

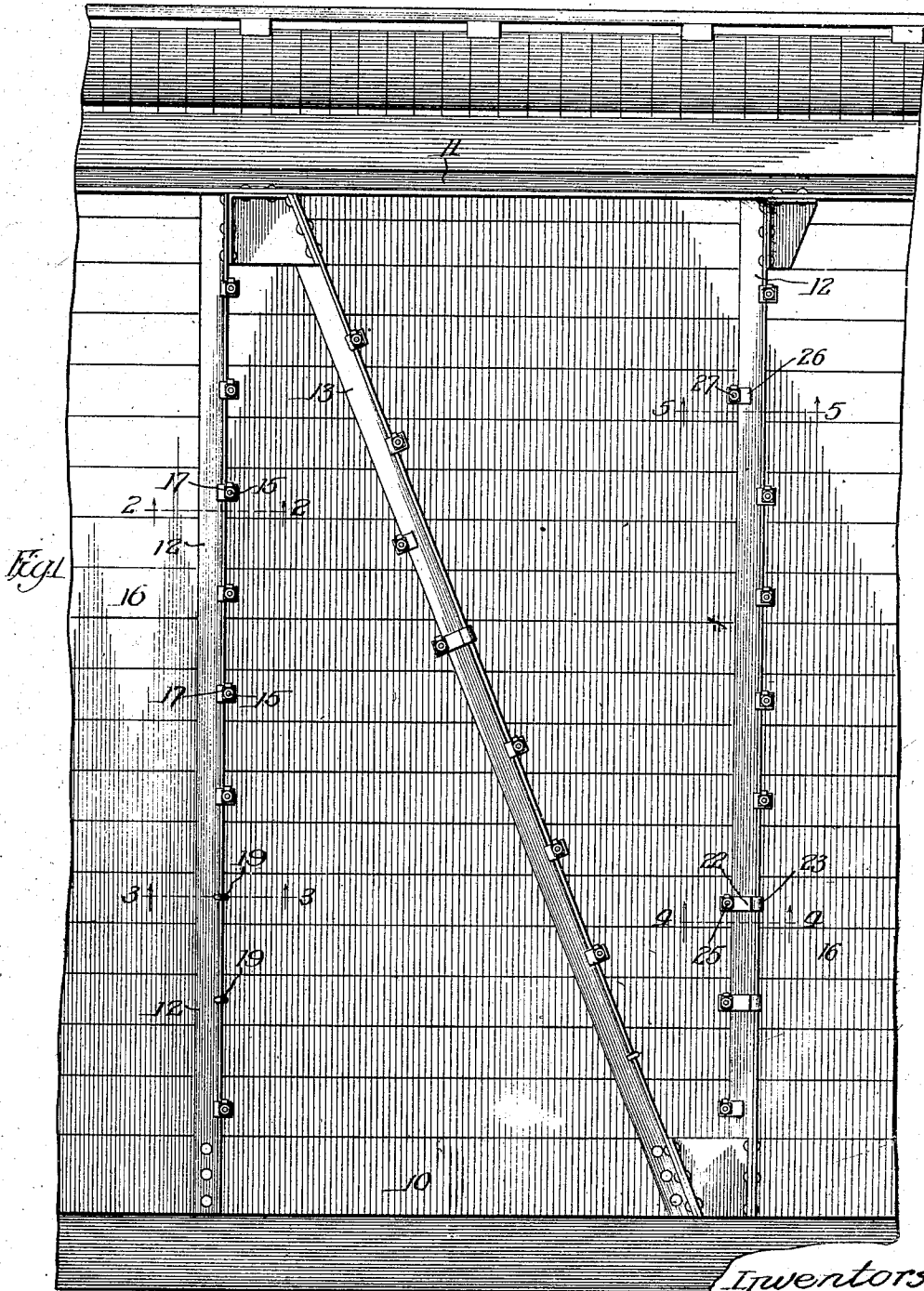
W. E. FOWLER, SR. & C. F. MURRAY.
CAR SIDE.

APPLICATION FILED NOV. 18, 1912.

1,065,932.

Patented July 1, 1913.

2 SHEETS—SHEET 1.



Witnesses:

Geo. C. Brown
R. B. Barrett

Inventors

William E. Fowler
Charles F. Murray
By Luther M. Butler
Attys.

