No. 686,696.

Patented Nov. 19, 1901.

# O. P. ANDERSSON.

## RAIL JOINT.

(Application filed May 22, 1901.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

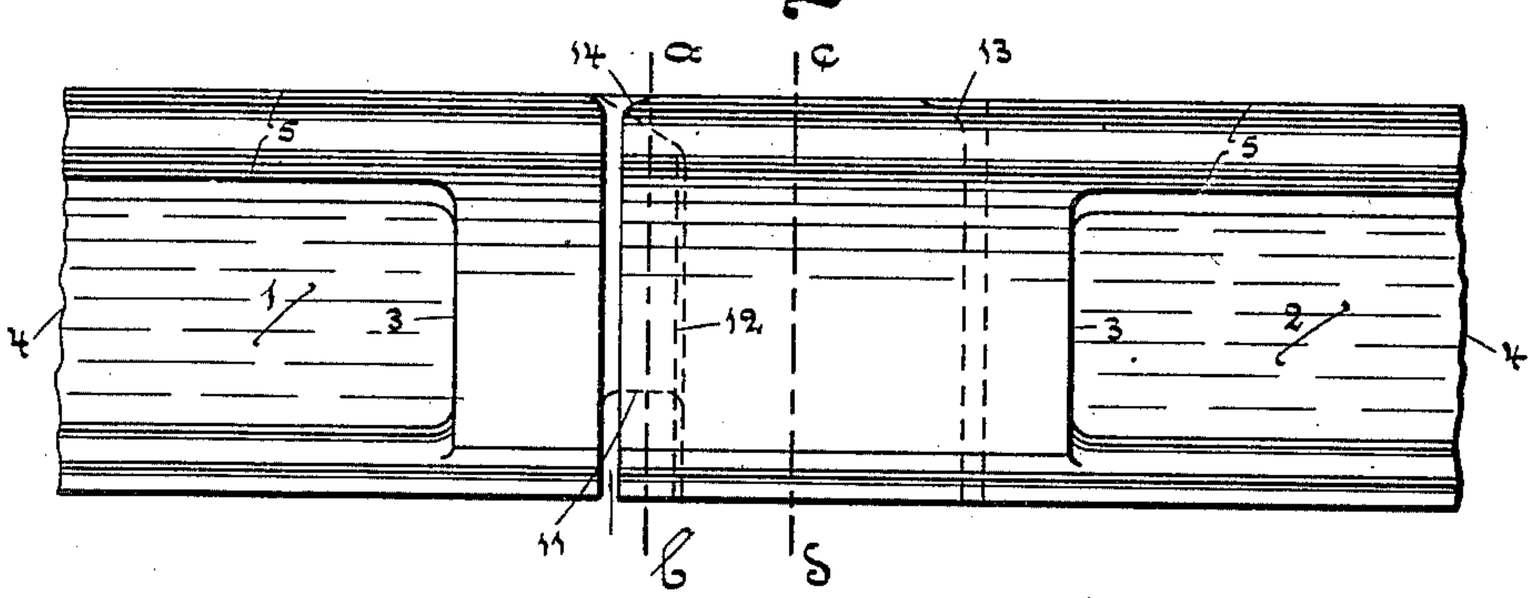



Fig. 2.

