No. 665,760. Patented Jan. 8, 1901.

H. H. SESSIONS.

CAR CONSTRUCTION.

(Application filed June 12, 1899.)

(No Model.) 4 Sheets—Sheet 1.

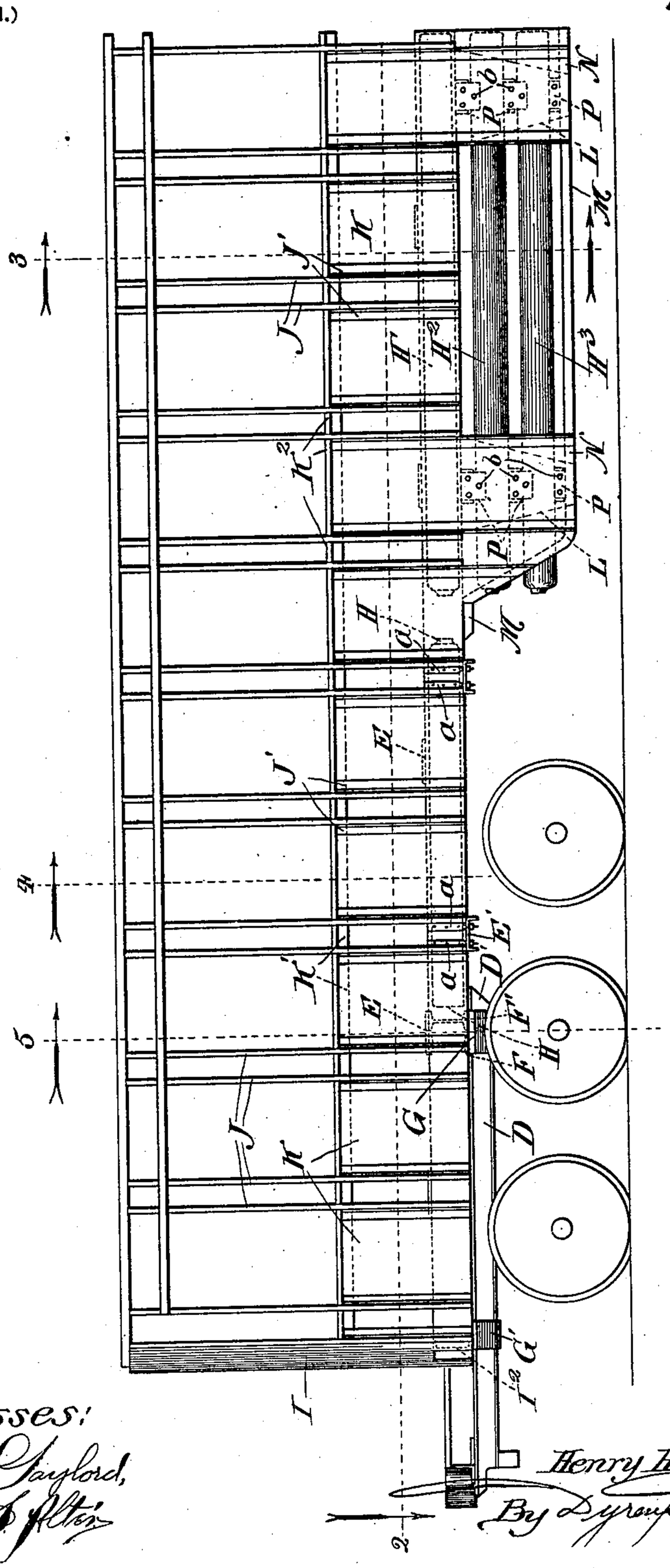

Fig. 1.

Witnesses:
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Lute A. Pelton

Inventor:
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4 Sheets—Sheet 2.