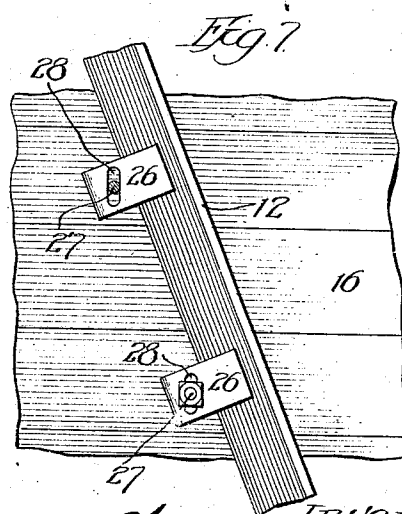
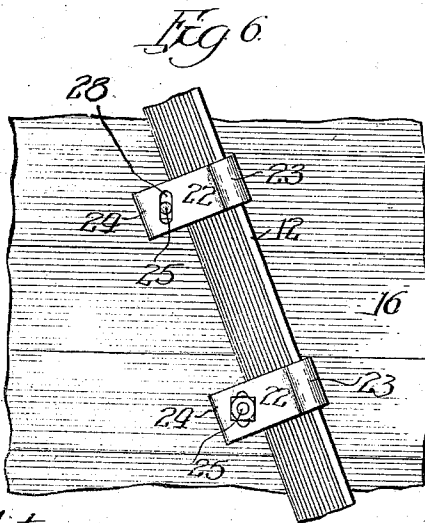
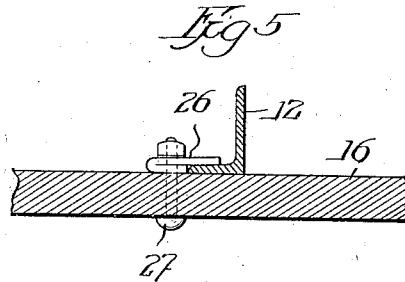
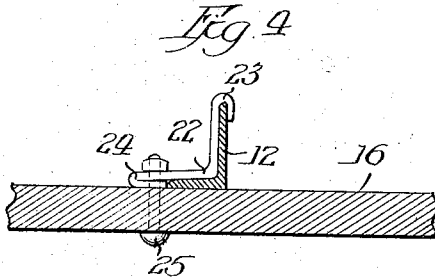
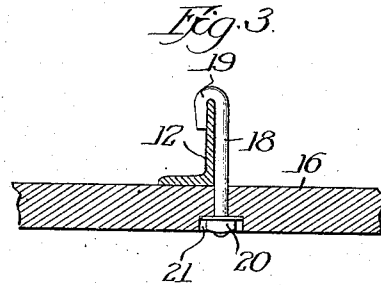
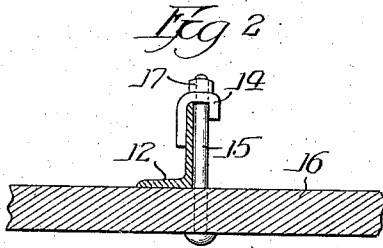
W. E. FOWLER, SR. & C. F. MURRAY.
CAR SIDE.

APPLICATION FILED NOV. 18, 1912.

1,065,932.

Patented July 1, 1913.

2 SHEETS-SHEET 2.



Witnesses:

Ed. C. Davison
A. D. Barrett

Inventors
William E. Fowler Sr.
Charles F. Murray
By *Lathrop & Bell*
Attys

UNITED STATES PATENT OFFICE.

WILLIAM E. FOWLER, SR., OF CHICAGO, AND CHARLES F. MURRAY, OF EVANSTON,
ILLINOIS, ASSIGNORS TO THE FOWLER CAR COMPANY, OF CHICAGO, ILLINOIS,
A CORPORATION OF ILLINOIS.

CAR SIDE.

1.065,932.

Specification of Letters Patent.

Patented July 1, 1913.

Application filed November 18, 1912. Serial No. 732,023.

To all whom it may concern:

Be it known that we, WILLIAM E. FOWLER, SR., and CHARLES F. MURRAY, both citizens of the United States, and residing in Chicago and Evanston, respectively, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Car Sides, of which the following is a specification.

Our invention relates to box cars of the metal skeleton single sheath type and has particular reference to a novel means for the attachment of the sheathing to the metal frame.

In the construction of cars of the metal skeleton single sheath type, it is necessary to provide means for tightening the boards transversely of their length in order to provide a grain-tight car. A common practice is to slot the metallic frame work, passing the fastening bolts through the slots thus permitting a limited relative movement of the boards and frame. However, this weakens the structure and is not economical in manufacture. We have therefore designed a structure which shall permit unlimited movement of the boards relative to the frame and which shall notwithstanding provide a rigid and secure fastening. Other forms of fastening means have been suggested wherein the metallic members were not slotted but in none of these has there been provision for attachment of the boards to the diagonal members of the metallic frame. It will be seen that a fastening bolt passed through the boards would not be permitted vertical movement without slotting the frame.