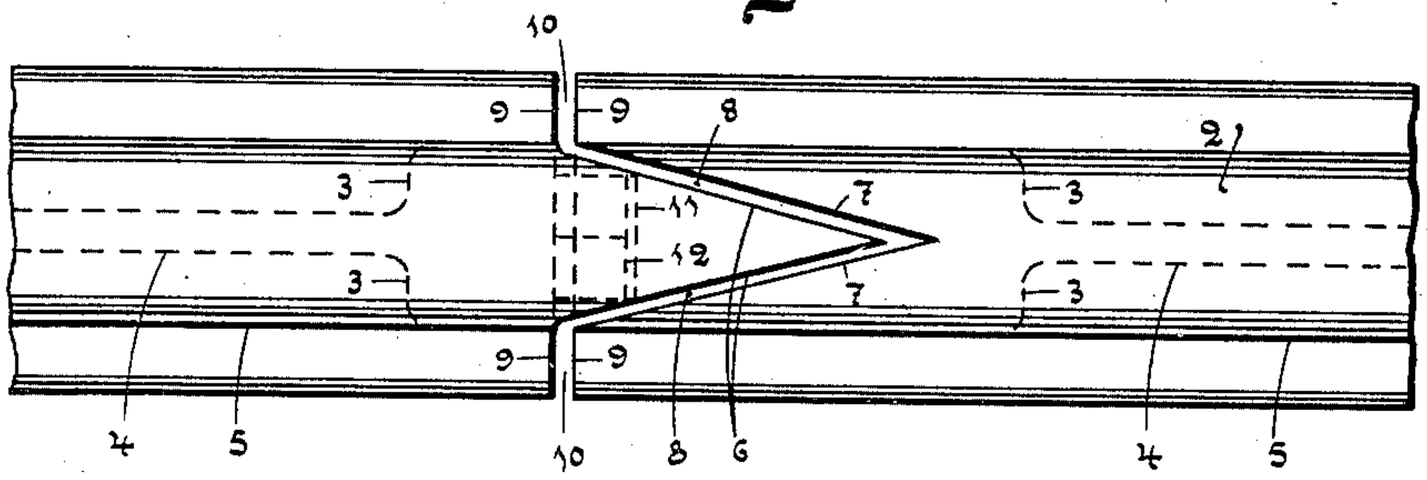



Fig. 3.

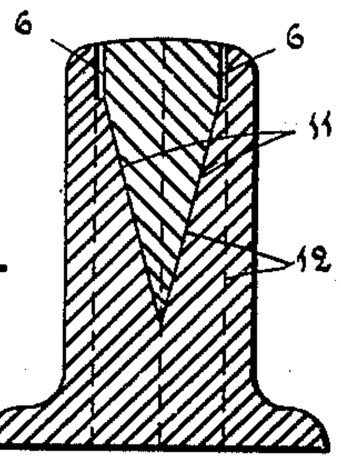
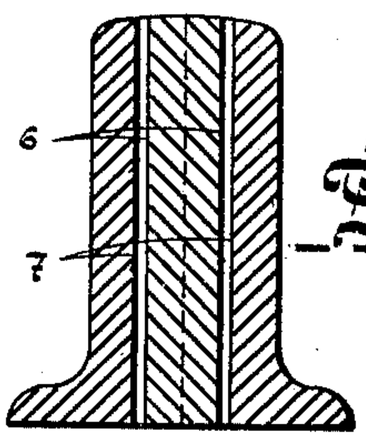



Fig. 4.

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No. 686,696. Patented Nov. 19, 1901.

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## RAIL JOINT.

(Application filed May 22, 1901.)

(No Model.) 2 Sheets—Sheet 2.

Fig. 5.