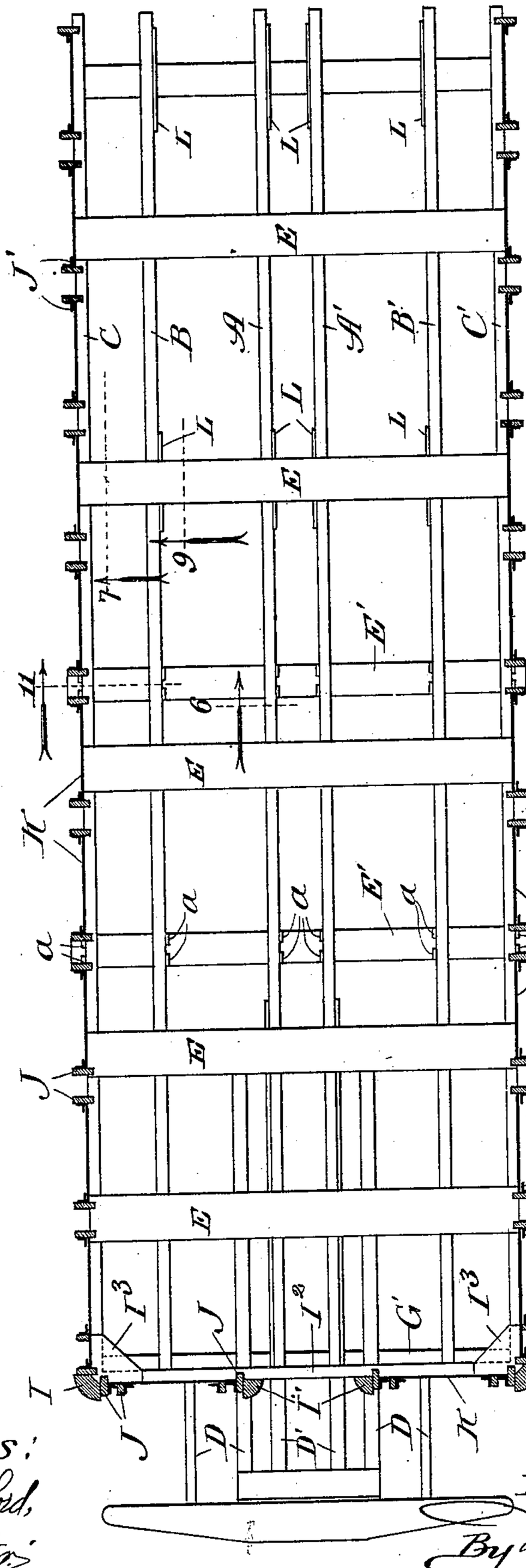

Fig. 2.

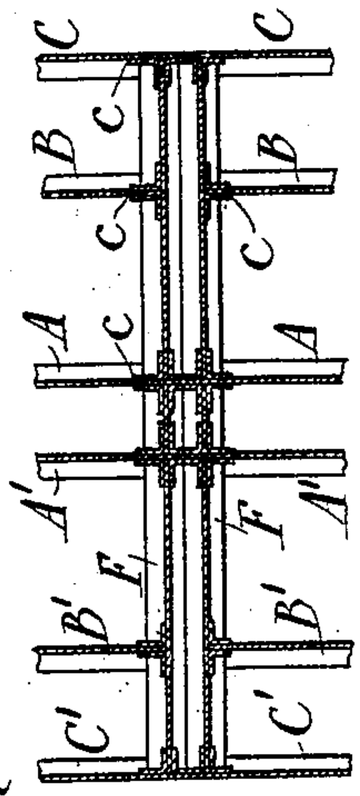

Fig. 12.

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(No Model.) 4 Sheets—Sheet 3.

Fig. 3.

