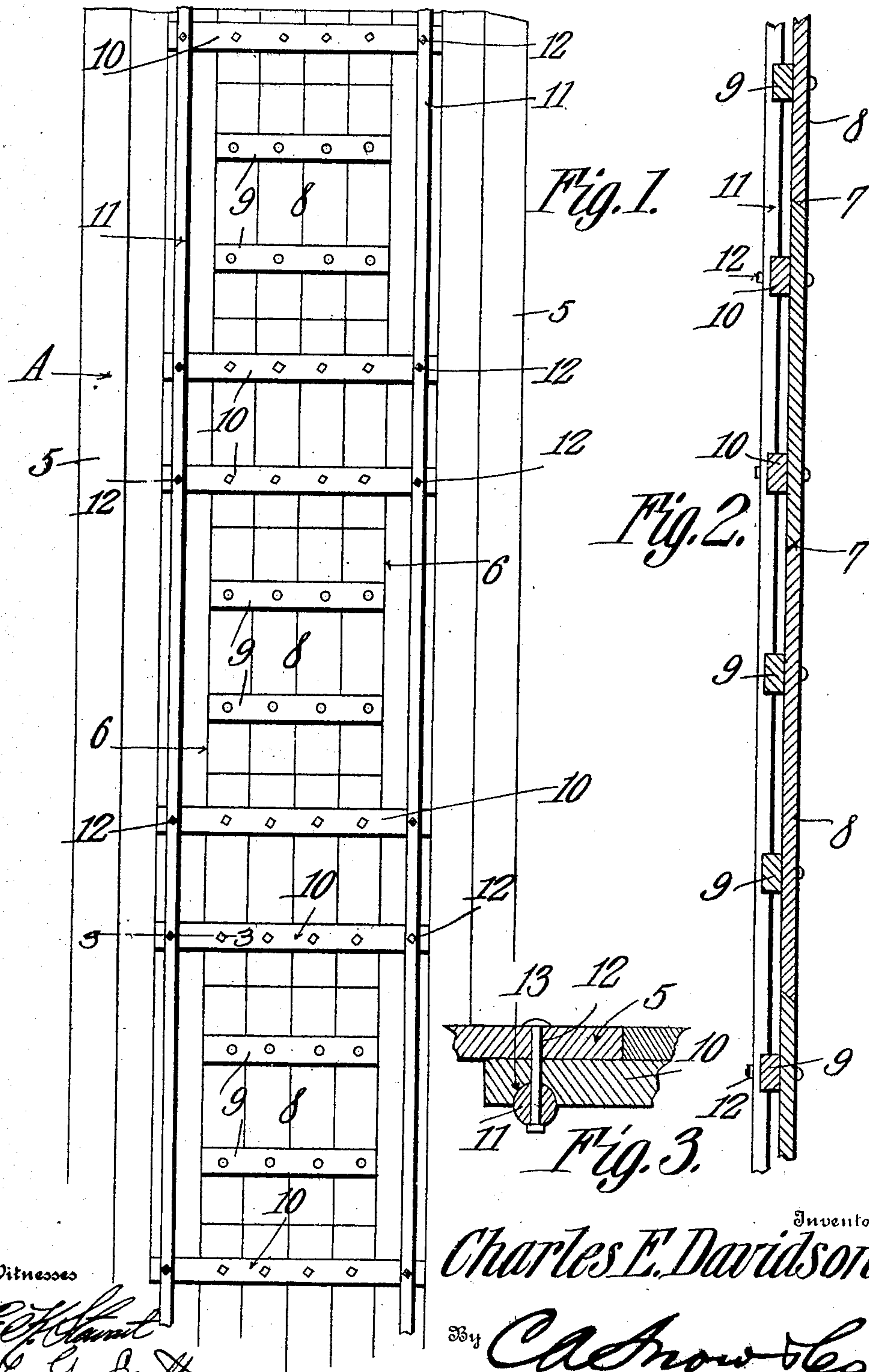


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LADDER ATTACHMENT.
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916,535.

Patented Mar. 30, 1909.



Witnesses

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LADDER ATTACHMENT.

No. 916,535.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CHARLES E. DAVIDSON, a citizen of the United States, residing at Greenville, in the county of Bond and State of Illinois, have invented a new and useful Ladder Attachment, of which the following is a specification.

This invention relates to silo construction, the primary object of the invention being to provide a means whereby access may be readily had to any of the doors of the silo, there being a plurality of such doors arranged one above the other, as is usual.

More specifically, the invention resides in the provision of a silo construction including a ladder structure, this structure having its rungs or footholds in the form of cleats secured upon the outer surface of the wall of the silo, and other cleats secured upon the doors of the silo, hand-rails or stiles being provided upon the wall of the silo, one to each side of the door openings therein.

One of the objects of the invention is to provide, in a structure of this class, a ladder device comprised of the elements above mentioned, and having its cleats, which are secured upon the wall of the structure, arranged in such a manner as to brace the boards of which the said wall is comprised, above and below the door openings therein, so that the structure will not be weakened by the provision of such door openings.

A further object of the invention is to provide beams on each side of each door opening in the silo wall which may be grasped by a person climbing into or out of the silo through the said doors, such means not being ordinarily employed.

In the accompanying drawings:—Figure 1 is a view in elevation of a portion of a silo structure showing the application of my invention thereto; Fig. 2 is a vertical sectional view therethrough, taken in a line midway of the hand-rails shown in Fig. 1, and Fig. 3 is a detail horizontal sectional view on the line 3—3 of Fig. 1, showing the manner of securing the hand-rails in position.

