No. 707,018. Patented Aug. 12, 1902.

H. ROMÜNDER.

CONVERTIBLE CAR.

(Application filed Apr. 12, 1901.)

(No Model.) 3 Sheets—Sheet 1.

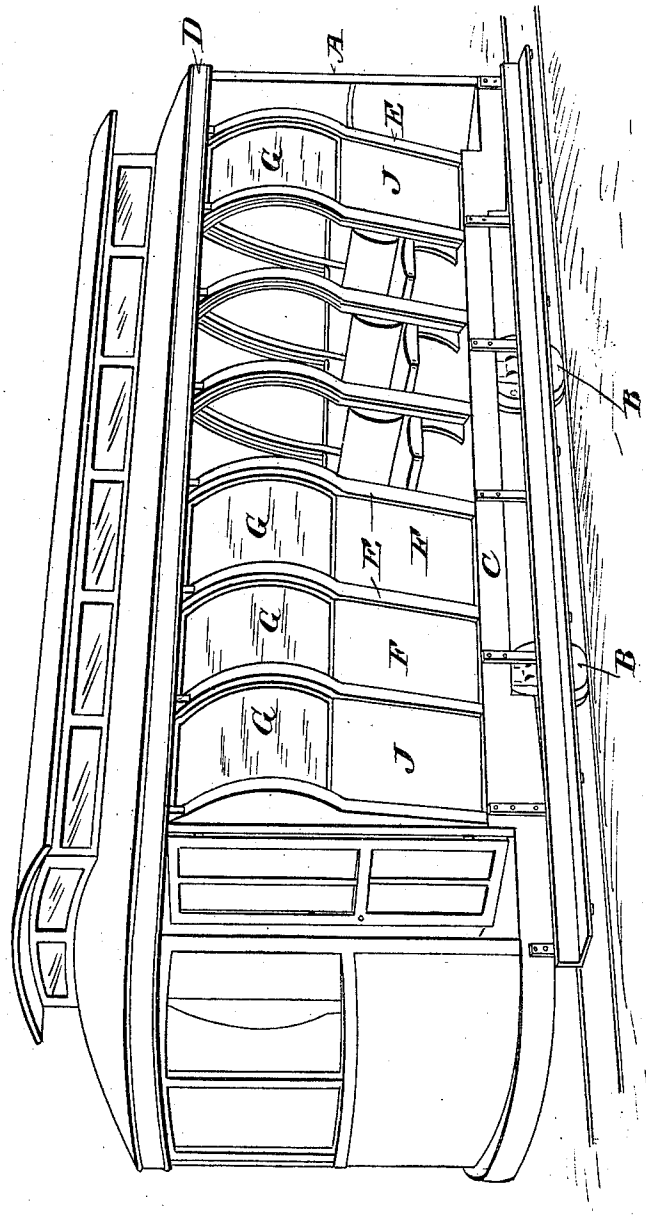


Fig. 1.