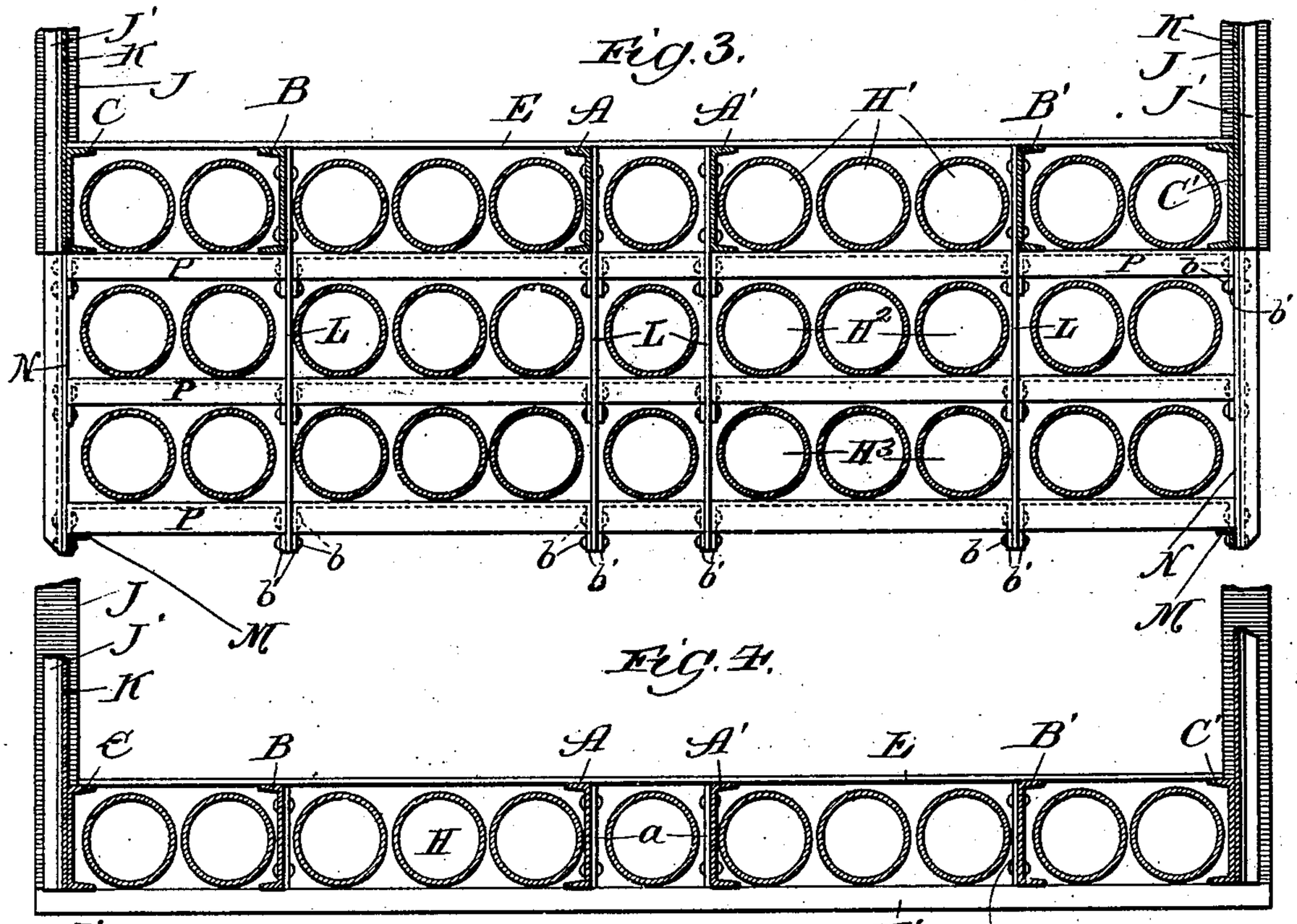


Fig. 4.

Fig. 5.

