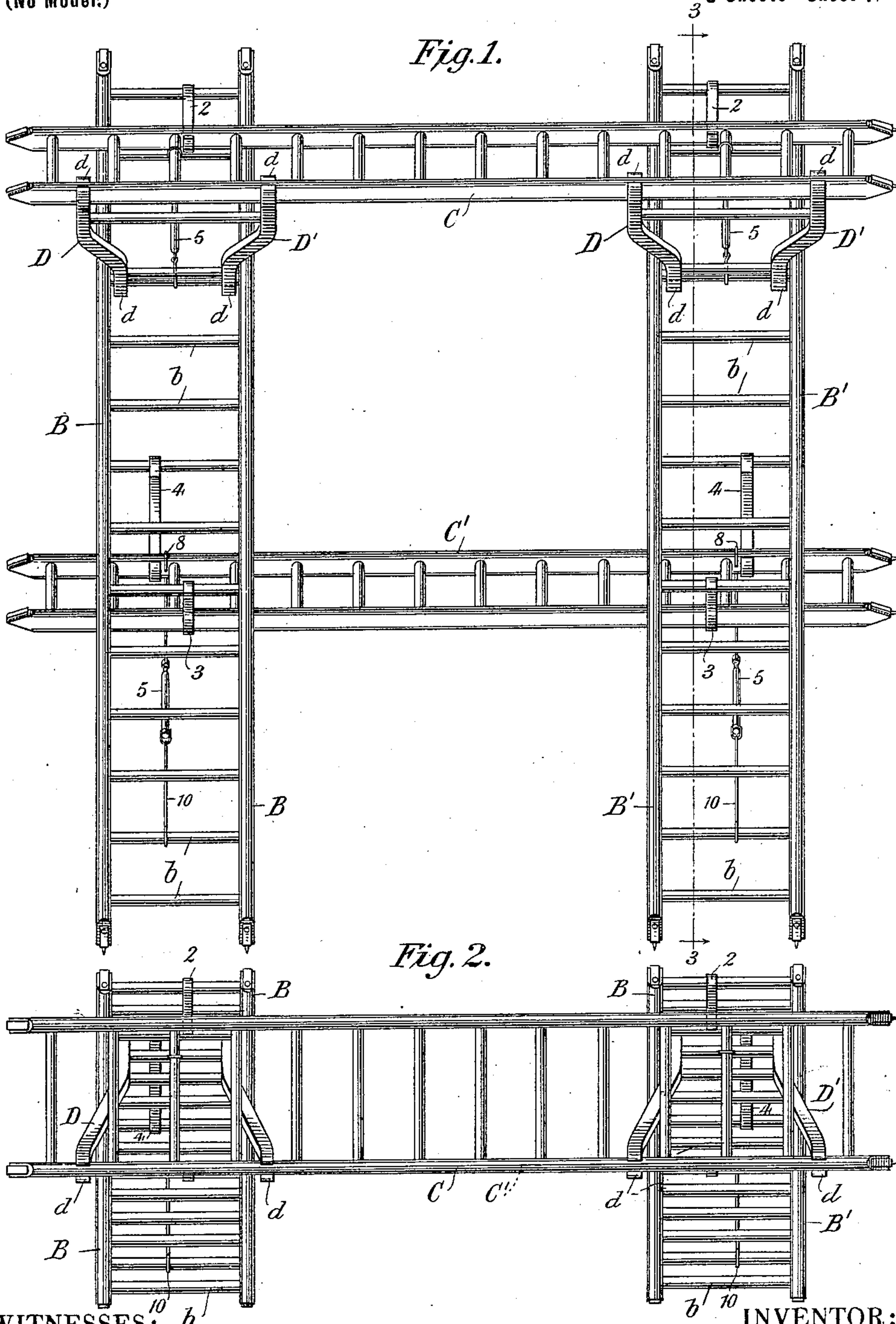
Patented Aug. 13, 1901.

H. D. CARRYL.
LADDER.

(Application filed Dec. 21, 1899. Renewed Mar. 18, 1901.)

