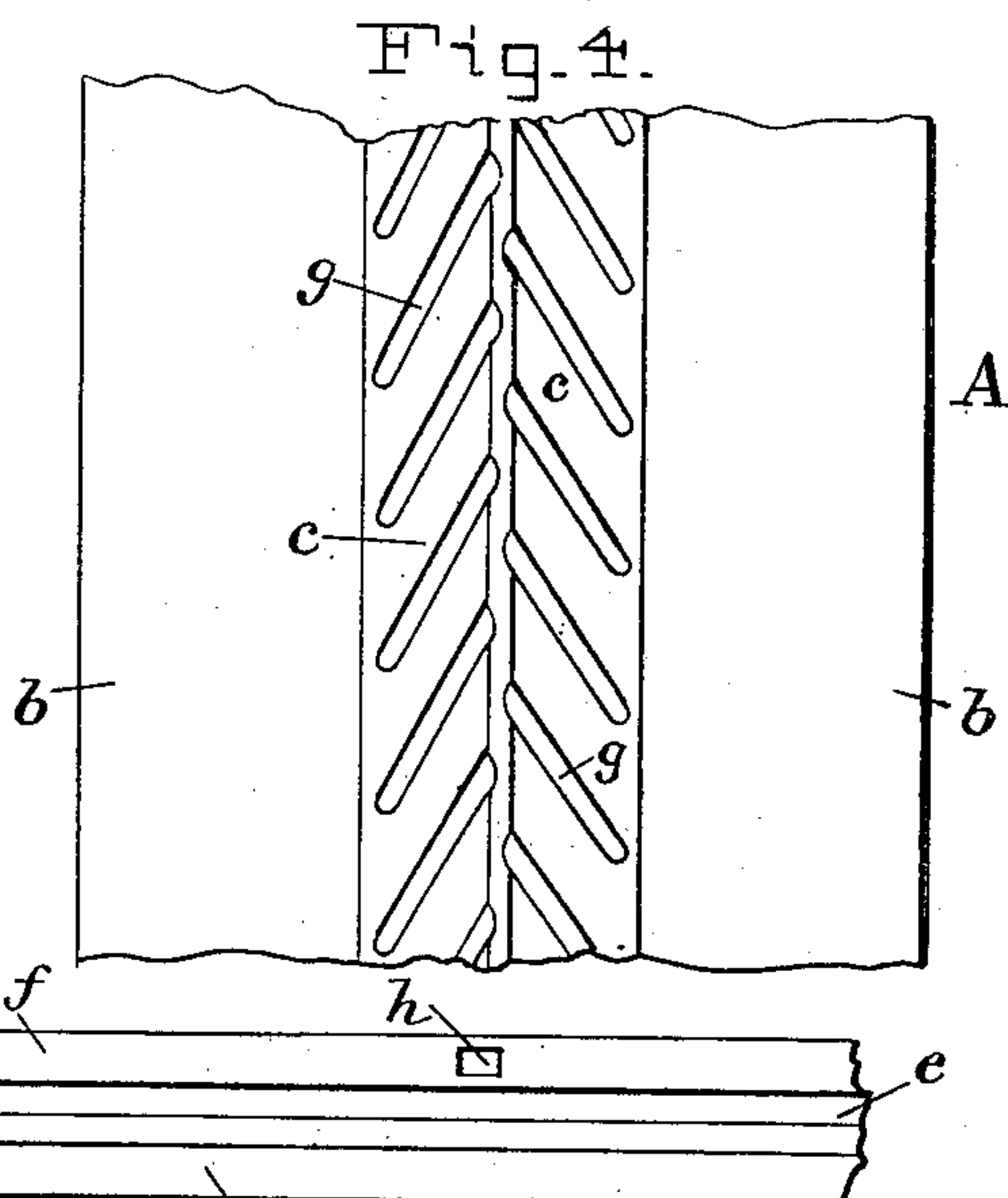
