No. 708,670. Patented Sept. 9, 1902.

C. E. SEE.

LADDER.

(Application filed Jan. 18, 1902.)

(No Model.)

Fig. 1.

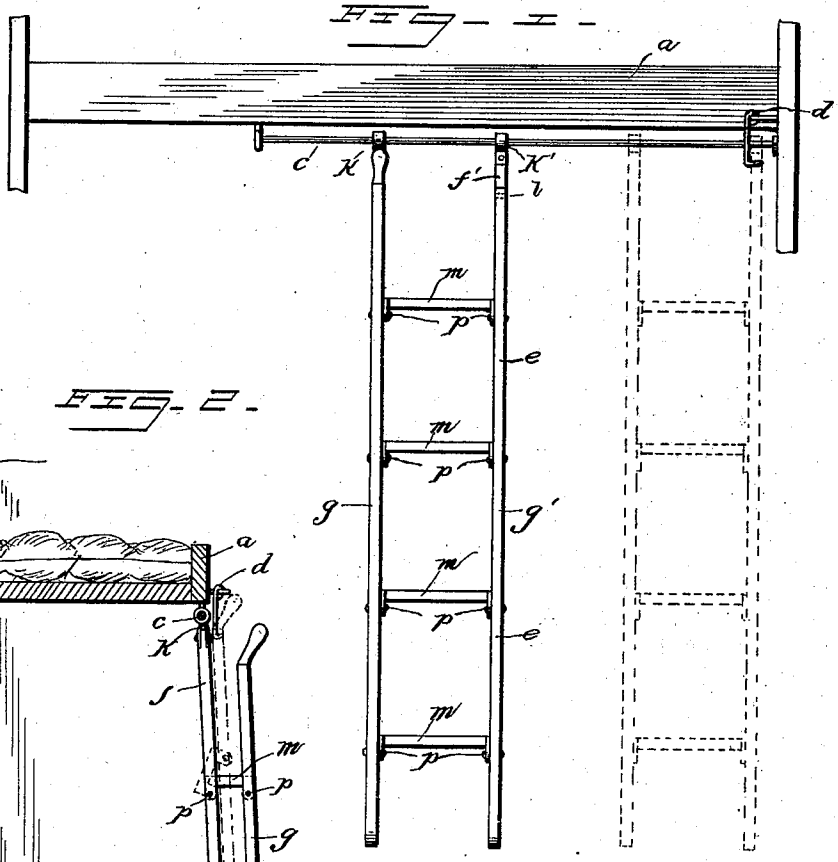


Fig. 2.

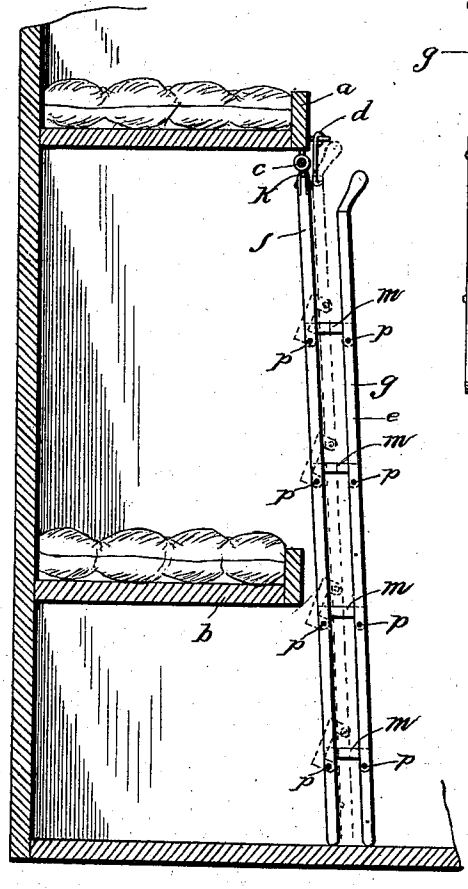
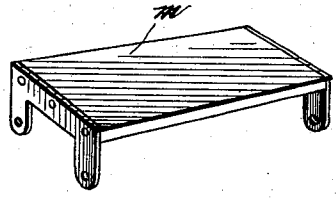


Fig. 3.



Witnesses

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LADDER.

SPECIFICATION forming part of Letters Patent No. 708,670, dated September 9, 1902.

Application filed January 18, 1902. Serial No. 90,244. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. SEE, a citizen of the United States, and a resident of Charlevoix, in the county of Charlevoix and State of Michigan, have made a certain new and useful Invention in Ladders; and I declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it appertains to make and use the invention, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

Figure 1 is a side elevation of my ladder as applied. Fig. 2 is a section on the line 2 2, Fig. 1. Fig. 3 is a detail view of one of the steps *m*.

This invention has relation to adjustable collapsing stairs for the upper berths of vessels and cars and other purposes to which it may be suited; and it consists in the novel construction and combinations of parts as hereinafter set forth.

The object of the invention is to provide for conveniently getting into the upper berth means which will nevertheless be readily moved out of the way of access to the lower berth, and yet will be securely connected to the berth, and of strong and compact structure.

In the accompanying drawings the letter *a* designates the upper berth, and *b* the lower berth.

c represents a bar or rod extending along or below the side rail of the upper berth, usually from the foot of such berth to a little beyond its middle portion. This rod or bar is secured to such side rail of the berth, and at its foot end is fastened, by means of a threaded socket, either to the side rail of the berth or to the wall of the room, a swinging-hook *d*.

e designates the stairs or folding steps, which consist of one pair of inner side bars or stringers *f f* and another pair of outer side bars or stringers *g g*. The pair of inner stringers *f f* are securely connected by means of the pivot-bearings at end of steps and at their upper ends are provided with strap-hooks or runner connections *k k*, whereby they engage the track rod or bar *c*. The pair of outer stringers *g g* are also securely connected by means of the pivot-bearings, and the stringer nearest the foot of the berth is provided with a perforation *l* for purpose of engagement with the aforesaid catch or hook *d*. The inner sides of the stringers are bored or provided with pivotal bearings for the pivots *p* of the steps or stairs *m*, which are made quite broad, so as to be stable and secure under the foot notwithstanding there may be considerable motion or vibration of the car or boat at the time of use. The perforation *l* of the outer stringer is placed even with reference to the top of the inner stringer when raised, so that when the pair of outer stringers is raised or collapsed against the pair of inner stringers such perforation will be in position to engage the hook *d*, which serves the double purpose of holding the steps in folded position, so that they take up but little room, and at the same time holds them at the foot of the berth out of the way. Usually the inner or rear stringers are made a little shorter than the outer pair, so that their lower ends will not touch the floor, or they may have small casters on their ends. When the outer pair of stringers is let down, their lower ends rest securely upon the floor of the room, and the broad steps afford a means for ascending into the upper berth in a more comfortable, secure, and convenient manner than is the case with the ordinary step-ladder.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination with the foldable stringers, and the broad steps pivoted thereto, of the berth track-bar, the runner connections of the inner stringers, and means for holding the outer stringers in folded position and in fixed relation to the end of the berth, substantially as specified.

2. The combination with a berth track-bar, and adjustable collapsing stairs having runner connections with said track-bar, of means for holding the stairs in collapsed or folded

position and in fixed relation to the track bar, substantially as specified.

3. A collapsible step-ladder consisting of the outer and inner pairs of stringers or side bars having the steps pivotally connected thereto, said outer pair of stringers being arranged to rest upon the floor of the room, when lowered, and a catch device for holding said outer pair of stringers in raised position, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES E. SEE.

Witnesses:
ALFRED RICE,
GEO. WAKEFIELD.