(No Model.)

3 Sheets—Sheet 1.



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Charles Engel

INVENTOR:
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By his Attorney
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Fig. 3.

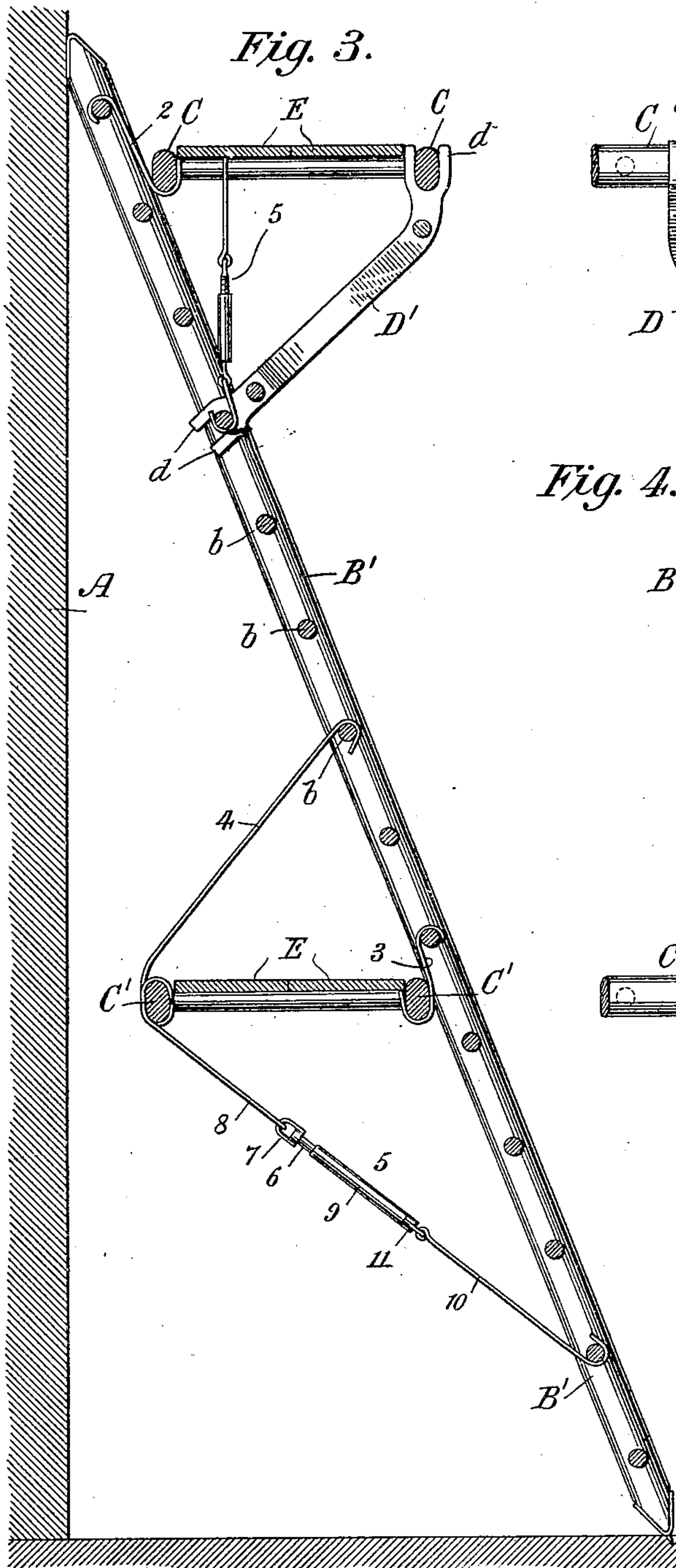
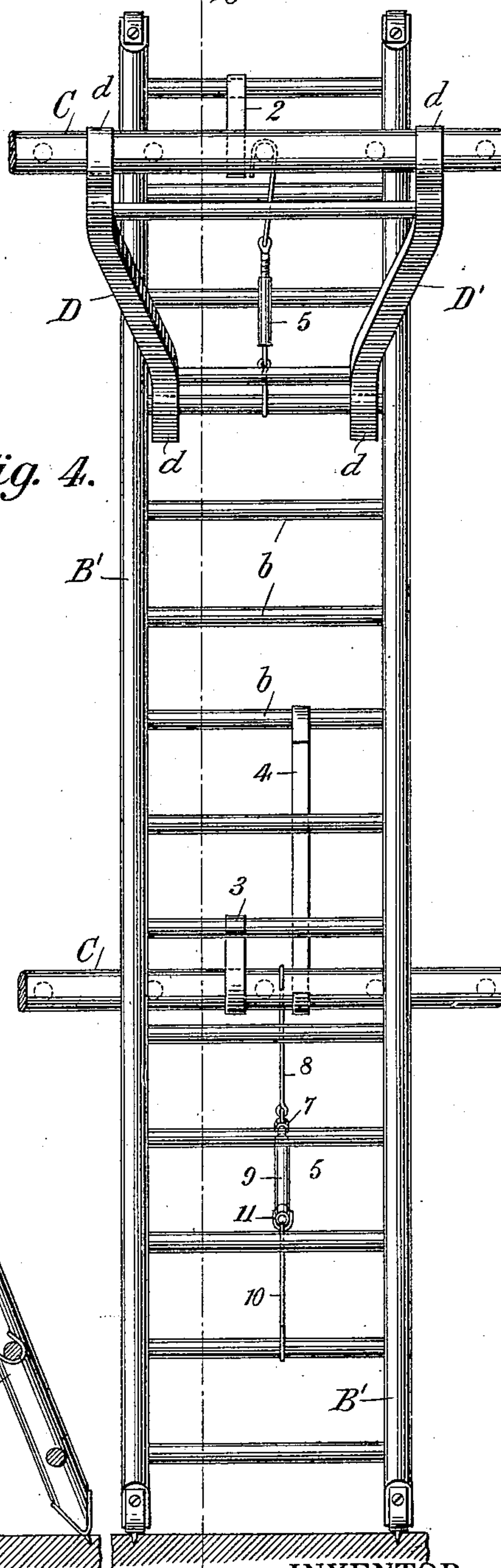