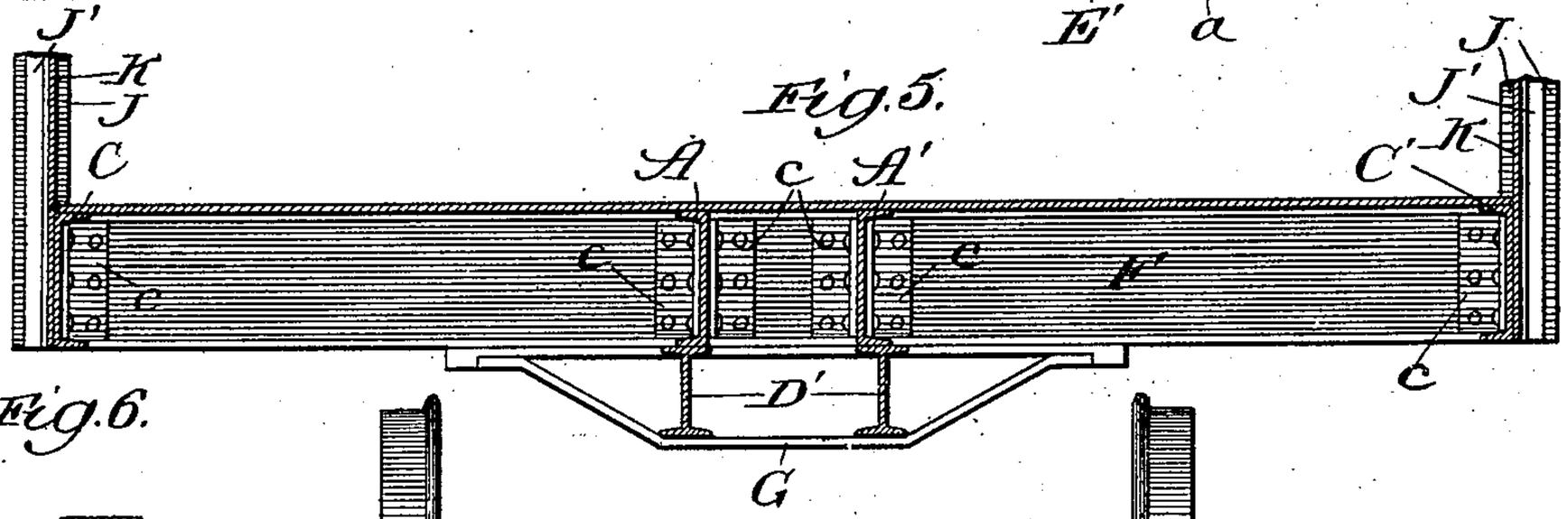
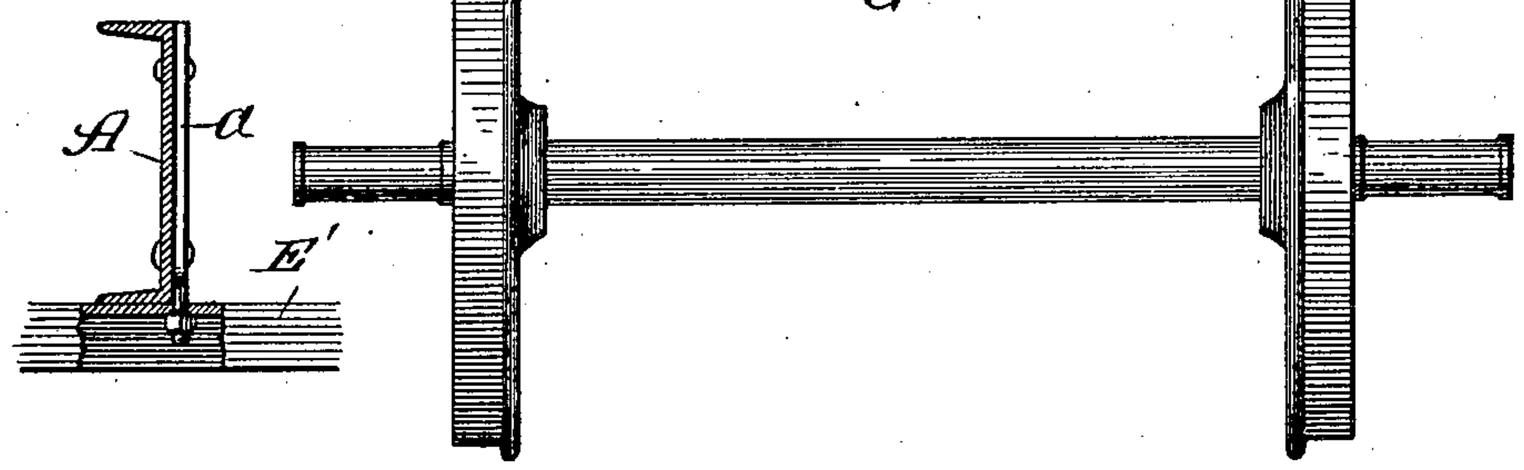


Fig. 6.



Witnesses:
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(No Model.) 4 Sheets—Sheet 4.