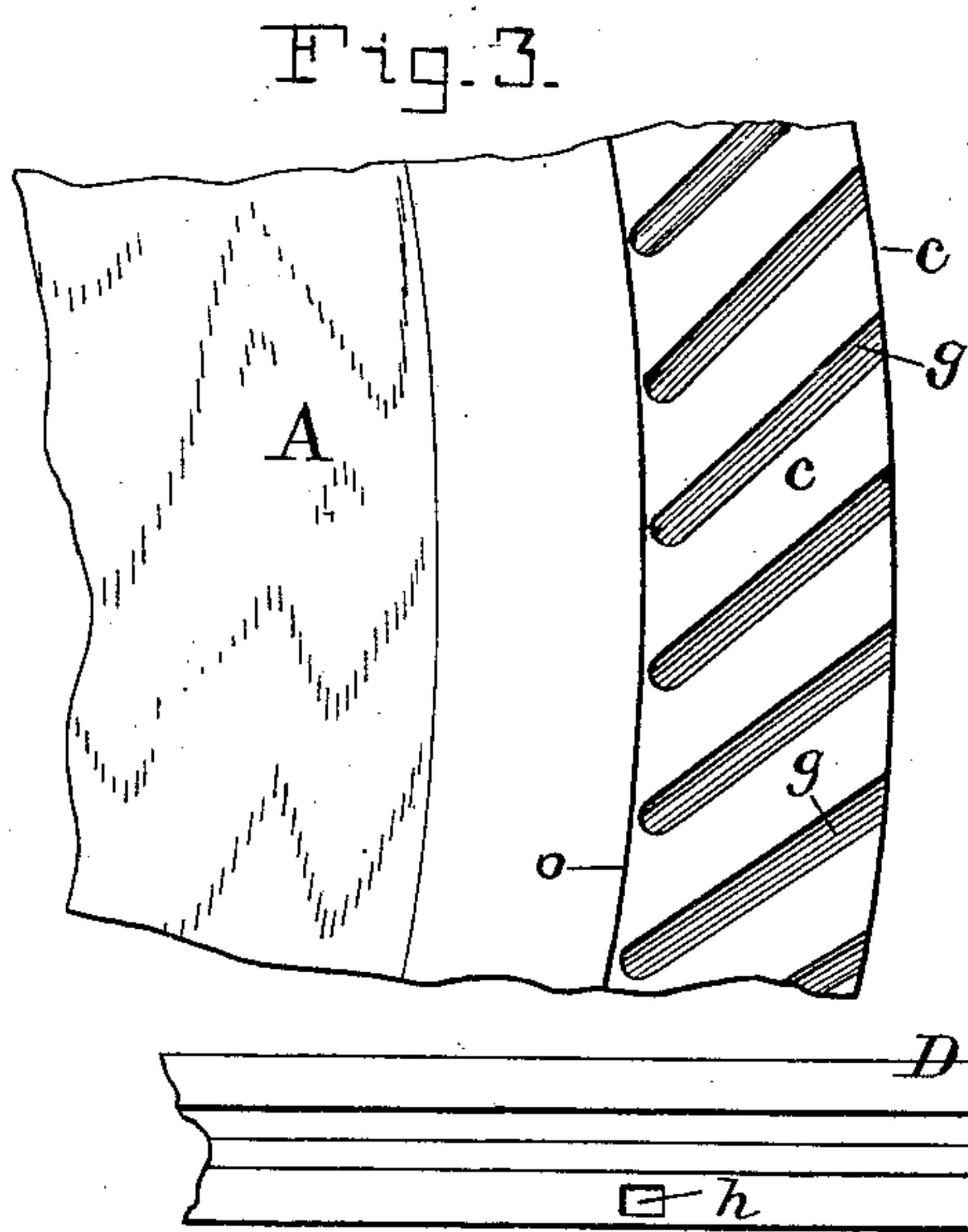