Fig. 4.



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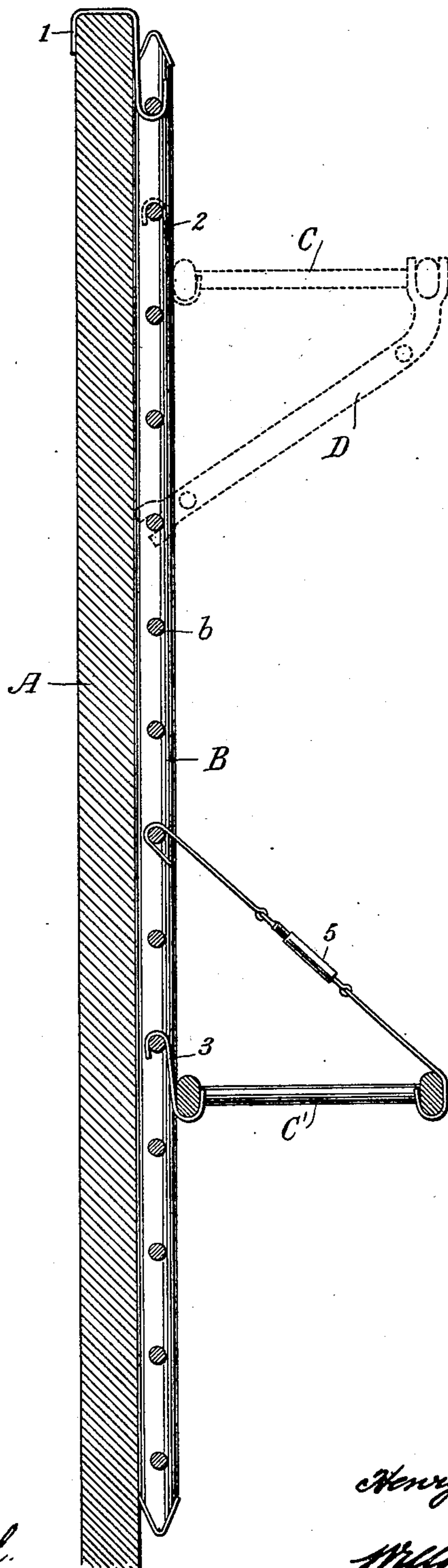
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3 Sheets—Sheet 3.