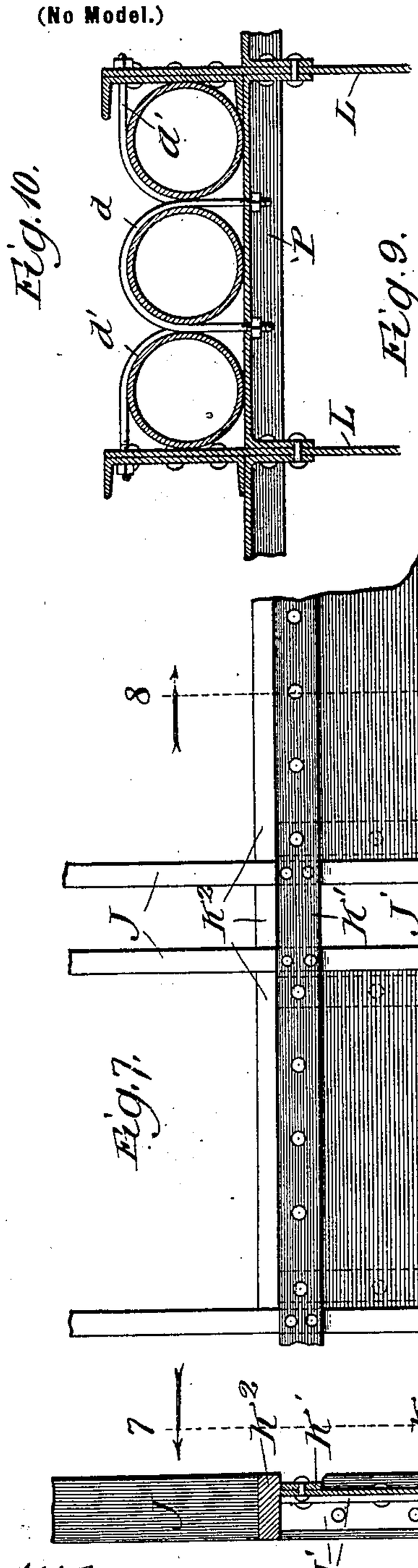

Fig. 10.