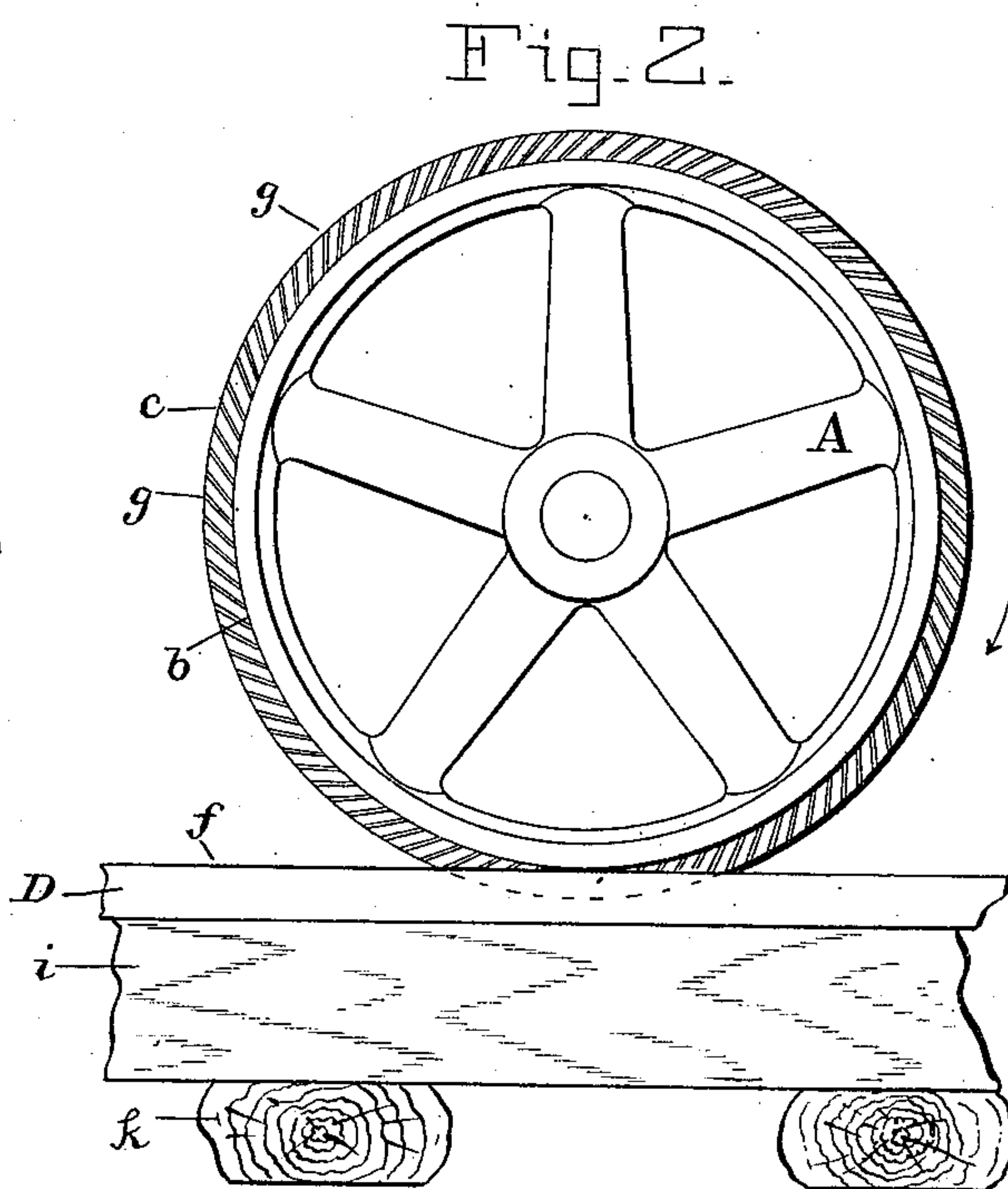