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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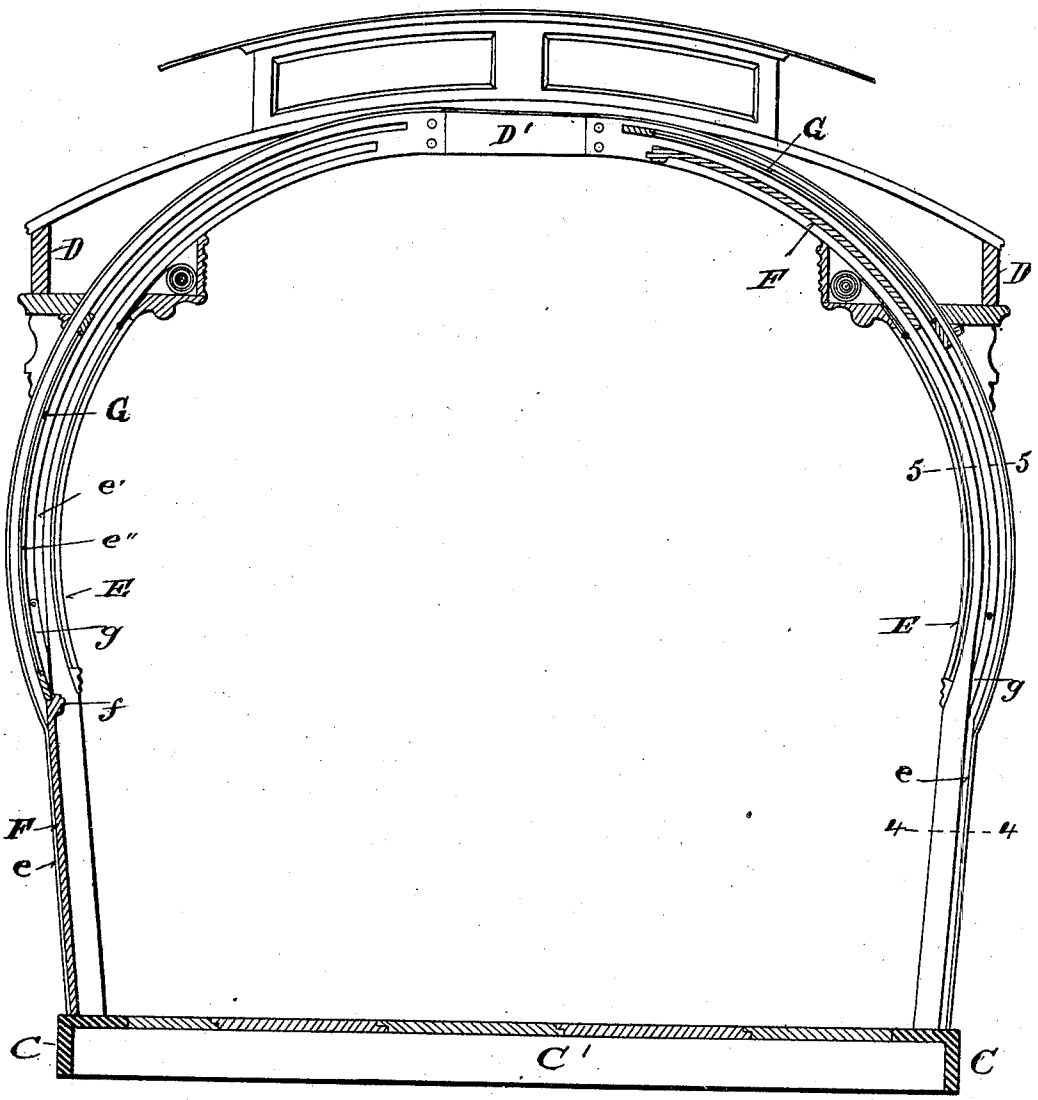


Fig. 2.

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(No Model.) 3 Sheets—Sheet 3.

Fig. 3.