Fig. 5



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UNITED STATES PATENT OFFICE.

HENRY DELANO CARRYL, OF NEW YORK, N. Y., ASSIGNOR TO JAMES R. HAY, OF NUTLEY, NEW YORK.

LADDER.

SPECIFICATION forming part of Letters Patent No. 680,428, dated August 13, 1901.

Application filed December 21, 1899. Renewed March 18, 1901. Serial No. 51,768. (No model.)

To all whom it may concern:

Be it known that I, HENRY DELANO CARRYL, a citizen of the United States, and a resident of the borough of Manhattan, city, county, and State of New York, have invented a new and useful Improvement in Ladders, of which the following is a specification.

My invention relates to improvements in scaffolds for use in connection with all classes of completed or uncompleted construction, and primarily to that class of scaffolds which are used for the purposes of cleaning or painting surfaces in place.

It consists of a method or system of arranging ladders by means of convenient attachments and what are called "turnbuckles," in such a way as to make a series of independent scaffolds which may be adjusted from time to time in any particular position in reference to the surface to be treated, as may be necessary and convenient.

The invention will be best understood by reference to the accompanying two sheets of drawings, forming a part of this specification, in which—

Figure 1 is a front view of the scaffold set up, slightly in perspective. Fig. 2 is a plan view of the scaffold shown in Fig. 1. Fig. 3 is a side elevation, shown in section on an enlarged scale, and is taken on the line 3 3, Fig. 1. Fig. 4 is a front elevation of Fig. 3, showing the section-line 3 3 in this figure also.

Similar characters refer to similar parts throughout the views.

Letter A represents in each case a side of a ship, wall, or other surface in place.

B and B' represent two ordinary ladders of convenient size and construction, provided with a series of rungs *b b*, placed at any convenient distance apart. In the arrangement shown in Fig. 3 the ladders are placed at an angle to the surface A in place, and in the form shown in Fig. 5 they are suspended against the surface or wall A by means of a suitable hook 1, attached, as therein shown, to the upper rung of the ladder. These ladders are termed "supporting-ladders." The scaffold or platform proper is composed of one or more auxiliary horizontal ladders C and C'. These ladders are hereinafter termed "auxiliary" ladders. In Fig. 1 an arrange-

ment of scaffold with two such ladders is shown; but any convenient number may be employed. The upper auxiliary ladder C is arranged, as will be apparent from Fig. 3, on the outer surface of the supporting-ladders B and B', and the lower auxiliary ladder C' is arranged upon the inner surface of the ladders B and B'. The upper auxiliary ladder is supported at either end from beneath by means of two brackets D and D', provided at the lower extremity with the notches *d* and *d'*, which are respectively fitted over any one of the rungs *b b* of one of the supporting-ladders B and B' and at the upper end larger notches to fit under the outer side piece of the ladder C, thus supporting the outer side of the ladder C at either end, as shown in Fig. 1. The inner side of the ladder C is attached to the appropriate rung of the ladders B and B' at either end by means of the hooks 2. (Shown in Fig. 3.) By these means the upper auxiliary ladder C can be arranged to be held in a horizontal position on any two rungs of each of the supporting-ladders B and B', and consequently at any desired height.