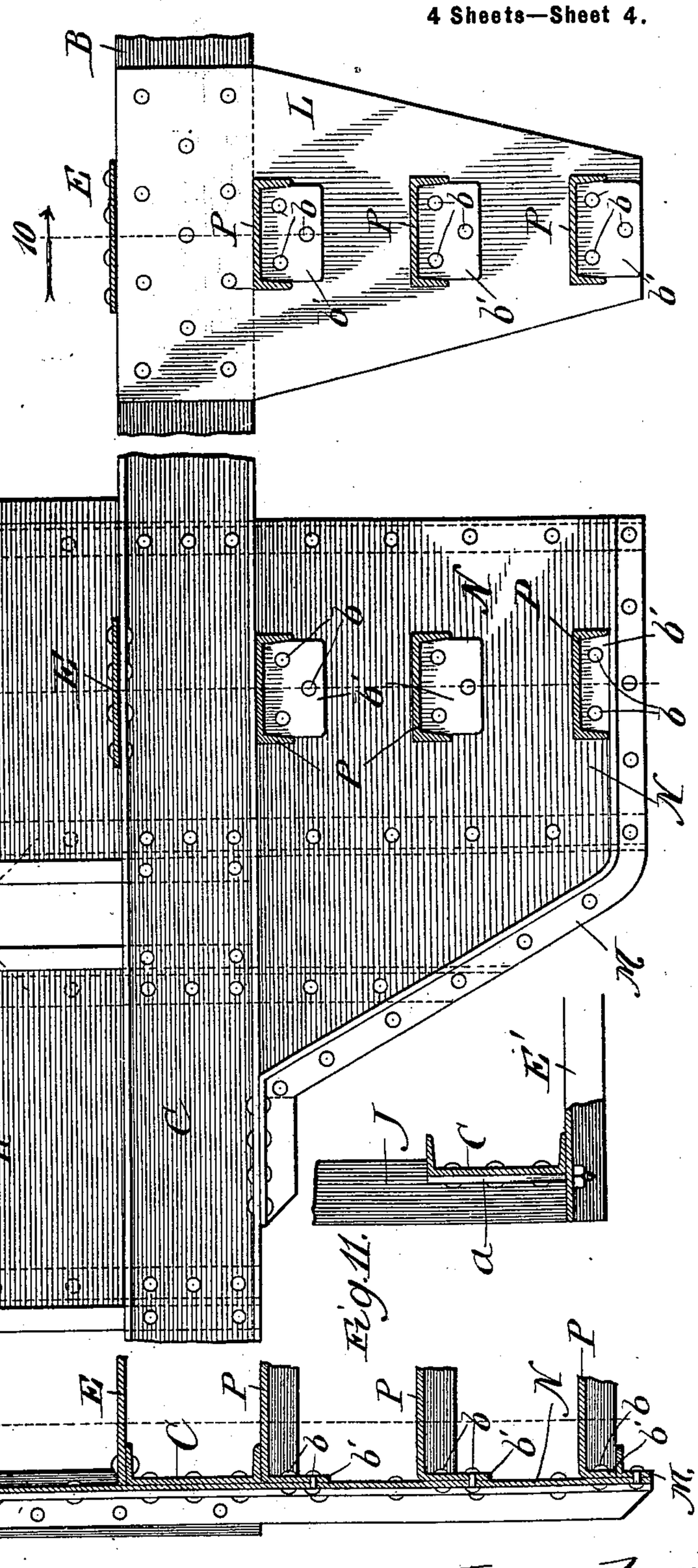

Fig. 9.

Fig. 7.

Fig. 11.

Fig. 8

Witnesses:
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UNITED STATES PATENT OFFICE.

HENRY H. SESSIONS, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE COMPRESSED AIR MOTOR COMPANY, OF SAME PLACE.

CAR CONSTRUCTION.

SPECIFICATION forming part of Letters Patent No. 665,760, dated January 8, 1901.

Application filed June 12, 1899. Serial No. 720,259. (No model.)

To all whom it may concern:

Be it known that I, HENRY H. SESSIONS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Car Construction, of which the following is a specification.

My invention relates particularly to the structure of cars adapted to carry compressed air as a motive power.

My object is to provide a construction wherein provision is made in the substructure of the car for storing steel tubes or holders which are to contain the compressed motive fluid, the spaces between floor-sills and beneath said sills between the front and rear trucks being utilized for this purpose.

In the accompanying drawings, which represent a portion of the skeleton of a car embodying my improvements, Figure 1 is a broken view in side elevation; Fig. 2, a broken plan section, as indicated at line 2 of Fig. 1; Figs. 3, 4, and 5, enlarged broken transverse vertical sections on the corresponding lines of Fig. 1; Fig. 6, an enlarged broken vertical detail taken as indicated at line 6 of Fig. 2 and showing the manner of securing the bottom cross-pieces to the longitudinal floor-sills; Fig. 7, an enlarged broken section at the corresponding line of Figs. 2 and 8; Fig. 8, a broken section at line 8 of Fig. 7; Fig. 9, an enlarged broken section at line 9 of Fig. 2; Fig. 10, a broken section at line 10 of Fig. 9 and showing a means of fixing the compressed-air tubes in place; Fig. 11, an enlarged broken section at line 11 of Fig. 2, and Fig. 12, a broken sectional detail view of a double-member cross-sill employed.

In the preferred construction A A′ represent steel channel-form longitudinal center floor-sills; B B′, similarly-described intermediate sills; C C′, similarly-described side sills; D, the platform-sills, which may conveniently be either steel I-beams or steel channel-bars; D′, the draft-beams, preferably steel I-beams, arranged beneath the center sills A A′ and firmly fixed thereto; E, a series of top cross-pieces, preferably of flat or bar steel, fixed in any suitable manner to the longitudinal sills; E′, a series of bottom cross-pieces, preferably steel channel-bars, secured to the longitudinal sills by strap-bolts *a*, Figs. 1 and 6, riveted to the sills and passing through perforations in the channels and equipped beneath the same with nuts; F F′, a double-member cross-sill, preferably two strong steel I-beams, located above the stirrup-plate G directly over the center wheels of the front truck; G′, the end-sill stirrup-plate; H, H′, H^2, and H^3, clusters of horizontally-disposed tubular compressed-air holders; I, the corner uprights or posts of the car-frame; I′, the door-posts; I^2, a channel-form end sill; I^3, corner-plates joining the end sill to the outer longitudinal sills; J, vertical wooden car-posts secured to the peripheral floor-sills by angle-irons J′; K, metallic plates secured to the angles J′ and to the peripheral floor-sills; K′, metallic longitudinal compression members or bands riveted to the plates K and angles J′; K^2, wooden compression-blocks between the uprights J, the longer blocks being located beneath the window-sills, (not shown;) L, Figs. 2 and 9, metallic hanger-plates riveted to the center and intermediate floor-sills; M, side stirrup-angles secured at their ends to the side sills C C′ and riveted at intervals to downward extensions N of certain of the plates K, constituting hanger-plates corresponding in function to the hanger-plates L, and P series of channel-form holder-supports of suitable lengths to fit between the hanger-plates, to which they are secured, as by means of rivets *b*. The channels P have their angles cut away for a distance at the ends and the web ends downturned to afford attaching-flanges *b*′.