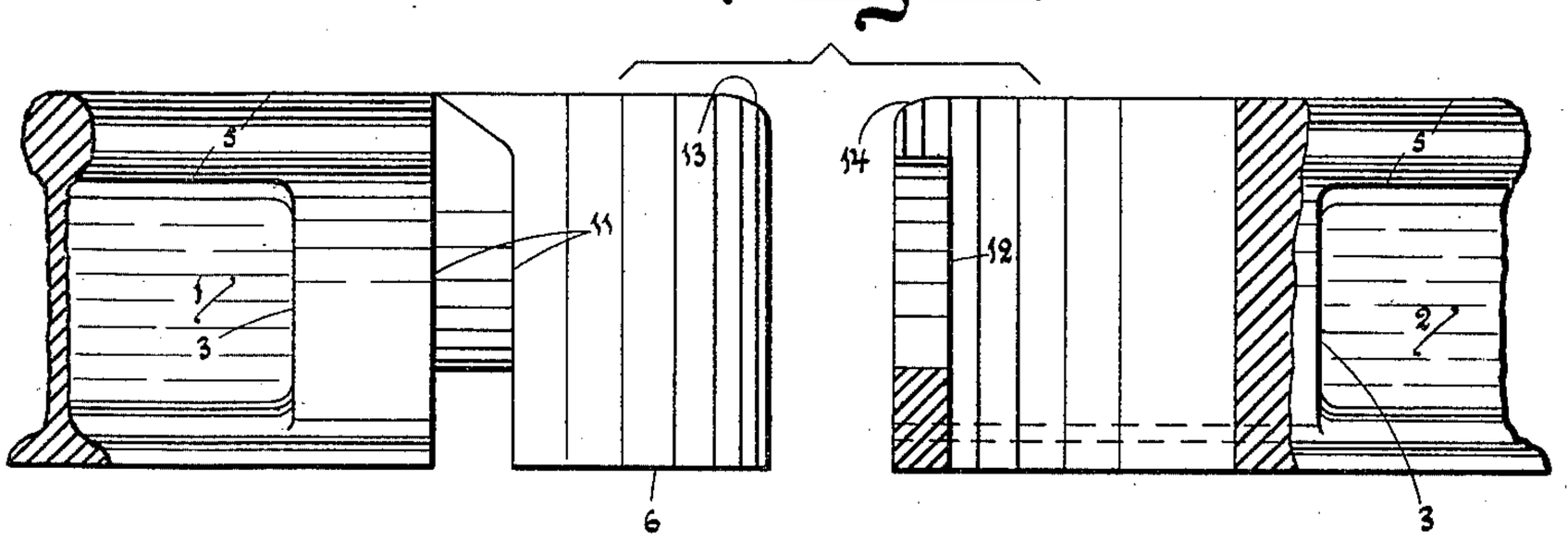



Fig. 6.

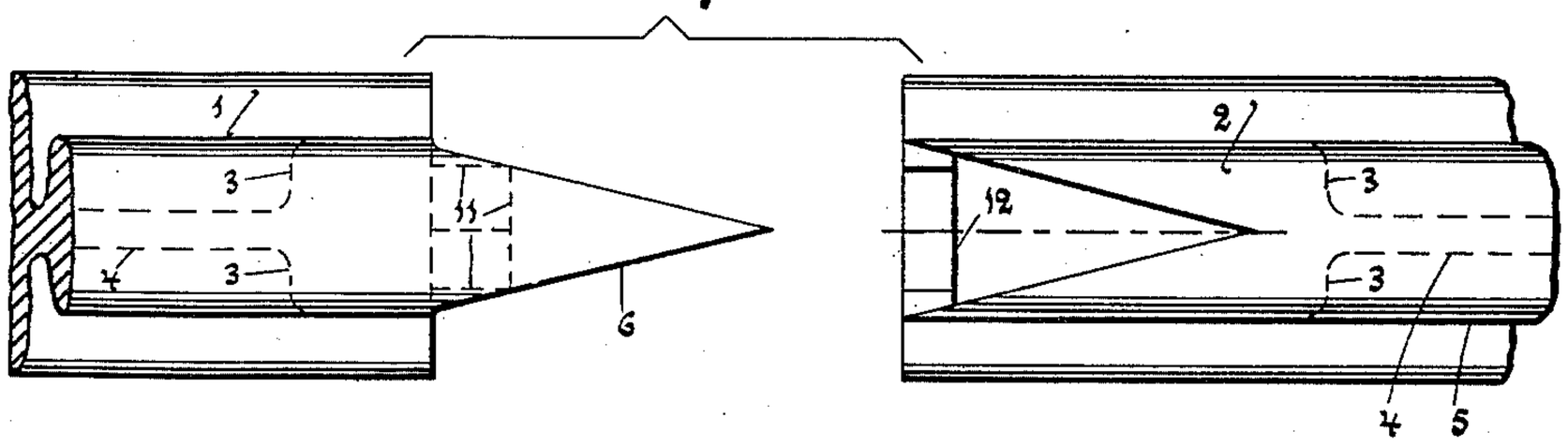



Fig. 7.

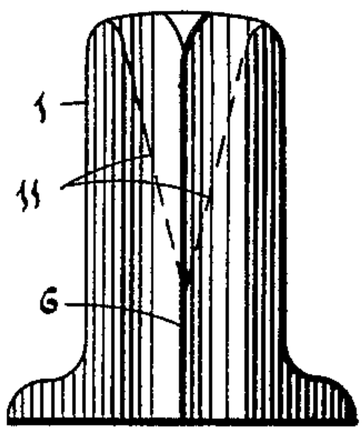
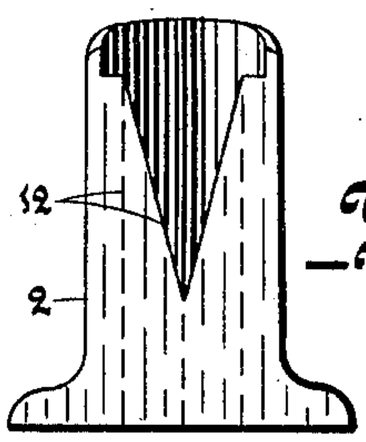



Fig. 8.

