

No. 685,500.

Patented Oct. 29, 1901.

A. WALRATH.

SILO DOOR.

(Application filed Apr. 18, 1901.)

(No Model.)

2 Sheets—Sheet 1.

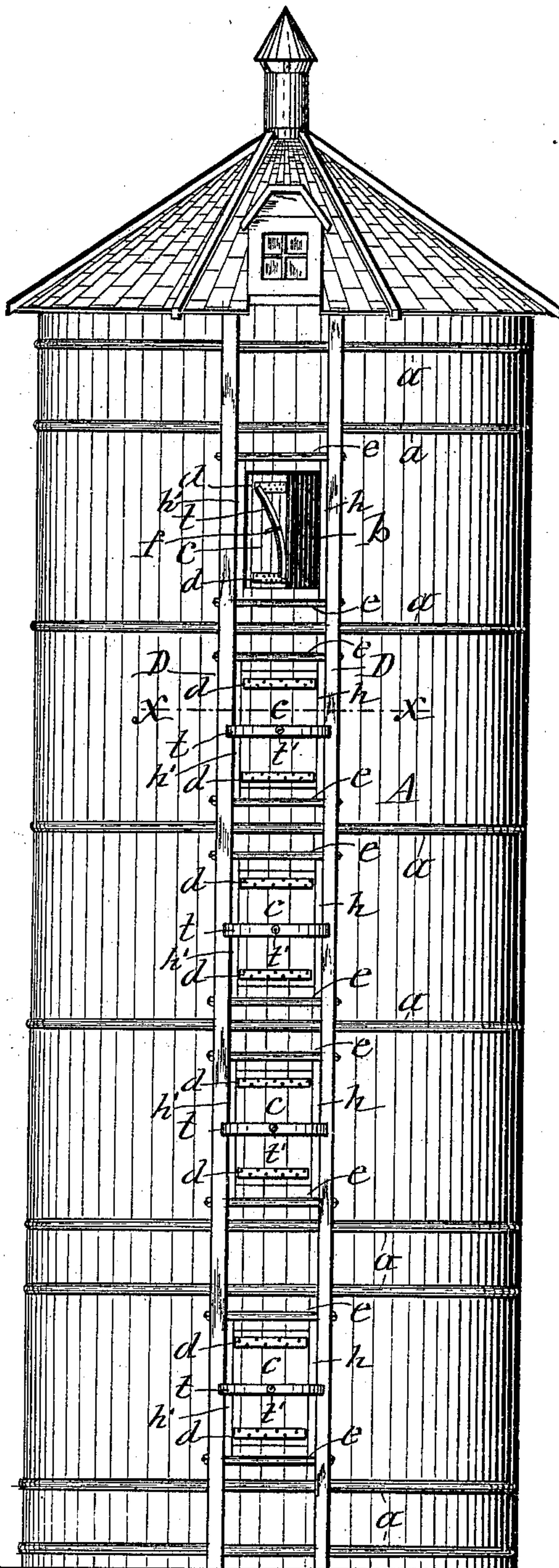


Fig. 1

WITNESSES:

Wm. Hawley.  
H. B. Smith.

INVENTOR

Abram Walrath

By E. Laess

ATTORNEY.

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2 Sheets—Sheet 2.