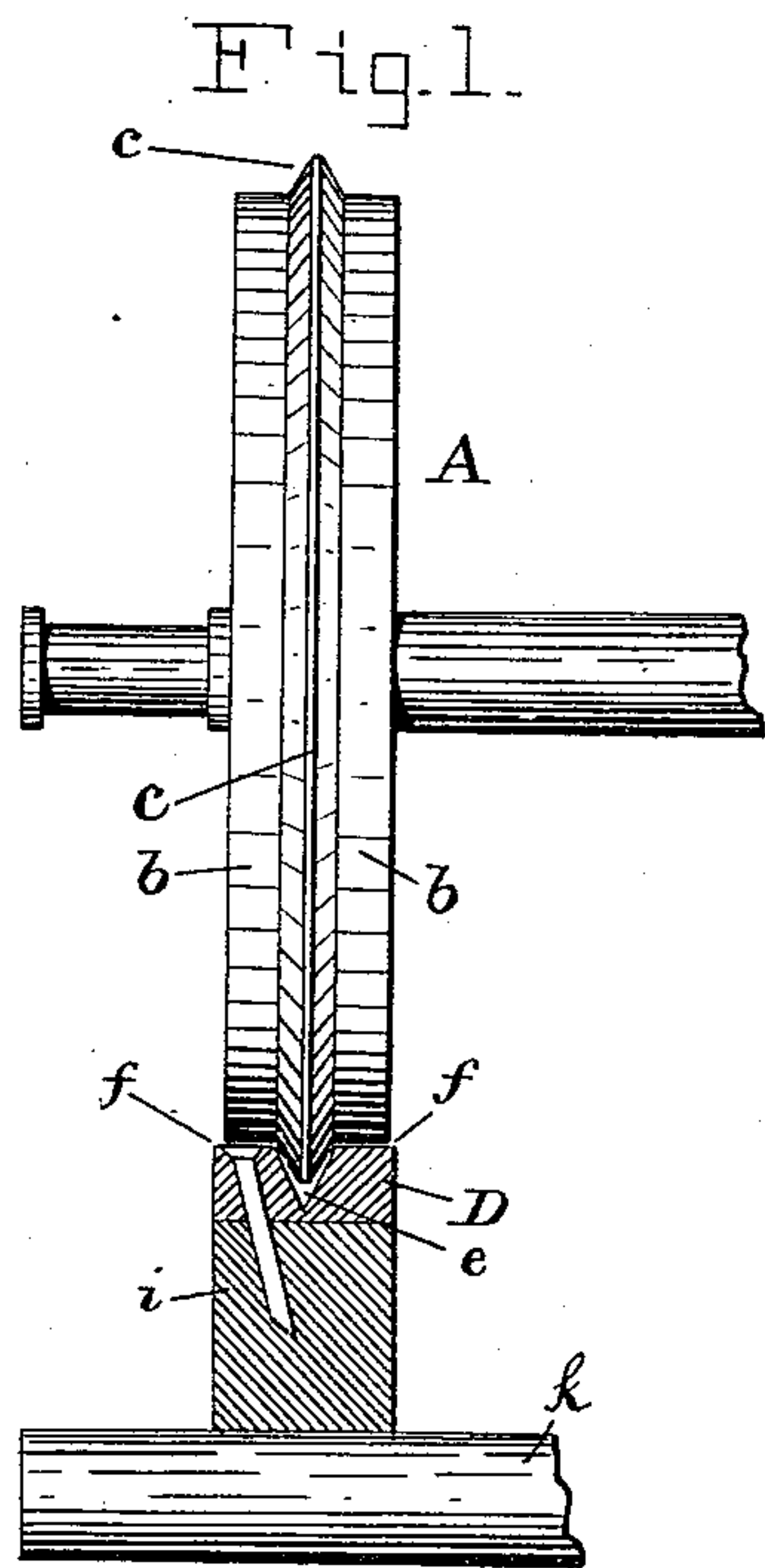


