

J. P. McCANDLESS.

Improvement in Construction of Step-Ladders.

No. 132,212.

Patented Oct. 15, 1872.

Fig. 1

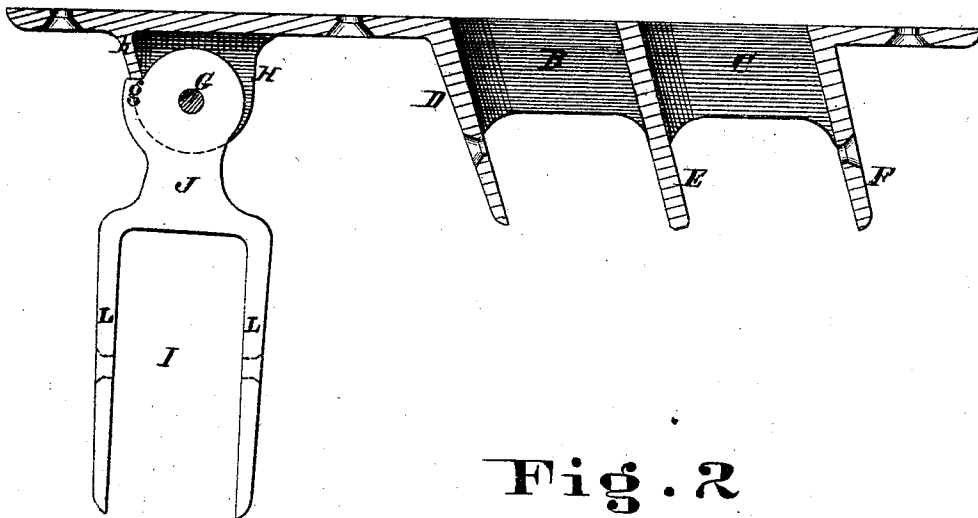
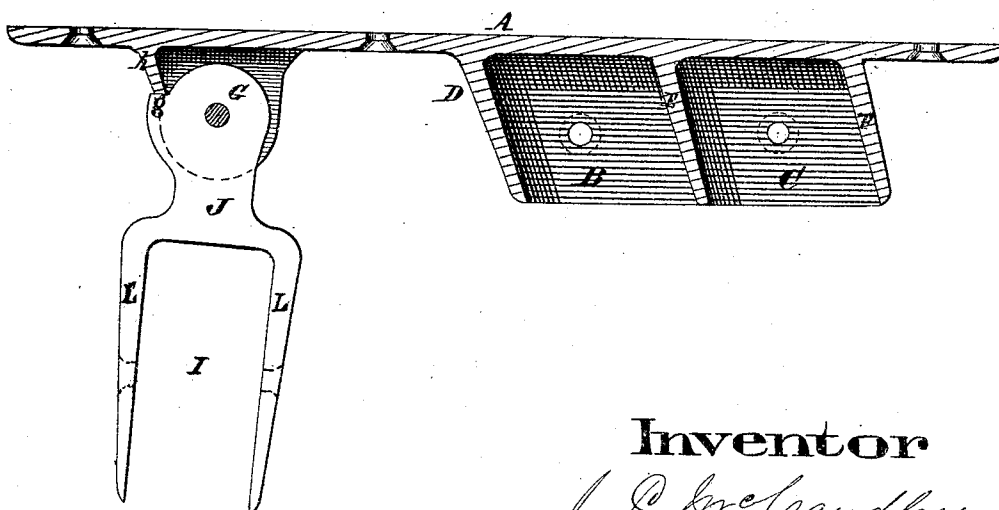


Fig. 2



Attest

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UNITED STATES PATENT OFFICE.

JOSEPH P. McCANDLESS, OF CINCINNATI, OHIO.

IMPROVEMENT IN THE CONSTRUCTION OF STEP-LADDERS.

Specification forming part of Letters Patent No. 132,212, dated October 15, 1872.

To all whom it may concern:

Be it known that I, JOSEPH P. McCANDLESS, of Cincinnati, Hamilton county, State of Ohio, have invented certain Improvements in Socket-Bracket for Step-Ladders, of which the following is a specification:

This invention relates to the method of connecting the rear brace of the ladder to the bracket; and consists in constructing a socket-hinge with a projection upon the jaw, which jaw is pivoted to the brace in such a manner that the projection prevents the rear brace from opening further than is necessary to permit the brace to stand at the desired angle when the ladder is in position for use. The hinge is also provided with double straps to support the wooden brace, which is used on the rear of the ladder, all of which will be fully understood by reference to the accompanying drawing and the description of the same, in which—

Figure 1 is a vertical section of the bracket and hinge in position, as used when the ladder is set up. Fig. 2 is a vertical section of the same, but of a different form of construction.

The brackets, with the sockets and sides forming the mortises, are made of metal and cast in one piece. A represents the top of the bracket on which the step of the ladder is placed, and to which it should be firmly secured by screws. It should be of sufficient width to form sockets for the stiles, with the metal forming each side of the mortises of the same thickness as the other portions of the bracket. B C represent mortises or sockets for the stiles when made of two pieces, sprung so as to form arching braces. Fig. 1 shows these so formed that the stiles may project through the bracket. Fig. 2 shows the bracket with the mortises so made that a piece of metal intervenes between the stiles and the step of the ladder. D, E, and F, are straps, projecting down from the bracket A to form the brace and assist in supporting the stiles, forming mortises, as shown. The division E may be omitted. The shaded lines B C show the metal forming the sides of the sockets or mortises. Any form of wooden stile may be employed.

When the bracket is made as shown in Fig. 1, the stile is secured by screws passing through D and F into the stile. In Fig. 2 the stiles are fastened by screws passing through the sides of the bracket into the stiles. H is an ear, projecting down from the bracket, two of which are employed, of sufficient distance apart to form jaws for a hinge. h is a piece of metal connecting the jaws, and forming a stop for projection g. J is a double-strap hinge for attaching the rear brace of the ladder to the bracket. G is the neck of the hinge, working between the jaws H H. g is a projection cast on the neck G, which rests against the stop h when the brace is in position to support the ladder. This feature of my invention avoids the use of strings for connecting the rear brace with the ladder, to prevent the brace from opening too far when moving the ladder. L L are straps, cast with the hinge, and are of such distance apart as to permit the brace to fit the space I without cutting down the wooden brace which is fastened by means of screws or rivets, as shown.

It is obvious that the jaws H H may be made on the hinge J, and the neck of the hinge may project from the bracket, instead of the form here shown. The neck G may be connected to H by a screw, bolt, rivet, or any other suitable pivot of sufficient strength. The bracket here shown is much superior in strength to any other now in use, firmly connecting all the parts. The brace-hinge with the cam projection is superior in mode of connection, and more convenient than those in common use, combining both strength and simplicity.

Having described my invention, what I claim as new, is—

The bracket A, formed with the mortises B C and straps D, E, and F, in combination with the hinge G, projection g, ear H, and stop h, substantially as described.

In testimony whereof I have hereto set my hand this 11th day of June, 1872.

JOSEPH P. McCANDLESS.

Witnesses:

EDWARD BOYD,
O. P. LEWIS.