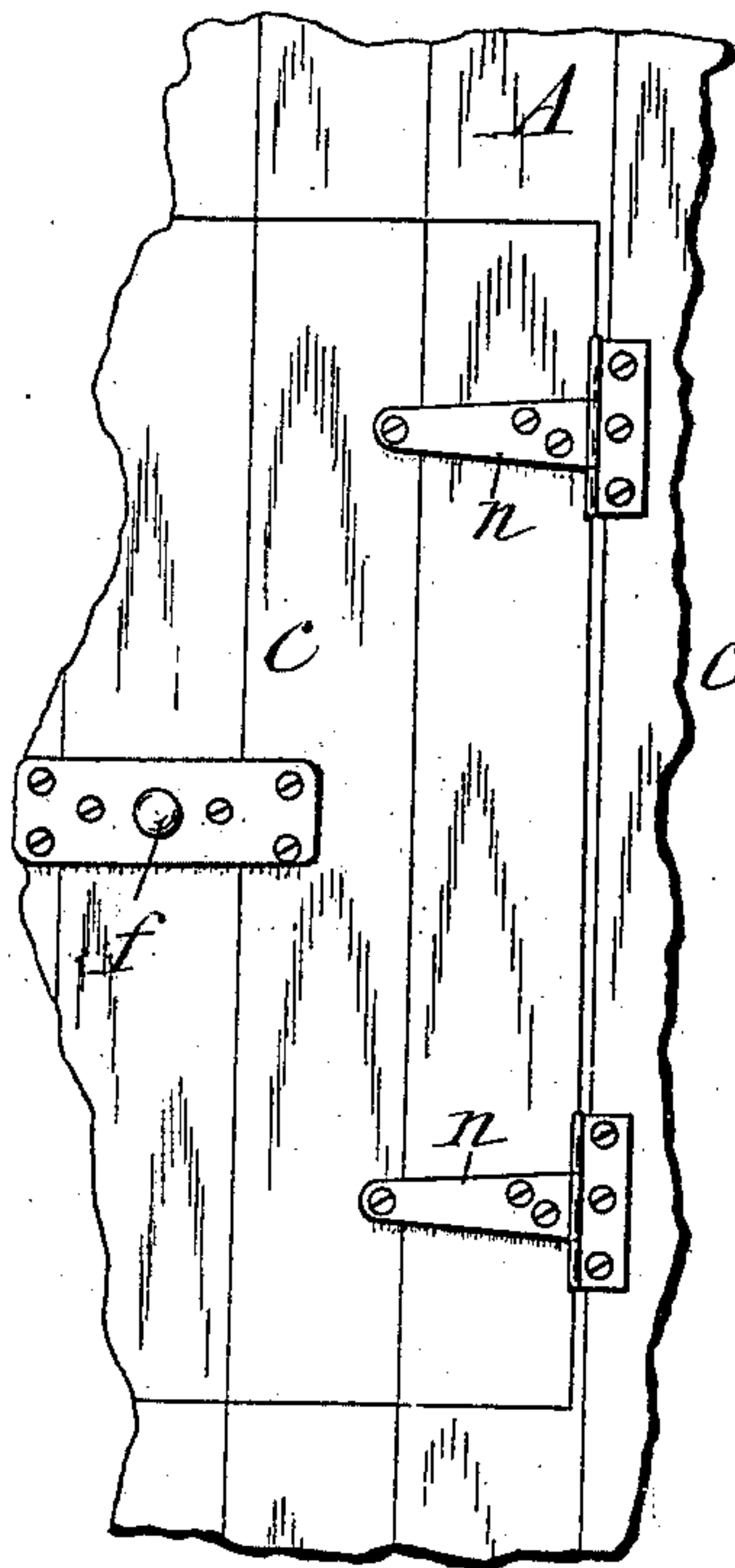


Fig. 5

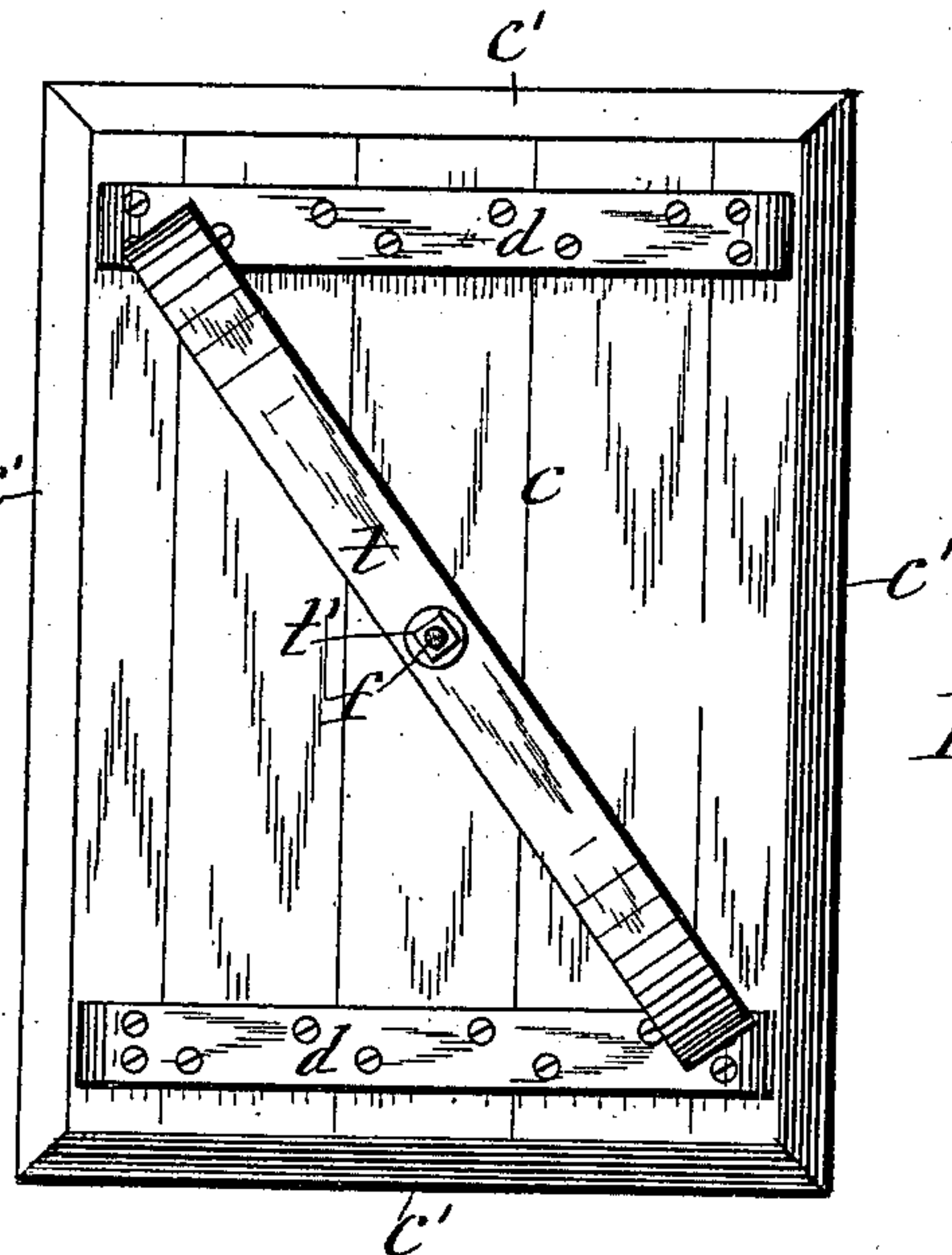


Fig. 4

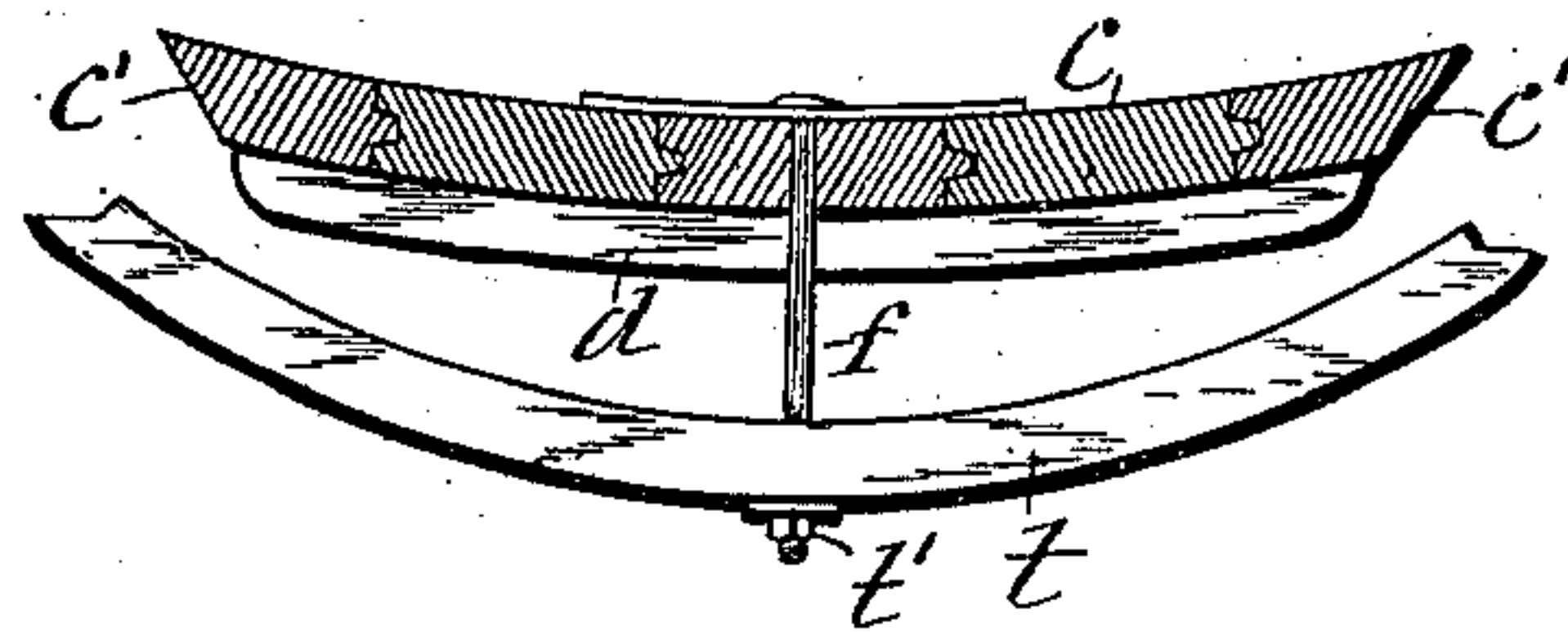


Fig. 3

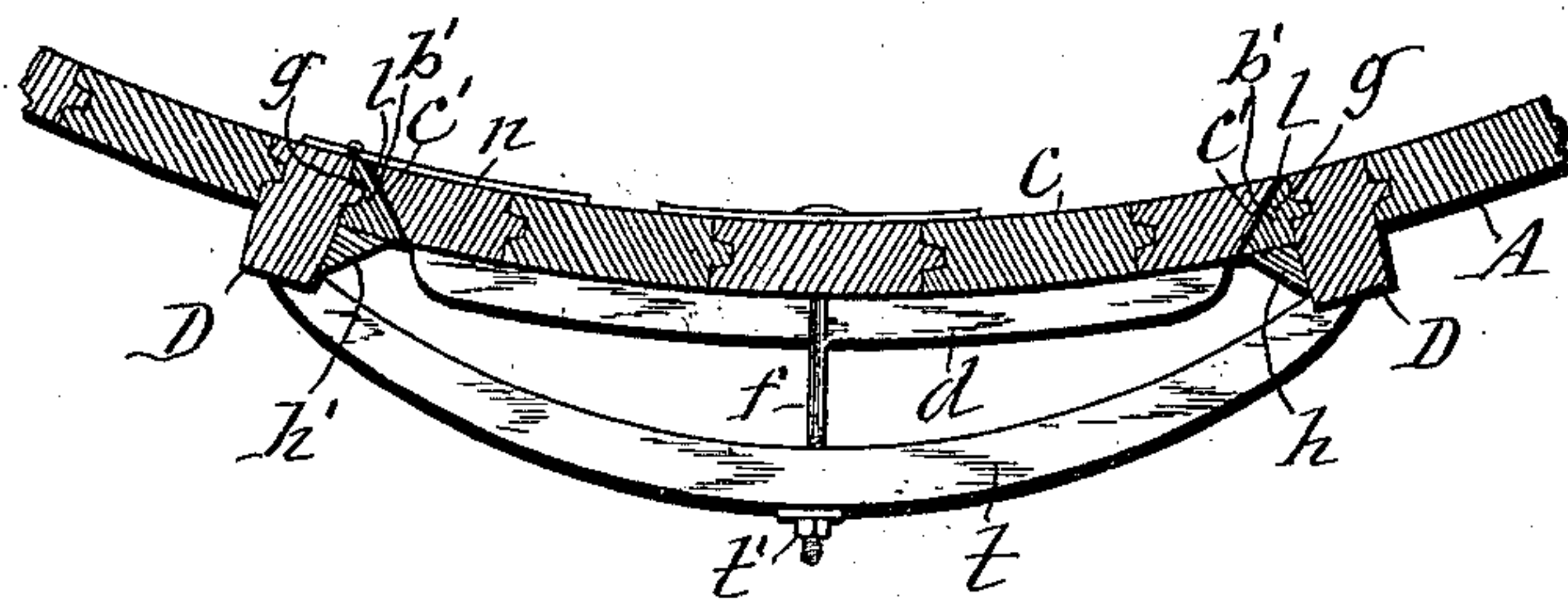


Fig. 2

WITNESSES:

Wm. Hawley  
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ATTORNEY.



# UNITED STATES PATENT OFFICE.

ABRAM WALRATH, OF WEEDSPORT, NEW YORK.

## SILO-DOOR.

SPECIFICATION forming part of Letters Patent No. 685,500, dated October 29, 1901.

Application filed April 18, 1901. Serial No. 56,359. (No model.)

