No. 826,982.

PATENTED JULY 24, 1906.

H. C. WILLIAMSON & H. PRIES.

UNDERFRAMING FOR CARS.

APPLICATION FILED MAR. 5, 1906.

2 SHEETS—SHEET 1

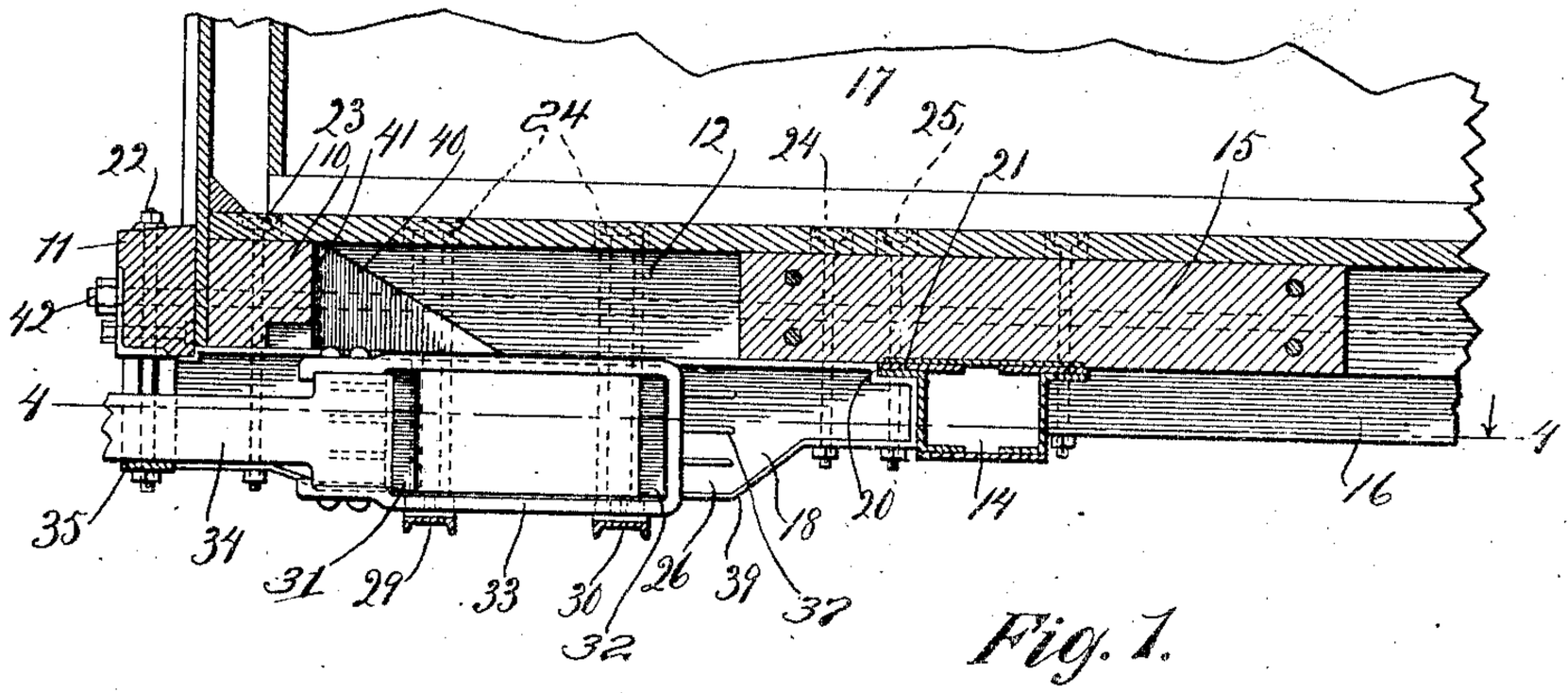

Fig. 1.