The channels A A′ preferably extend continuously from end sill to end sill of the car-body, have their angles turned from each other, and are spaced far enough apart to admit at least one holder between them. The intermediate sills B B′ are composed of sections which extend from the cross-sill member F′ shown to a similar member (not shown) at the rear end of the car and from the members F′ to the end sills of the car, their angles being outturned, as shown. The side sills C C′ extend from end sill to end sill and have their angles turned inwardly, and the end sills likewise have their angles turned inwardly, and finally the cross-sills F F′ are in

sections extending from side sills to center sills and from center sill to center sill, being secured to said sills by short vertical angles *c*.

The compressed-air holders may be put in place during the construction of the car or afterward. In any case the holder-supports are removable for insertion or replacement of the pipes. To facilitate this, the supports P may be secured to the hanger-plates by bolts instead of rivets, though the necessity for the removal of any holder would occur so rarely as to render riveting the preferred fastening means. Any suitable means may be employed for connecting the open ends of the holders with each other and with the motor, none being here shown. Also any suitable means for preventing movement of the holders in their places may be provided. I have shown for the purpose, Fig. 10, double end-threaded bolt-straps *d d'*, which securely fix the holders in place by being passed through perforations in the cross-pieces and secured by nuts.

It is to be understood that the car is preferably symmetrical, the part not shown being a counterpart of that shown and a similar nesting of the holders being there present.

I believe it to be new to provide a car structure wherein the spaces between the longitudinal floor-sills, particularly from the front trucks to the rear trucks, are preserved for housing clusters of compressed-air holders, said sills being connected by bottom cross-pieces serving in place of cross-sills and as supports for said holders. Also I believe it to be new to provide between trucks hangers depending below the floor-sills and provided with transversely-extending holder-supports. The holder-supports are preferably arranged in sets, as shown, and the space above each set (and included space) will for the purpose of the claims be regarded as the space above the supports.

Changes in form, materials, and details of construction may be made without departure from my invention. Hence no limitation is to be understood from the particular description given, except as may appear from the appended claims.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a car, metallic channel-bar sills having vertically-disposed webs, upwardly-projecting metallic plates secured to the peripheral sills, upright metallic angle-irons secured to said plates, wooden uprights forming part of the car-frame secured to said angles, and supports for compressed-air holders secured to the longitudinal sills, substantially as and for the purpose set forth.

2. In a car, the combination with the longitudinal sills thereof, of depending hanger-plates secured to said sills between the front and rear trucks, and cross-bars secured to said hanger-plates and affording supports for compressed-air holders, substantially as and for the purpose set forth.

3. In a car provided with side and intermediate sills, the combination of depending hanger-plates secured to each of said sills between the front and rear trucks, cross-pieces extending from hanger-plate to hanger-plate, and side stirrup-pieces secured at their ends to the side sills and between their ends to the adjacent hanger-plates, substantially as and for the purpose set forth.

4. In a car, the combination with the longitudinal sills thereof, of supports for compressed-air holders at the bases of said sills and forming with the sills housings for said holders, depending hangers connected with said sills between the front and rear trucks, and holder-supports connected with said hangers, substantially as and for the purpose set forth.

5. In a car, peripheral metallic channel-bar sills having vertically-disposed webs and inturned flanges, upright metallic angle-irons secured to said sills and arranged in pairs, each member of each pair having one outturned wing and one wing turned toward the other member, a metallic plate separating the members of each pair and secured to the adjacent angle-iron wings and to a sill, and supports for compressed-air holders secured to the longitudinal sills, substantially as and for the purpose set forth.

HENRY H. SESSIONS.

In presence of—
A. W. TAYLOR,
A. P. DENNIS.