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# UNITED STATES PATENT OFFICE.

OLOF PETER ANDERSSON, OF STOCKHOLM, SWEDEN.

## RAIL-JOINT.

SPECIFICATION forming part of Letters Patent No. 686,696, dated November 19, 1901.

Application filed May 22, 1901. Serial No. 61,523. (No model.)

*To all whom it may concern:*

Be it known that I, OLOF PETER ANDERSSON, a subject of the King of Sweden and Norway, residing at Stockholm, in the Kingdom of Sweden, have invented certain new and useful Improvements in Rail-Joints; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to figures of reference marked thereon, which form a part of this specification.

The present invention relates to a rail-joint distinguished by the absence of shock as the rolling-stock is passing over it. The rail-joint is made without fish-plate and fish-plate bolts, being consequently simple and cheap to manufacture.

The invention is illustrated in the accompanying drawings.

Figure 1 shows it in a side view, and Fig. 2 in a top view. Figs. 3 and 4 are cross-sections on lines *a b* and *c d*, respectively, of Fig. 1 viewed from the left. Figs. 5 and 6 show the rail ends parted and viewed, respectively, from one side and from above. Figs. 7 and 8 show an end view of the rails.

At the ends of the rails 1 2 at the joint are made swells of the web 4 to the same thickness as the width of the rail-head 5. The rail 1 is provided with a longitudinally-projecting wedge-shaped piece 6, (see Fig. 4,) entering in a corresponding recess 7 in the rail 2 in such a manner that an intermediate space 8 is left for the variations in length of the rails 1 2. (See Fig. 2.) The base of the said piece 6 when viewed from the top is not quite as wide as the rail-head 5; but to the greater portion of its length it has vertically the same height as the rail. The portions of the end faces 9 of rails 1 2 not taken up by the aforesaid piece 6 and recess 7 are perpendicular to the longitudinal direction of the rail and leave between them the necessary intermediate space 10. (See Fig. 2.) Next to the rail 1 there is made on the piece 6 a vertical wedge 11, Figs. 3, 5, and 7, which fits accurately together with a guide-piece 12, located in the recess 7 and secured to or in one piece with the rail 2. The wedge 11 and its guide-piece 12, Figs. 3, 5, and 8, are so made that they do not interfere with the fluctuations in length of the rails, while at the same time they afford a perfect guide and hold the rail ends together laterally. The wedge-piece 6 has its point beneath the wearing-surface of the rail, owing to the rounding of the corner 13. The extremities of the end of the rail 2 are likewise by means of the rounding of the corner 14 brought below the wearing-surface of the rail. By this construction a smooth and quiet running is insured to the rolling-stock in passing over the joint, owing to the facts that the rolling surface of the wheel is gradually transferred from one rail to the other and no shifting of the rail ends in relation to each other can take place.

I claim—

1. In a rail-joint, the combination of swells 3 on the webs 4 of the rail ends, the said swelled portions equaling the rail-heads in width, with a wedge-shaped piece 6 projecting longitudinally from one of the rail ends and entering in a corresponding recess 7 in the other rail end, and a vertically wedge-shaped portion 11 on the wedge 6, which portion 11 fits together with a guide 12 on the other rail end, for the purpose set forth.

2. In a rail-joint, the combination of the swells 3 on the rail-webs 4 at the rail ends, said swells equaling the rail-heads in width, with a vertical wedge 11, arranged on one of the rail ends and fitting together with a guide-piece 12 on the other rail end, for the purpose set forth.

3. In a rail-joint, the combination of a wedge-shaped piece 6 projecting longitudinally from one rail end and entering in a corresponding recess 7 on the other rail end, and a vertical wedge 11 made on the projecting wedge-piece 6 and fitting together with a guide-piece 12 on the other rail end, for the purpose set forth.

4. In a rail-joint, the combination of a vertical wedge arranged on one rail end, with a guide-piece 12 on the other rail end, which piece accurately fits together with the wedge 11, for the purpose set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

OLOF PETER ANDERSSON.

Witnesses:

SIGNE WETTER,

CARL SAHLBERG.