(No Model.)

S. JACOBS.  
CAR WHEEL.

No. 336,050.

Patented Feb. 9, 1886.



Witnesses:

*Wm. B. Conzden.*  
*John E. Morris.*

Fig. 5.

Inventor:

*Samuel Jacobs*  
By *Chas B. Mann*  
Attorney



# UNITED STATES PATENT OFFICE.

SAMUEL JACOBS, OF BALTIMORE, MARYLAND, ASSIGNOR OF ONE-HALF TO  
JOSEPH F. MATTHAI, OF SAME PLACE.

## CAR-WHEEL.

SPECIFICATION forming part of Letters Patent No. 336,050, dated February 9, 1886.

Application filed October 15, 1885. Serial No. 179,925. (No model.)

*To all whom it may concern:*

Be it known that I, SAMUEL JACOBS, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Street-Car Wheels and Rails, of which the following is a specification.

My invention relates to an improved car-wheel for street-cars and combined car-wheel and rail.

The object of the invention will be hereinafter fully set forth, and its nature will be fully understood by reference to the accompanying drawings, in which—

Figure 1 is a front view of the car-wheel and a section of the rail on which the wheel runs. Fig. 2 is a side view of the car-wheel and rail. Fig. 3 is a side view, on a larger scale, of a portion of the car-wheel, showing the serrations on the flange. Fig. 4 is a front view of the same part as seen in Fig. 3. Fig. 5 is a top view of the rail.

The car-wheel A has at its rim a tread, *b*, and a flange, *c*, projecting from the center of the tread. In other words, the wheel has a flange, and a tread or face on each side of the flange. It is designed that all the weight shall be supported by the two treads, or the double tread, resting on the rail, while the central flange, by occupying a groove in the rail, will serve simply to retain the wheel on the rail. The central flange, *c*, on the tread is V-shaped in cross-section, and the top of the rail D has a V-shaped groove, *e*, to receive this flange. On each side of the groove is a flat tread-surface, *f*. A feature of this V-shaped groove is, that its sides are pitched at a different angle from that of the sides of the central flange on the wheel. While the groove *e* at its widest part is just broad enough to receive the broadest part of the central flange, *c*, (see Fig. 1,) its depth is enough greater to prevent the flange from bearing or having a seat in its bottom. This difference between the pitch of the angular sides of the rail-groove and those of the wheel-flange, and the fact that the rail-groove is deeper than the flange, insure that the treads *b* only of the wheel will bear on the top surfaces, *f*, of the rail.

The flange *c* of the wheel is provided with crosswise serrations, notches, or grooves *g* on

each side. These are to serve for cleaning or freeing the groove in the rail of dirt, trash, or ice. The word "serration" is here employed to include any kind of a notch, groove, gain, or cut that may be made crosswise of the sides of the flange. These serrations may extend across the flange in any direction. They may have a radial position—that is, be straight across—or may have a tangential position—that is, extend obliquely across. The latter is preferred as being especially effective for the purpose named when the wheel is turned in the direction, as indicated by the darts, toward which the serrations incline. Crosswise serrations may be applied to a car-wheel flange of any shape. Their usefulness is not limited to a V shape. Neither is their usefulness restricted to a central flange. They may be used as well on a wheel with only one tread or face.

The rail D has spike-holes *h*, which are made through each tread-surface *f*, and said holes are located alternately on one and then the other tread-surface. The rail may be laid in any well-known or desired manner. In the drawings wood stringers *i* are shown as supporting the rail, and the stringers rest on cross-ties *k*. The tread-surface of the rail should be flush or even with the pavement. A rail of this kind will be no obstacle whatever to carriage-wheels, and it has the advantage over the English rail with a U-shaped groove, in that carriage-wheels with very narrow tires cannot sink in this V-shaped groove, while they do sink and sometimes become set or stuck fast in said U-shaped groove.

I am aware that wheels having a central flange and a tread each side of the flange are not new, and that it has been proposed to use such wheels on two rails laid side by side. I am also aware that traction-engines have been provided with wheels having serrations or teeth across the tread thereof. As heretofore explained, my invention has for its object a different purpose.

Having described my invention, I claim and desire to secure by Letters Patent of the United States—

1. A car-wheel having a V-shaped flange provided on its sides with crosswise serrations and a tread or face on each side of the said flange, in combination with a rail having two

tread-surfaces, *f*, a V-shaped groove between the surfaces, and a metal base below the said groove solidly connecting the two surfaces, the said rail-groove having its sides pitched  
5 at an angle different from that of the sides of the wheel-flange, as set forth.

2. A car-wheel having a tread or face and a flange projecting therefrom provided on its sides with crosswise serrations, as set forth.

10 3. A car-wheel having a tread or face and a flange projecting therefrom provided on its sides with serrations which extend obliquely across, as set forth.

4. A car-wheel having a tread or face, and at the center of said tread a projecting flange 15 provided on its sides with crosswise serrations, as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

SAMUEL JACOBS.

Witnesses:

JOHN E. MORRIS,  
JNO. T. MADDOX.