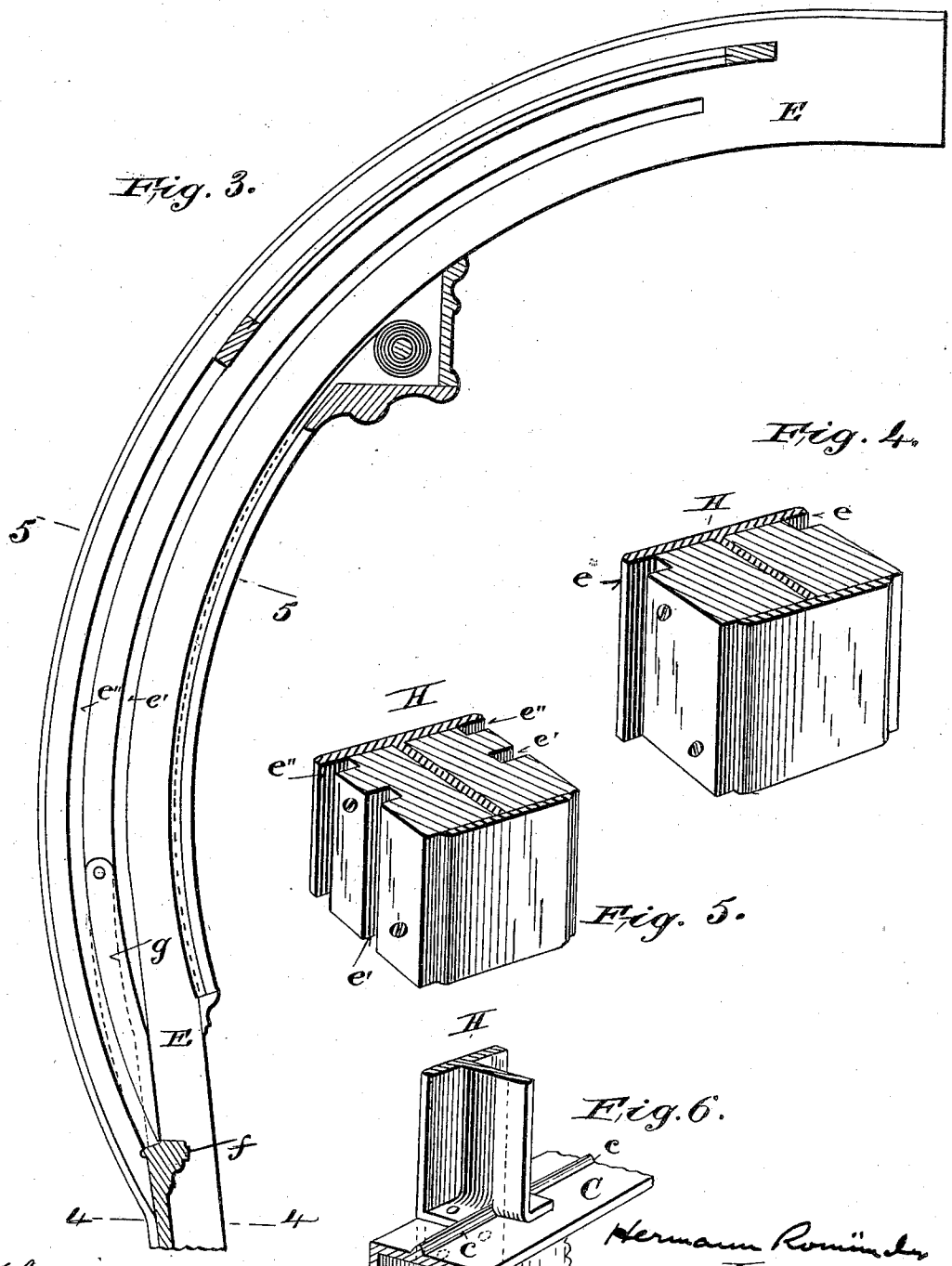


Fig. 4.

Fig. 5.

Fig. 6.

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UNITED STATES PATENT OFFICE.

HERMANN ROMÜNDER, OF NEWARK, NEW JERSEY, ASSIGNOR TO THE CONVERTIBLE CAR COMPANY, OF BLOOMSBURY, NEW JERSEY.

CONVERTIBLE CAR.

SPECIFICATION forming part of Letters Patent No. 707,018, dated August 12, 1902.

Application filed April 12, 1901. Serial No. 55,583. (No model.)

To all whom it may concern:

Be it known that I, HERMANN ROMÜNDER, a citizen of the United States, and a resident of Newark, in the county of Essex, State of New Jersey, have invented certain new and useful Improvements in Convertible Cars, of which the following is a specification.

My invention relates to that class of cars used for street-railways and other purposes which are known as "convertible" cars—that is, cars which can be changed *en route* from open summer-cars to closed or winter cars.

The object of my invention is to provide a car of this character which shall be stronger and more substantially built, of cheaper construction, more readily repaired, and of neater appearance than has heretofore been possible and which car contains a less radical departure from the appearance of ordinary cars than has heretofore been the case in cars of convertible construction. To accomplish these objects, I make the body of the car as a skeleton structure of metal, preferably steel, carefully and strongly riveted together before the woodwork and other ornamentation are applied, and I make the metal uprights and side posts of both sides of the car-body of a fixed pattern or shape, so that there are no rights or lefts, but all the side posts are interchangeable and reversible without regard to the width of the car. The length of the car will vary with the number of side posts used, the distance between two side posts constituting a wall-section and the number of wall-sections to be given to any particular car being a matter of convenience or taste. On the inside of the car the skeleton structure is almost, if not entirely, hidden by wood, either solid or veneer, and the car of course provided with electric or other means of lighting, chairs or other seats, and the details usual to said structures. I avoid the unusual and somewhat cylindrical appearance of convertible cars as heretofore made by making that part of the side which lies below the window-sash straight and nearly vertical and by making the top of the car flat, raised, or otherwise, as desired, and of any desired width, using the circular sweep only for what may be regarded as the upper half of the side and the lower half of the roof.

My invention therefore consists in a convertible car the body of which comprises a metal skeleton frame composed of a bottom frame, a roof-frame, and a number of side posts secured thereto and provided with suitable grooves adapted to receive the sliding side sections of the car and hold them fixed in their open or closed condition, as required.

My invention further consists in metal side posts for use in cars of this construction of such character that all the side posts are interchangeable and reversible.

One form of my invention is shown in the accompanying drawings, in which—

Figure 1 is a perspective view of a car half open and half closed. Fig. 2 is a transverse vertical section. Fig. 3 is an enlarged detail showing the action of the groove-switch. Figs. 4 and 5 are horizontal sections of one of the side posts at different levels. Fig. 6 is an enlarged detail showing the way in which the side post is riveted to the angle-iron which forms the bottom frame.

