

I. Williams.

2 Sheets, Sheet 1.

Hay Rack.

No 97142

Patented Nov. 23 1869.

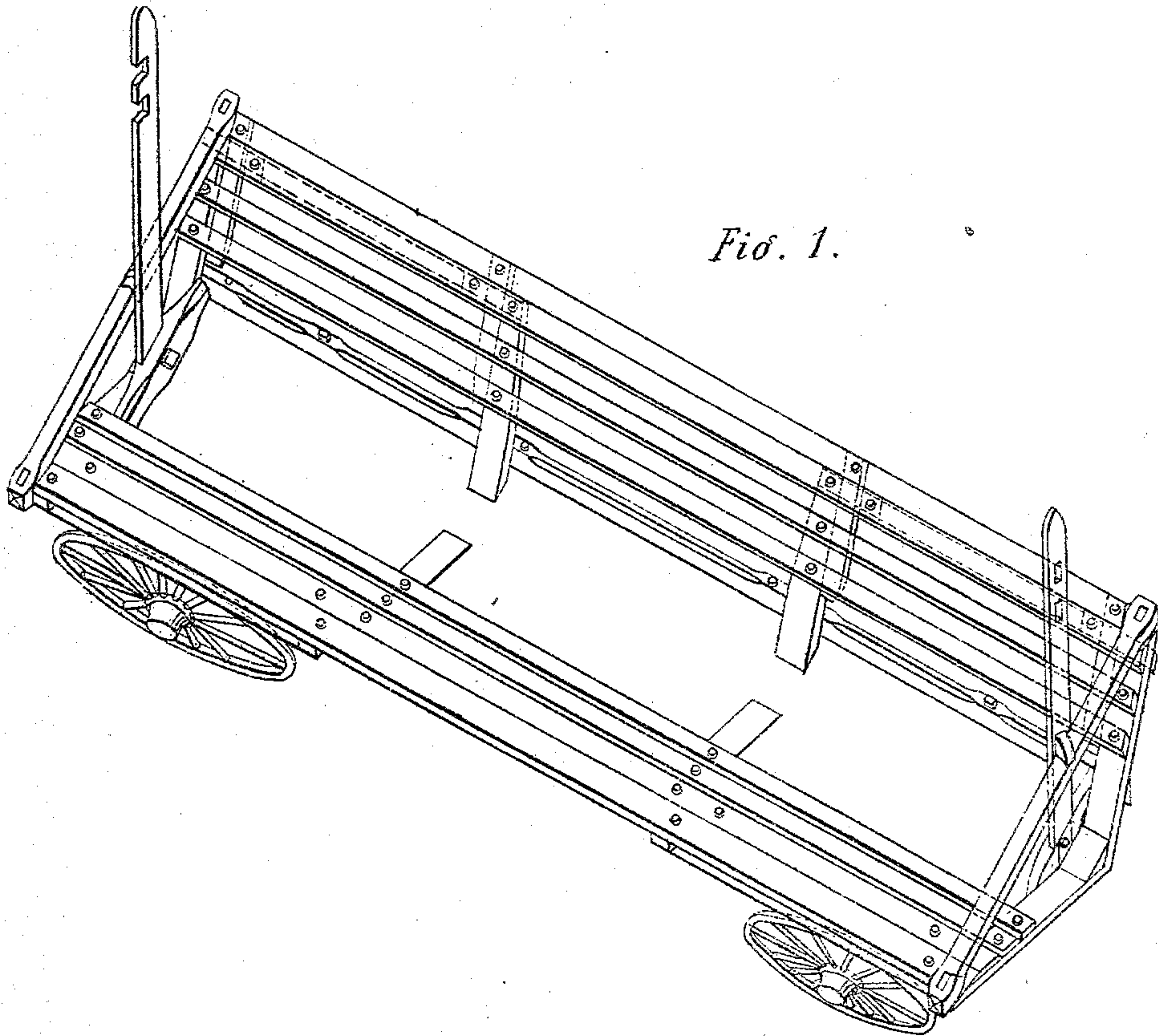
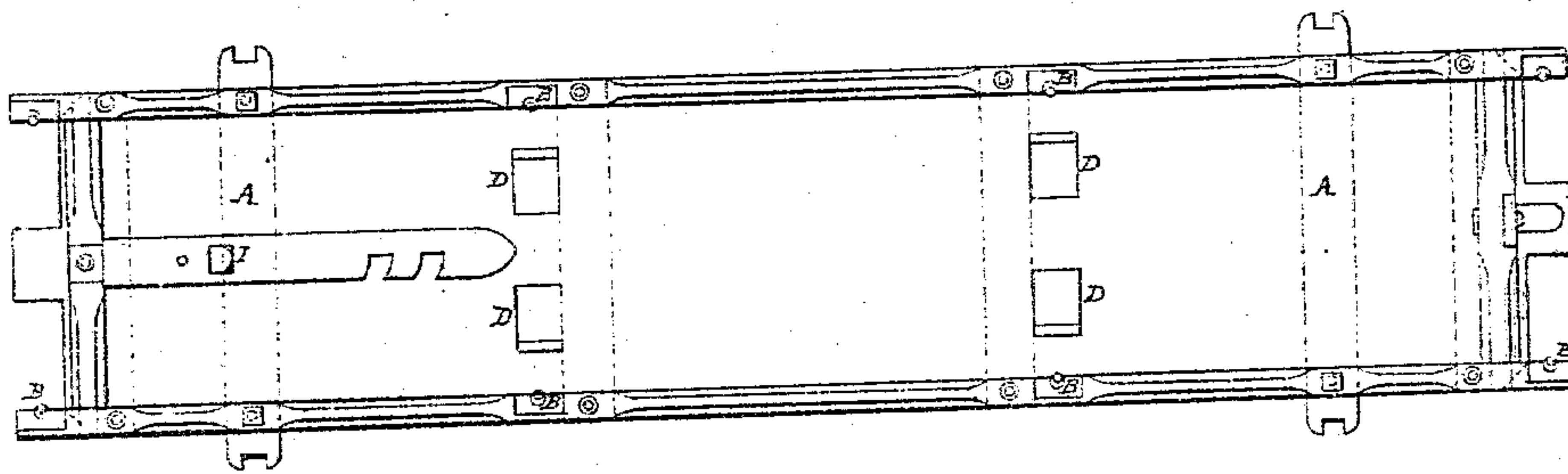