In the drawings, the wall of the silo is indicated in general by the reference character "A", it being made up of boards 5, arranged in the customary manner in building such structures. As shown in Figs. 1 and 2 of the drawings, these boards 5 are cut away at points to form door openings 6, extending in a vertical series one above the other. The upper and lower edges of each door opening,

as clearly shown in Fig. 2 of the drawings, are beveled as at 7, as are the corresponding edges of the doors for closing said openings, said doors being indicated by the numeral 8, and being comprised, as in the case of the wall "A" of the structure, of a plurality of boards, placed edge to edge, the boards being securely braced in this relation by means of cleats 9, which are secured by means of bolts or other suitable securing devices, thereto, and extend transversely of the said doors, and in parallel relation, there being preferably two such cleats provided upon each door. As will be readily understood, these doors 8 are fitted into the door openings 6 from the inside of the silo, and are held in place by the fodder within the silo. As will be presently pointed out, these cleats 9 constitute the rungs or foot-holds of the ladder structure of the silo, and other rungs or foot-holds are provided, in the form of cleats 10, which are secured directly upon the wall of the silo, at points between the door openings 6 in the said wall. Of the last mentioned cleats 10, there are preferably two between each pair of door openings 6, and the ends of the said cleats 10 extend beyond the vertical planes occupied by the vertical edges of the said door openings 6, so that the boards which surround the door openings and which are located therebetween, will be firmly braced, and weakening of the structure at points where the door openings are formed will be obviated.

As above stated, the cleats 10, as well as the cleats 9, afford foot-holds, and constitute, in effect, the rungs of a ladder structure, and, in order that the said structure may be as like the form of a ladder as possible, all of the cleats above described are equi-distantly spaced, as is clearly shown in Figs. 1 and 2 of the drawings.

The ladder structure is completed by stiles or hand rails 11, arranged one to each side of the door openings 6 in the wall of the silo. These hand-rails 11 are secured by means of bolts 12, in seats 13, which are formed in the outer faces of the cleats 10 adjacent the ends thereof, the hand-rails being cylindrical in form, and the seats 13 being formed to partly embrace said hand-rails, the bolts 12 being passed through the said hand-rails, the cleats 10, and the wall 5 of the structure.

From the foregoing description of my invention, it will be seen that I have provided a silo construction in which the wall is pro-

vided with a plurality of door openings, arranged in a vertical series, one above the other, the wall adjacent the door openings being braced by transverse cleats which afford foot-holds together with the cleats upon the doors which are fitted in the door openings, and which are made up of boards placed edge to edge and held in this relation by means of the said transverse cleats which also afford foot-holds, and hand-rails which are secured to the first mentioned cleats, one to each side of the said door openings. In other words, the several cleats serve not only to brace the wall and doors of the silo, but also to afford foot-holds, and constitute, in effect, the rungs of a ladder structure, said structure being completed by the hand-rails 11. It will also be understood from the foregoing description of my invention that a person climbing in or out of the silo through any one of the several door openings therein, may grasp either one of the hand-rails of the ladder construction and hold tightly to the same until after the foot has been properly disposed on one of the rungs of the said ladder construction.

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

1. A structure of the class described, provided in its wall with door openings, doors fitted in the openings, cleats secured upon the doors, cleats secured upon the wall of the structure at points between the door openings, and hand rails arranged one to each side of the said door openings, the hand rails constituting the stiles, and the cleats upon the doors and upon the walls, constituting the rungs of a ladder structure.
2. A structure of the class described provided in its wall with door openings, doors fitted in the openings, cleats secured upon the doors, cleats secured upon the wall of the structure at points between the door openings, and hand rails mounted upon the said wall of the structure, one to each side of the said door opening, the hand rails constituting the stiles, and the cleats upon the doors and upon the walls, constituting the rungs of a ladder structure.

3. A structure of the class described provided in its wall with door openings, doors fitted in the openings, cleats secured upon the doors, cleats secured upon the wall of the structure at points between the door openings, the last mentioned cleats extending at their ends past the vertical planes occupied by the vertical edges of the door openings,

and hand rails secured to the last mentioned cleats, one to each side of the said door openings, the hand rails constituting the stiles, and the cleats upon the doors and upon the walls, constituting the rungs of a ladder structure.

4. A structure of the class described, provided in its wall with door openings, doors fitted in the openings, cleats secured upon the doors, cleats secured upon the wall of the structure at points between the door openings, the last mentioned cleats extending at their ends beyond the vertical planes occupied by the vertical edges of the door openings, and being formed adjacent their ends with seats, and hand rails secured to the last mentioned cleats, one to each side of the said door openings and in the seats in said cleats, the hand rails constituting the stiles, and the cleats upon the doors and upon the walls, constituting the rungs of a ladder structure.

5. A structure of the class described, provided in its wall with door openings, doors fitted in the openings, cleats secured upon the doors, cleats secured upon the wall of the structure at points between the door openings, and hand rails secured upon the wall of the structure, one at each side of the door openings therein, all of said cleats being equidistantly spaced, the hand rails constituting the stiles, and the cleats upon the doors and upon the walls, constituting the rungs of a ladder structure.

6. A structure of the class described provided in its wall with door openings, doors fitted in the openings, cleats secured upon the doors, cleats secured upon the wall of the structure at points between the door openings, and spaced apart a distance equal to the distance between the cleats upon the doors, the last mentioned cleats extending at their ends beyond the vertical planes occupied by the vertical edges of the door openings, and hand-rails secured to the said cleats upon the wall of the structure, and spaced by said cleats from the said wall, the hand rails constituting the stiles, and the cleats upon the doors and upon the walls, constituting the rungs of a ladder structure.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

CHARLES E. DAVIDSON.

Witnesses:

FRANK STEWART,
WALTER KINGEN.