Therefore one of the objects of the present invention is to provide a fastening device which shall obviate the necessity of slotting the frame and which shall in addition, provide means for the vertical adjustment of the boards when such fastening means are applied to diagonal members.

The invention will be more readily understood by reference to the accompanying drawings, wherein,

Figure 1 is a fragmentary elevation of a car side having a plurality of different forms of attaching means applied thereto, the details of such attaching means being shown in other views; Fig. 2 is a fragmentary section somewhat enlarged, on the line 2—2 of Fig. 1; Fig. 3 is a modification of

the construction shown in Fig. 2, the section being taken on the line 3—3 of Fig. 1; Fig. 4 is a further modification, the section being taken on the line 4—4 of Fig. 1; Fig. 5 is a still further modification, the section being taken on the line 5—5 of Fig. 1, and, Figs. 6 and 7 are enlarged detail elevations showing the application of the construction of Figs. 4 and 5 to the diagonal members of the frame.

Referring more particularly to the drawings, it will be seen that the car frame includes a side sill 10, side plate 11, angle-shaped vertical posts 12 and a diagonal post 13 of similar cross section. The fastening clip, by means of which the boards are secured to the vertical posts 12, is composed of an apertured part 14, substantially U-shaped except that one leg is longer than the other. A bolt 15 extends through an aperture in the board 16, passing through the opening in the part 14 and being securely held by means of a nut 17. The longer leg of the clip 14 engages with a projecting flange of the angle 12 and securely holds the part together.

In Fig. 3 the construction is somewhat modified in that a single bolt 18 is employed, having a hooked outer end 19, engaging with the projecting flange of the angle 12. The bolt passes through the wall 16 and is held by a nut 20, seated in a recess 21 in the board.

In the construction of Fig. 4, the clip 22 is in the shape of an angle having a hooked end 23 engaging the flange of the angle 12, the other end of the angle being doubled upon itself as at 24, the double thickness of metal being apertured to accommodate a short bolt 25. The advantage in this construction over that previously described is in that a shorter bolt may be used.

In Fig. 5 the construction is somewhat similar to that of Fig. 4, except that the clip 26 is much shorter and does not engage the outwardly projecting flange of the angle 12. The clip 26 has a part doubled back on itself as in the construction of Fig. 4, this added metal making the part of a thickness corresponding to that of the leg of the angle in order that an even bearing surface may be provided. A short bolt 27 fastens the parts together as shown.

In the constructions of Figs. 6 and 7, the clips, as shown in Figs. 4 and 5 are slightly

modified when applied to the diagonal members, the modification being in that the aperture for the accommodation of the fastening bolt is in the form of a vertical slot 28. Thus it will be seen that the boards are allowed a degree of vertical movement without interference with the engagement of the clip with the angle.

In the construction of Fig. 7, the side boards will be permitted a further movement beyond the extent permitted by the slot in the clip inasmuch as the clip may slide relative to the angle for a short distance without becoming disengaged therefrom.

It is obvious that further modifications may be made by those skilled in the art and such modifications as are within the scope of our claims we consider within the spirit of our invention.

We claim:

1. In a railway car, the combination of a skeleton frame and an interior wall composed of boards horizontally placed, fastening clips and bolts passing through said boards at one edge of a member of said frame and causing clamping engagement of the clips and said frame, whereby relative vertical movement of the boards and frame is permitted, substantially as described.

2. In a car side, the combination of angle posts, a wall composed of boards horizon-

tally placed, a clip engaging a leg of an angle, and a single bolt adapted to be passed through a board at one edge of a post and to engage said clip whereby the parts are secured together and permitted relative vertical movement, substantially as described.

3. In a car side, the combination of a wall composed of boards horizontally placed, angle posts, clips engaging one leg of said angle posts and adapted for movement relative thereto, and fastening bolts passed through said boards and said clips, substantially as described.

4. In a car side, the combination of an angular metallic member, and a plurality of boards horizontally placed, a slotted clip engaging said angular member, and fastening means passing through said board and said clip, whereby relative vertical movement of said boards and said metallic members is permitted, substantially as described.

5. In a car side, the combination of angular diagonal posts, slotted clips engaging said diagonals, and fastening bolts passed through said boards and said clips, substantially as described.

WILLIAM E. FOWLER, SR.
CHARLES F. MURRAY.

Witnesses:

GEO. C. DAVISON,
T. D. BUTLER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."