Fig. 1.

Fig. 2.



Witnesses
S. R. Harris
Alfred Maxey

Isaac Williams

I. Williams.
Hay Rack.

No 97142.

Patented Nov. 23/1869.

Fig. 3.

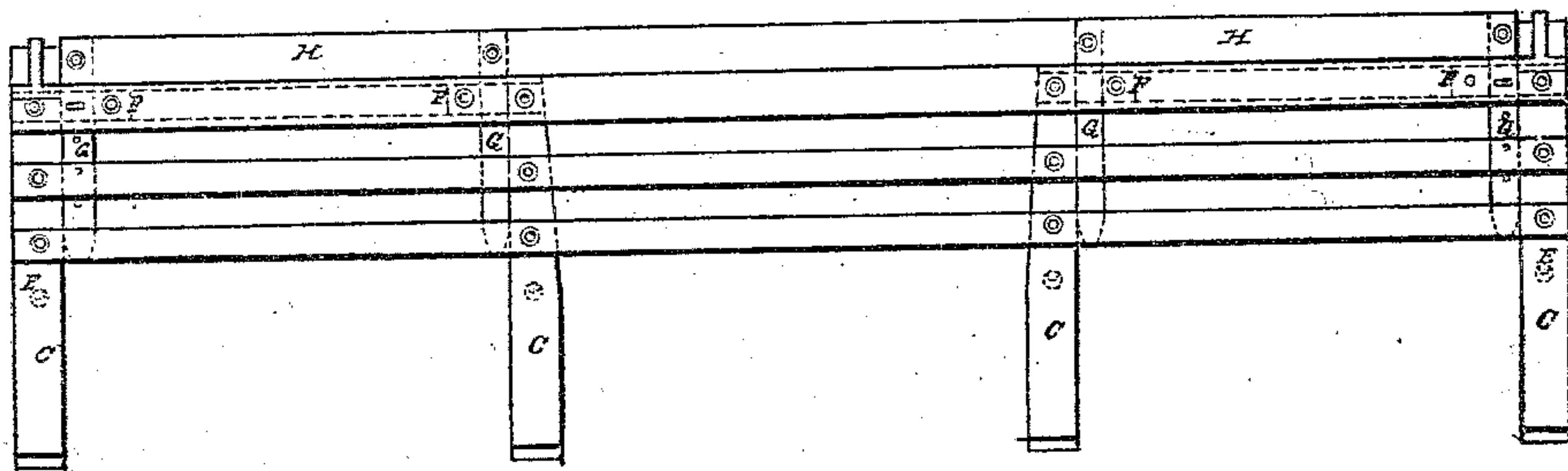


Fig. 4.