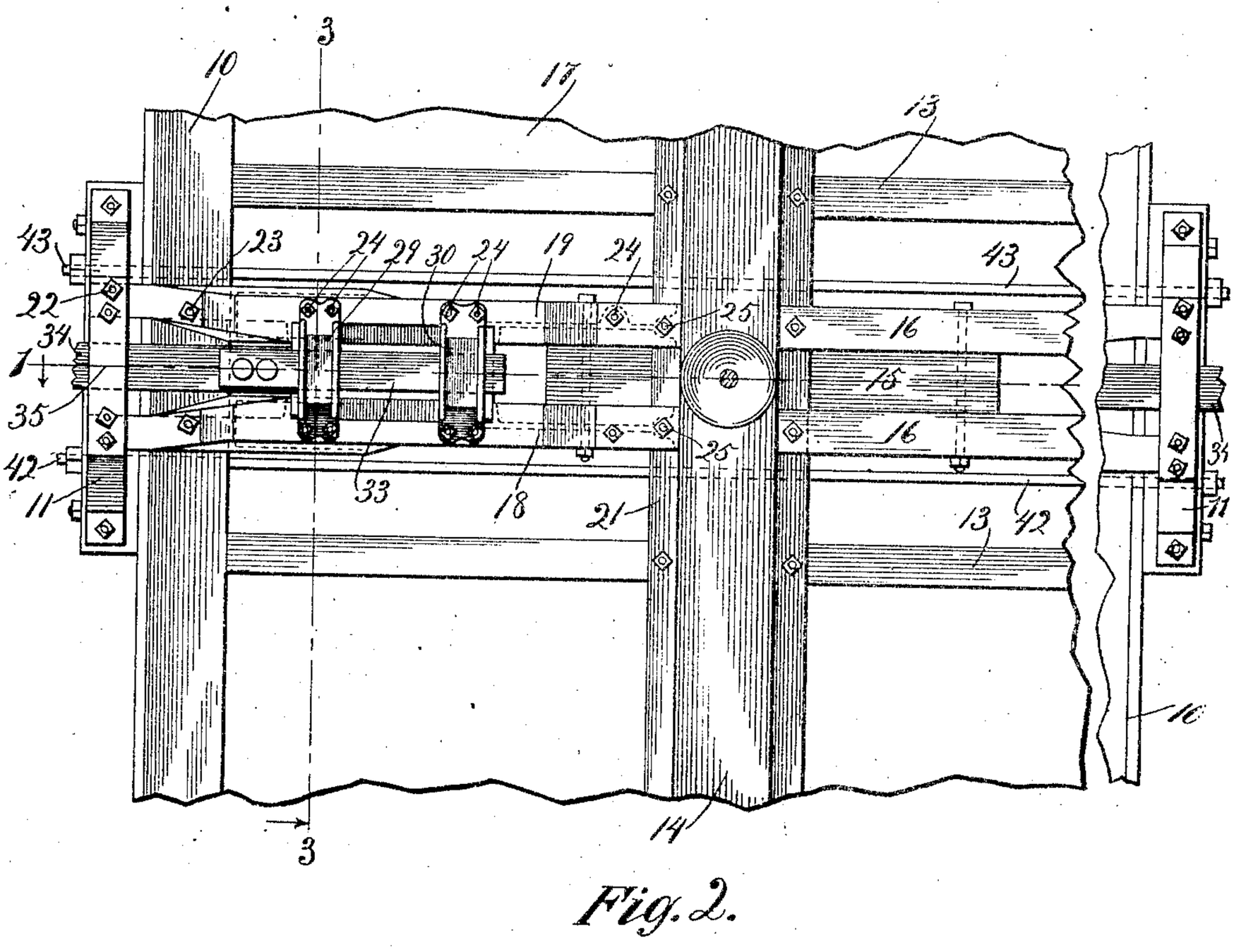

Fig. 2.

Witnesses:
W. H. Cotton
Charles B. Gillson.

Inventors.
Henry C. Williamson
Herman Pries.
By Lowes K. Lieber
Atty.