*To all whom it may concern:*

Be it known that I, ABRAM WALRATH, a citizen of the United States, and a resident of Weedsport, in the county of Cayuga, in the State of New York, have invented new and useful Improvements in Silo-Doors, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

10 This invention relates to that class of silos which are provided with a series of separate openings arranged in a vertical row in the wall of the silo.

The object of the invention is to provide a silo-door which shall be strong and durable and conveniently applied to and removed from the opening in the silo and shall also be capable of closing the opening perfectly tight; and to that end the invention consists in the improved construction of the door and means for securing it to the silo, as hereinafter described, and set forth in the claim.

In the annexed drawings, Figure 1 is a front elevation of a silo embodying my invention. Fig. 2 is an enlarged transverse section on line X X in Fig. 1. Fig. 3 is an enlarged sectional view of the door removed from the silo. Fig. 4 is an outer face view of said door, and Fig. 5 is a fragmentary inner face view of the door.

Similar letters of reference indicate corresponding parts.

A represents the silo, which is formed of staves usually fitted with tongue-and-groove joints and tied by hoops *a a*, encircling the silo.

*b* denotes one of the series of openings arranged in a vertical row in the wall of the silo, and *c c* are the doors which close said openings. Each of these openings I form with beveled outwardly-wedging jambs *b' b'*, as more clearly shown in Fig. 2 of the drawings. The door *c* of each of said openings I form with correspondingly-beveled wedging edges *c'*, by which it is seated on the aforesaid jambs.

To insure a perfect joint between the edges of the door and jambs of the opening, I prefer to form the opening and its door simultaneously by sawing out of the wall of the silo a section of the size and shape of the

door, said section constituting the body of the door *c*, which is composed of staves securely tied together and retained in shape by means of transverse battens *d d*, firmly attached thereto by means of screws or nails or spikes.

*D D* designate vertical ribs projecting from the exterior of the silo near the sides of the openings *b b* and preferably formed integral with those staves which are adjacent to the staves through which the vertical edges of the openings are cut. By means of transverse rods *e e* said ribs are tied to each other, as shown in Fig. 1 of the drawings.

To lock the door *c* in the opening *b*, I rigidly secure to the center of the door an outwardly-projecting bolt *f*, which is screw-threaded on its free end and passes with said end through the center of a bar or truss *t* and is provided on its protruding end with a nut *t'*. The bolt *f* is fitted loosely in the truss sufficiently to form a swiveled connection which allows the truss to turn on the bolt. The truss *t* is of a length to span transversely the opening *b* and rest with its ends on the outer faces of the ribs *D D* when the door *c* is placed in proper position in the opening. Then by tightening the nut *t'* the door *c* is drawn into the opening *b* and closes the same with perfectly-tight joints between them. I preferably line the jamb of the opening *b* or the edges of the door *c*, or both, with a packing *l*, of thin felt or other suitable material.

The door is readily opened by loosening the nut *t'* and then turning the truss *t* so as to release it from the ribs *D D* and lie diagonally across the door, as shown in Fig. 4 of the drawings. Said position of the truss allows it to pass through the opening *b* in removing the door therefrom.

To protect the thin outer edges of the jambs *b'*, I firmly attach to the exterior of the staves *g g* at the sides of the opening *b* and to the projecting sides of the ribs *D D* vertical cleats *h h'*, which are of sufficient width to reach to the aforesaid edges of the jambs *b'*, as shown in Fig. 2 of the drawings.

For maintaining the door *c* in a convenient position for closing the opening *b* I permanently connect said door to the silo by hinges *n n*, secured to the inner side of the door at

one of the vertical edges thereof and to the adjacent portion of the inner side of the silo, as shown more clearly in Fig. 5 of the drawings.

5 What I claim as my invention is—

A silo having its openings formed with beveled outwardly-wedging jambs, vertical ribs formed integral with the staves adjacent to the jamb-staves, doors formed with beveled  
10 edges corresponding to the bevels of the jambs, hinges connecting the doors to the interior of the silo at one side of the openings, trusses resting with their ends on the afore-

said ribs, locking-bolts projecting from the centers of the doors and adjustably fastened 15 to the trusses, and cleats seated on the exteriors of the jamb-staves and on the adjacent projections of the ribs and fastened to said parts to reinforce and protect the thin outer edges of the jambs substantially as set forth 20 and shown.

ABRAM WALRATH. [L. S.]

Witnesses:

CORA I. TURNER,  
HALSEY BIDWELL.