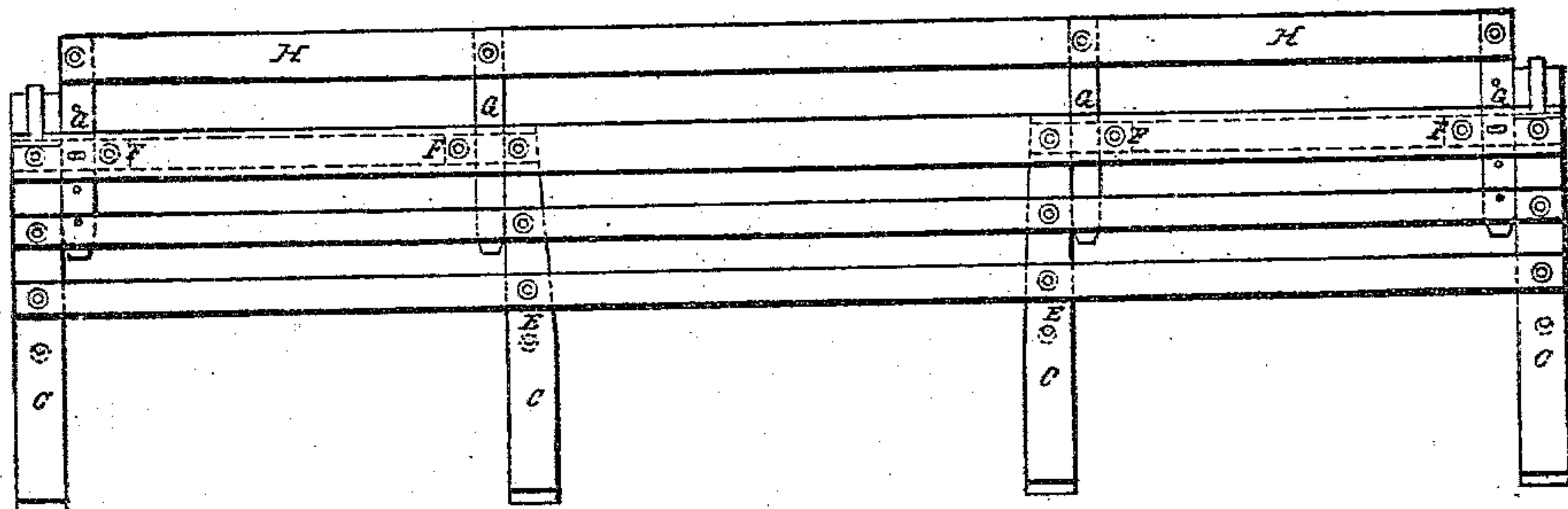
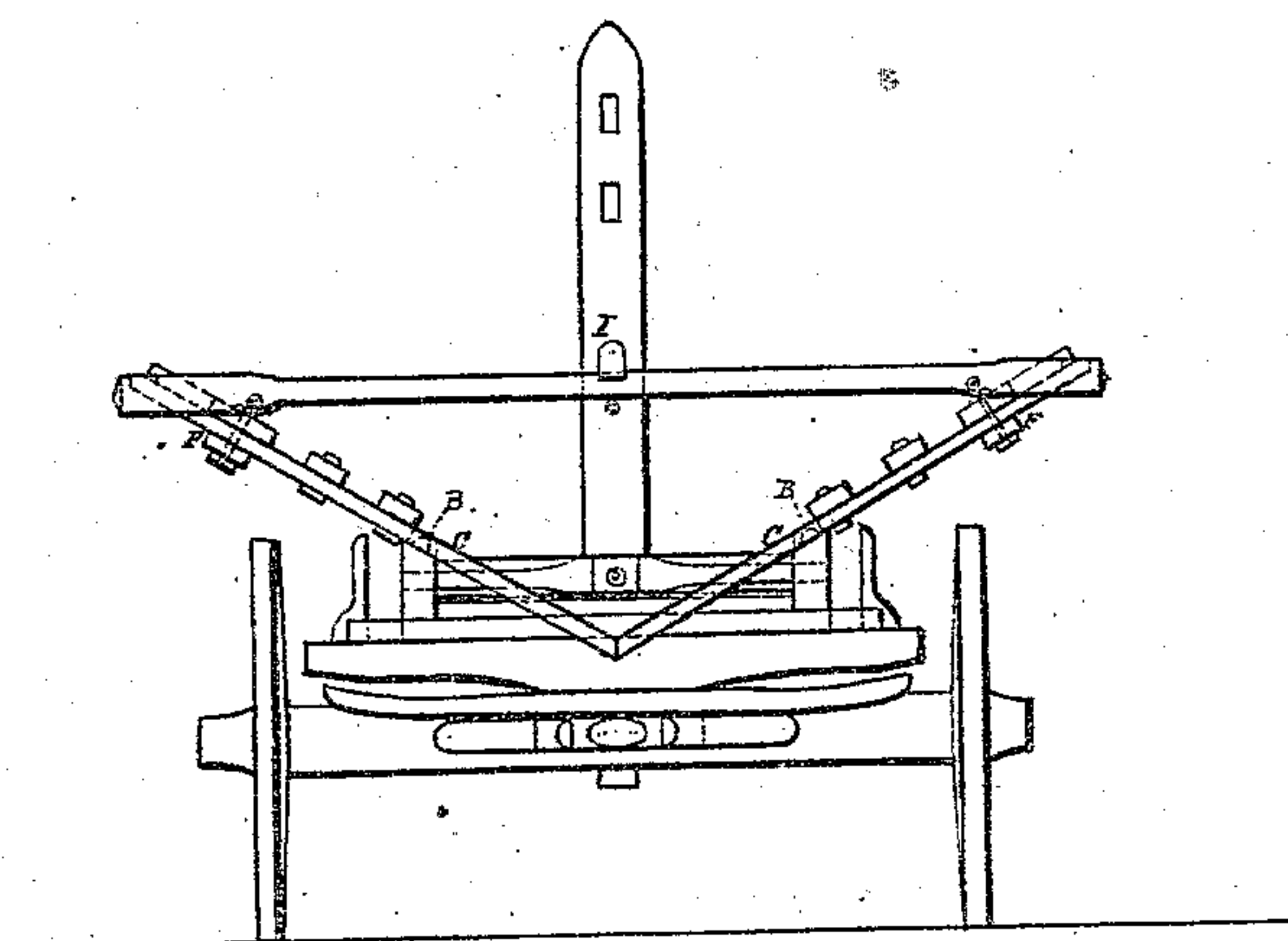


Fig. 5.



Witnesses.

H. R. Harris

Alfred H. Harey

Isaac Williams

United States Patent Office.

ISAAC WILLIAMS, OF BUCYRUS, OHIO.

Letters Patent No. 97,142, dated November 23, 1869.