Same letters indicate similar parts in the different figures.

A is the body of the car, which is mounted upon suitable trucks B. This body is formed with a bottom frame, preferably made of angle-iron and bolted or otherwise secured to the truck-frame. This bottom frame consists of a strip of angle-iron C, extending lengthwise of the car on each side, and a number of cross-strips of angle-iron C′, connecting the side strips so as to make a solid frame. The roof-frame is also made of metal and supports any desired form of roof. This roof-frame consists of a longitudinal strip of metal D, extending lengthwise of the car on each side and, if desired, also around the rounded end of the car, and a number of cross-strips D′, secured together so as to make a solid frame to which the upper ends of the side posts may be fastened. These two frames are connected together by the side posts E, which are of peculiar construction, preferably of steel; but other metals may be employed. The bottom frame, roof-frame, and side posts constitute a skeleton structure, which is preferably made complete independently of the truck-frame on which the car is to be set.

F represents what may be called the "solid"

or "wall" portion of the side sections, which when the car is used as a closed car are mounted between the side posts in the grooves *e e* and form an air-tight and weather-tight wall for the car below the window-stool *f*. When the car is to be used as an open car, these side walls F are moved up in the inner grooves *e' e'* out of the way, so as to lie under or over the lower part of the roof-frame. The other part of the side wall consists of a window or window-sash G, which is always in the outer grooves *e'' e''*. When the car is used as a closed car, the window-sash rests down upon the stool *f;* but when the car is used as an open car it is pushed up under the roof out of the way. The lower ends of the grooves *e' e''* are separated by a swinging switch or lock *g*, which is normally held by gravity or a spring toward the outer side of the wall, which would leave the inner upper groove *e'* in communication with the lower groove *e*. When, however, the window-sash is down, its lower end forces the switch inward, shutting off the inner groove *e'* and making it impossible for the side wall F to be raised. The preferable construction of the side posts will be more readily understood from Figs. 3, 4, 5, and 6. The post itself is preferably made out of a T-shaped bar H of suitable length, which is left straight for the lower section, but is bent into the arc of a circle for the upper portion, as shown. Both sides of the shank of the T are faced with wood, which for the straight portion of the bar contains simply the grooves *e e*, but for the bent portion of the bar contains the two grooves *e' e''*, the connection between the grooves *e* and *e'* depending upon the position of the switch *g*. For the sake of superior finish the inner edge of the shank of the T-bar is also covered with a wooden veneer, so that no part of the metal skeleton frame is visible inside the car except the angle-iron of the bottom frame, which serves as a threshold when the car is open and is provided with a little ridge *c*, upon which the bottom of the side wall F, preferably grooved, rests to make a strong and weather-tight connection.

The way of attaching the side posts E to the bottom frame C so as to make a strong and substantial construction is best shown in Fig. 6. The body of the T extends down for some distance on the outside of the frame and is bolted or riveted thereto. A portion of the shank of the T is split into the parts *e e'* and bent into a horizontal position, one to the right and one to the left, after which they are bolted or riveted to the upper surface of the bottom frame. This of course is done before the posts are covered by wood, as before explained.

It is obvious that by reason of having the two concentric grooves in the upper part only of the post I am not only able to raise the sash G and side wall F of one side of the car entirely out of the way without interfering with or overlapping those from the other side of the car, as has heretofore been usual, but I am also able to have the lower portion of the sides of the car straight and substantially vertical, such slant as is required being only that needed to enable the somewhat-flexible side wall to pass from the groove *e* to the groove *e'* when the latter is open.

The operation of converting the car from an open to a closed car, or vice versa, and the many advantages of the construction will, I think, be sufficiently understood without further description. The car may, if desired, have the permanently-closed head-sections J without interfering with my improved construction.

I claim—

1. A convertible car the sides of which are composed of grooved interchangeable and reversible metal posts and side sections consisting of window-sashes and side walls sliding therein and so arranged that when the sides are closed the sashes rest above the side walls and when the sides are open the sashes and side walls are separately raised and held in separate grooves in the upper part of said posts said grooves communicating with the lower groove by means of a lock substantially as set forth.

2. An interchangeable side post for convertible cars, the lower portion of which contains a groove for the side wall and the upper portion of which contains concentric grooves for the side wall and sash, the upper grooves communicating with the lower groove by means of a lock substantially as and for the purpose set forth.

3. A side post for convertible cars the grooved lower portion of which is substantially vertical and the upper portion runs on the arc of a circle and is provided with two concentric grooves the lower groove communicating with either of the upper grooves by means of a lock substantially as shown and described.

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