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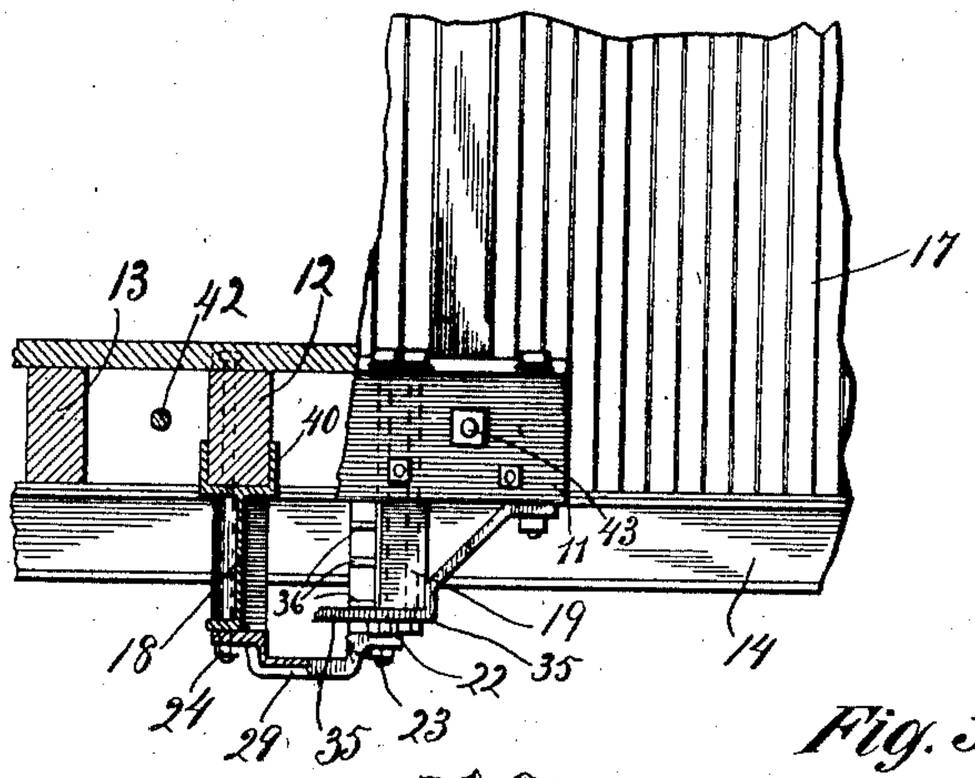

Fig. 3.