According as the scaffold C is set upon the lower rungs of the supporting-ladders B and B' it will necessarily be moved farther away from the surface to be treated, and obviously a point will be necessarily reached when it will no longer be convenient to operate from it. Hence the second auxiliary ladder C' is employed, which is of the same shape and is attached on the inner side of the ladders B and B' by being in this case suspended at its inner side by means of similar hooks 3 to appropriate rungs of the supporting-ladders and is held in position at its outer side by means of the hooks 4 of an appropriate size and length to enable the auxiliary ladder C' to be held horizontally by it and by the hooks 3 when attached to any desired rungs of the supporting-ladders B and B', instead of by means of the brackets D and D'. The only difference between the two constructions is that the auxiliary ladder C is supported from below on the outer faces of the supporting-ladders on the outer side, while the auxiliary ladder C' is suspended on the inner faces of the supporting-ladders by its outer side from above.

For the purpose of securely fastening both of the ladders in both forms of construction shown turnbuckles 5 are provided, which are attached at one end to an appropriate rung 5 and at the other end to the outer side of the auxiliary ladder and serve to more firmly hold the ladders in position. These turnbuckles are of the common form and provided with hooks at either end. When the sleeve or nut 10 of the turnbuckle is rotated in the proper direction, the hooks are drawn toward each other, thus drawing the auxiliary ladder down firmly in its supports and holding the different elements of the scaffold together. After 15 the ladders have been arranged as shown by Figs. 1, 3, and 5 planks or boards E may be laid on top of them, and in this manner a firm and readily adjustable and easily movable form of scaffold may be set up. When 20 it is desired to shift the platforms, the turnbuckles 5 are released and the bracket D and D and the hooks 3 and 4 are respectively shifted to the next lower rung on the ladder or the next upper rung, as the case may be, and in 25 this way the platforms may be readily raised or lowered, as desired.

The construction requires that at least a pair of supporting-ladders shall be used, except where the auxiliary ladders are very 30 short. The scaffolds may be set up in pairs or in sets of three or more, and any number of auxiliary ladders may be employed, of any convenient length, set at any convenient positions which will enable the work to be ac- 35 complished.

After the scaffold is set up and locked by the turnbuckles it may be moved to any convenient position without being taken apart.

I claim as my invention—

40 1. The combination of supporting-ladders arranged in sets so as to assume an appropriate position with reference to a surface in place; an auxiliary ladder arranged to be held horizontally at any desired height on the sup- 45 porting-ladders; S-hooks for attaching the inner sides of the auxiliary ladder to convenient rungs on the supporting-ladders and a bracket notched at both ends to support the

outer side of the auxiliary ladder so as to hold it in a horizontal position and a turnbuckle 50 for drawing and locking the various parts together after being set up as described.

2. The combination of supporting-ladders arranged in sets so as to assume an appropriate position with reference to a surface in 55 place; an auxiliary ladder arranged to be held horizontally at any desired height on the supporting-ladders; S-hooks for attaching the inner sides of the auxiliary ladder to convenient rungs on the supporting-ladders, a 60 bracket notched at both ends to support the outer side of the auxiliary ladder so as to hold it in a horizontal position; and turnbuckles for drawing and locking the various parts together after being set up as described. 65

3. The combination of supporting-ladders arranged in sets so as to assume an appropriate position with reference to a surface in place; an upper auxiliary ladder arranged to be held horizontally, at any desired height on 70 outer face of supporting-ladder; S-hooks for attaching said auxiliary ladder to convenient rungs on the supporting-ladder; a bracket provided with a suitable notch at either end for holding the outer side of the auxiliary lad- 75 der in a horizontal position; a lower auxiliary ladder arranged to be held horizontally on the inner faces of the supporting-ladders, short S-hooks for attaching the inner side of the auxiliary ladder to convenient rungs on 80 the supporting-ladders, longer hooks for attaching the outer sides of the auxiliary ladder to appropriate rungs of the supporting-ladders so as to hold the former in a horizon- 85 tal position and turnbuckles for drawing and locking the parts together after being set up substantially as described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 19th day of Decem- 90 ber, 1899.

HENRY DELANO CARRYLL.

Witnesses:

WILLARD PARKER BUTLER,
CHARLES ENGEL.