IMPROVED WAGON-LADDER.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, the undersigned, ISAAC WILLIAMS, of Bucyrus, in the county of Crawford, in the State of Ohio, have invented a new and improved Wagon-Ladder; and I do hereby declare 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, in which—

Figure 1 is a perspective view of the ladder in its position on the wagon.

Figure 2 is a view of the bottom, with pivoted posts for the binding-pole.

Figure 3 is the inside view of one side of the ladder.

Figure 4 is an inside view of the same, with the upper slat extended.

Figure 5 is a view of the clamps, holding the two sides of the ladder.

The bottom of my ladder is constructed with two side pieces of studding, of ordinary size, and a length to suit the wagon, set and bolted on cross-ties, having at each end pivoted posts, with slots and notches of the ordinary kind, to hold the binding-pole, to secure the grain or hay when loaded. The bottom is usually tight, to retain grain, when shelled in handling the unthreshed straw.

The two cross-ties above the axles of the wagon, at A, fig. 2, have notched ends, extended to fit around the standards of the bolsters on which the ladder rests, as shown in the drawings, thus securely holding the same to its position.

At B, fig. 2, on each of the studding side pieces aforesaid, are dowel-pins, to retain to their places the posts C of the sides, figs. 3 and 4.

Rectangular holes are made at D, fig. 2, through which to introduce the lower ends of said posts C, of each of said wings, figs. 3 and 4.

I construct the sides or wings aforesaid as follows:

C C C C, of each of said sides, are posts, the lower ends mitred, so as to fit together under the bottom, fig. 2, when set through said holes at D, fig. 2.

Higher up on said posts, at E, of each of said posts, are holes, to receive said dowel-pins at B, fig. 2.

Above said holes are attached, by nails or bolts, the parallel and open slats of the sides of my ladder.

Near the upper ends of said posts are wooden staples, at F, in which slide the tongues G of the upper slats H H, as shown in the drawings.

The tongues of each end of said upper slats H H are perforated with graduated holes, as shown in the drawings.

A hole is also bored in the outer staples F, afore-

said, by which means said upper slats H may be raised or lowered, to enlarge or diminish the capacity of the ladders at pleasure, and the same is secured by pins inserted in said holes through the outer tongues and staples aforesaid, as shown in the drawings.

On the upper end of the posts, at each end of said sides, figs. 3 and 4, is a tenon, on which said clamps, fig. 5, are set, by means of corresponding mortises at each end of said clamps, fig. 5.

Said clamps are held still more firmly to their position by pins, at I, of the pivoted posts, shown in fig. 2.

Having placed the ladder together, as described, it is held securely to its position by the devices aforesaid.

Between the standards of the wagon-bolsters and the bottom of the ladder is sufficient space to carry loosely the binding-pole, ready to be used when a load of hay or grain has been pitched on the ladder, thus obviating the inconvenience of sending to the starting-point in a field for the pole, as required by former methods.

By the use of my device, aforesaid, the bottom is constructed narrow, so as not to interfere with short turning, as in former methods.

By means of the extension-slats, aforesaid, said ladder may be enlarged so as to be useful to farmers and others as a rack, in which to haul empty barrels when gathering and putting up fruit in orchards, and all other occasions of like character.

By means of the several parts aforesaid being separately constructed, said ladder may be readily taken asunder and laid aside, or hung upon pins alongside of a farmer's barn, under shelter, thus saving the room required for the shelter of all former wagon-ladders, which are in bulk, and, for that reason, generally left exposed to the weather.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination, in a wagon-ladder, of the following devices: First, a tight bottom, having rectangular holes to receive posts of the wings or sides of the ladder, having dowel-pins to insert in holes in the posts of said wings, and having slotted cross-ties fitting to the bolsters and standards of wagons, substantially as set forth; second, wings, having for their support posts, with bevelled lower ends, supporting each other, with the tenoned-end posts held by mortised clamps, substantially as set forth.

ISAAC WILLIAMS.

Witnesses:

S. R. HARRIS,
C. G. MALIC.