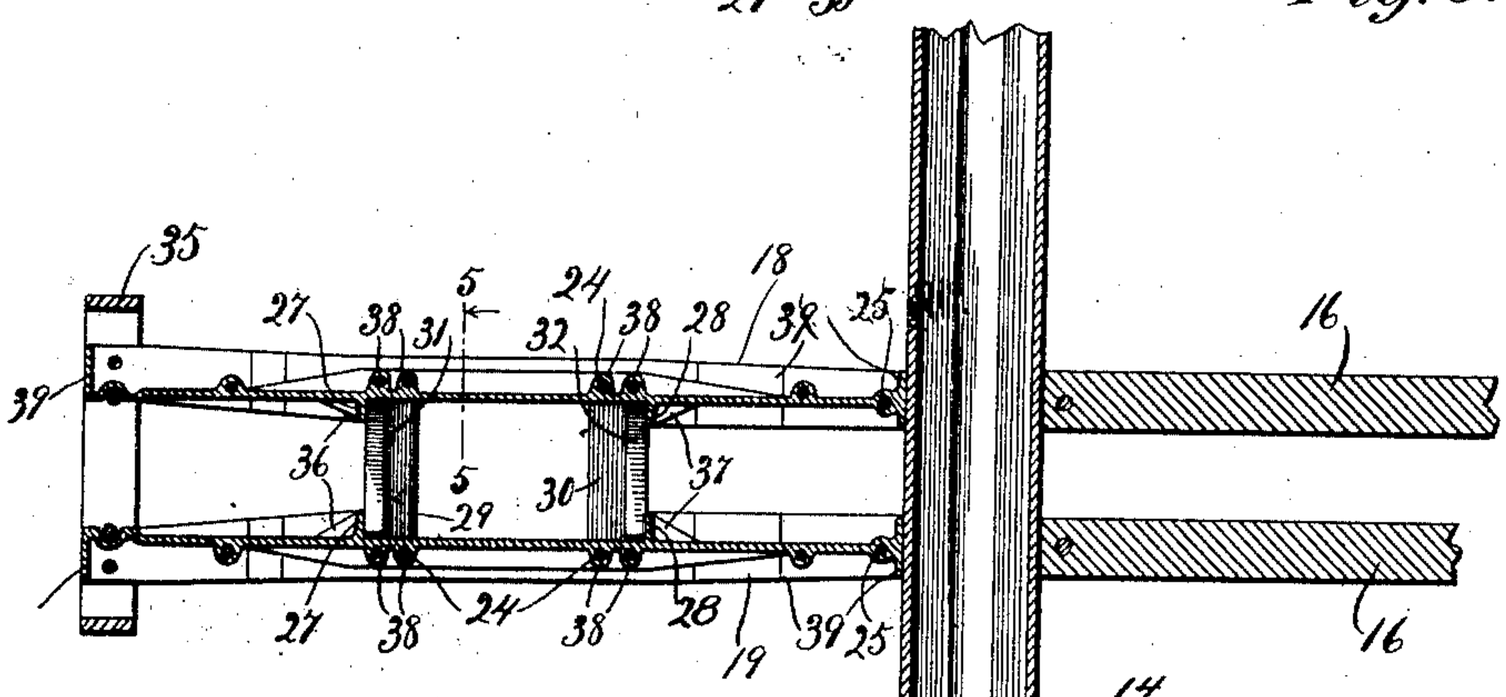

Fig. 4.

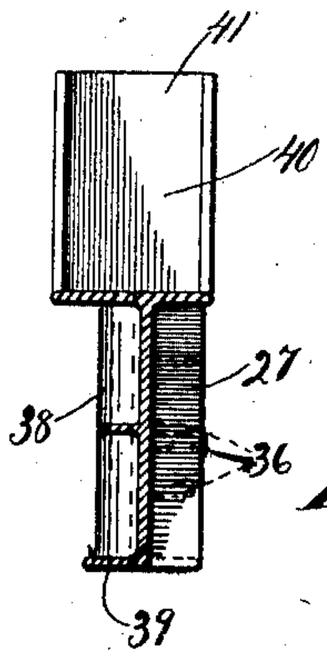

Fig. 5.

Witnesses:
W. H. Cotton
Charles B. Gillson

Inventors.
Henry C. Williamson
Herman Pries.
By Lemuel. Gleason
Atty.

UNITED STATES PATENT OFFICE.

HENRY C. WILLIAMSON AND HERMAN PRIES, OF MICHIGAN CITY, INDIANA.

UNDERFRAMING FOR CARS.

No. 826,982. Specification of Letters Patent. Patented July 24, 1906.

Application filed March 5, 1906. Serial No. 304,333.

To all whom it may concern:

Be it known that we, HENRY C. WILLIAMSON and HERMAN PRIES, citizens of the United States, residing at Michigan City, in the county of La Porte and State of Indiana, have invented certain new and useful Improvements in Underframing for Cars, of which the following is a specification and which are illustrated in the accompanying drawings, forming a part thereof.

The invention relates to underframing for railway-cars having a high body—that is, such cars as have the longitudinal and end sills above the line of draft—and more particularly to underframing for cars in which the principal frame members are of wood.

The object of the invention is to provide in a car-body framing of the kind described improved means for securing the parts together for the purpose of procuring sufficient strength to withstand the great strains now obtained in railway practice, and particularly to provide a form of cheek-plate adapted to support a draft appliance of large size and to distribute the buffing and pulling strains to the various members of the car-frame.

The invention is exemplified in the structure to be hereinafter described, and illustrated in the accompanying drawings, in which—

Figure 1 is a detail central section of a car-body. Fig. 2 is a detail bottom plan view of the same. Fig. 3 is a detail end view, shown partly in section, on the line 3 3 of Fig. 2. Fig. 4 is a plan section on the line 4 4 of Fig. 1; and Fig. 5 is a sectional view of a detail of the construction separated from other parts, the plane of the section being indicated by the line 5 5 of Fig. 4.

Portions of the two end sills of a car-body are shown in the drawings at 10 10 and the usual dead-wood applied thereto at 11 11. The center sills of the car are designated 12 12, and details of two of the intermediate sills are shown at 13 13 and of one of the body-bolsters at 14.

In the form of car to which the invention is particularly applicable the longitudinal sills 12 and 13 are of wood, the body-bolster 14, however, being preferably of metal, that shown in the drawings being of the type of bolster for which Letters Patent No. 658,227 were granted to us September 18, 1900. A wooden filling-piece 15 is inserted between the center sills 12 12 above the body-bolster 14, and strips 16 16, also of wood, are applied to the under face of each of the center sills and extend from the body-bolster 14 to the corresponding member (not shown) at the opposite end of the car.

The framework as so far described is of usual form and supports the car-body, (generally designated 17,) which may be of any desired type, details of an ordinary box-car being shown in the drawings.

Cheek-plates 18 19 are applied to the under face of each of the center sills 12 12 in front of the body-bolster 14 and extend from the forward face of the dead-wood 11 backward to the body-bolster, the rear end of each cheek-plate being recessed, as indicated at 20, to receive a flange 21 of the bolster. These cheek-plates in addition to supporting the draft appliance are employed for securing the members of the car-frame together, and to this end bolts 22 23 24 25 extend upwardly through each cheek-plate and through the dead-wood 11, the end sill 10, the center sill 12, and the flange 21 of the body-bolster, respectively.

Each of the cheek-plates is of greater depth for a portion of its length intermediate its ends, as indicated at 26, and is provided at this widened part with the usual draft-shoulders 27 28, the two cheek-plates being tied together by means of the customary draw-bar-follower supports 29 30, which in this case are held in place by some of the same bolts 24 which are employed for securing the cheek-plates to the center sills. Draw-bar-follower plates 31 32 ride upon the follower-supports 29 30 and bear upon draft-springs. (Not shown.) The draw-bar loop is designated 33, the draw-bar 34, and the forward carry-iron 35.

In order that the cheek-plates 18 19 may be as light in weight as possible and also be of great strength, the draft-shoulders 27 28 are reinforced by suitable fillets 36 37, Fig. 4. At each bolt-aperture there is formed a rib 38, and the entire casting is surrounded by a marginal flange 39. At the top of each cheek-plate there is formed on the flange 39 a socket or pocket 40 for receiving the end of the center sill 12, which is so placed that its forward face 41 provides a suitable flange or shoulder for bearing against the end sill 10.

The entire car-frame is tied together by the usual truss-rods 42 43, which extend from end to end of the car-body, and in this improved form of construction serve particu-

larly to seat the ends of the center sills 12 12 in the sockets 40, formed on each of the cheek-plates, and to cause the forward faces 41 of these sockets to bear firmly upon the rear face of the end sill.

The construction is preferably the same at each end of the car, and for this reason details of but one end have been shown in the drawings, except in Fig. 2, in which portions of the end sills 10 10 and of the dead-wood 11 11 of both ends appear.

By means of our improved construction the buffing strains are transmitted directly from the ends of the cheek-plates 18 19 to the body-bolster 14, through which they are distributed to the various longitudinal members of the car-frame and from the sockets 40 directly to the ends of the center sills 12 12. In a similar manner the pulling strains are communicated, by means of the shoulders 41, provided by the sockets 40, directly to the end sill 10, through which they are transmitted to various other members of the car-frame, while a part of the pulling strains is communicated directly to the body-bolster through the bolts 25, which unite the rear ends of the cheek-plates 18 19 with the flange 21 of the bolster. The cheek-plates 18 19 are of great strength, being materially increased in depth by the socket 40 at the point of greatest strain, so that fracture of this member is very unlikely to occur. If for any reason, however, it becomes necessary to replace or repair either of the cheek-plates, they may be easily removed from below the car if the bolts 22 23 24 25 and the truss-rods 42 43 are first loosened.

We claim as our invention—

1. In combination, an end sill, cheek-plates bolted to the under face of the end sill and having a pocket formed on its back, the forward face of the pocket bearing against the rear face of the end sill, a pair of center sills, each of said sills having an end entering the pocket.

2. In combination, a pair of end sills, a cheek-plate bolted to the under face of one of the end sills and having a pocket formed on its back, the forward face of the pocket bearing against the rear face of the end sill, a center sill extending between the end sills, one of its ends entering the pocket, a truss-rod uniting the end sills, and a draft appliance carried by the cheek-plate.

3. In combination, an end sill, a body-bolster, a cheek-plate united by bolts to the end sill and to the bolster and having a pocket formed on its back and bearing against the rear face of the end sill, and a center sill having one of its ends fitted within the pocket.

4. In combination, a pair of end sills, a body-bolster, a cheek-plate united by bolts to one of the end sills and to the body-bolster and having a pocket formed on its back, a center sill extending between the end sills, one of its ends entering the pocket, a truss-rod uniting the end sills, and a draft appliance carried by the cheek-plate.

HENRY C. WILLIAMSON.
HERMAN PRIES.

Witnesses:
H. V. OGDEN,
JNO. W. CARLSON.