

(No Model.)

J. V. KOSS.
RAIL JOINT.

No. 382,815.

Patented May 15, 1888.

Fig. 1.

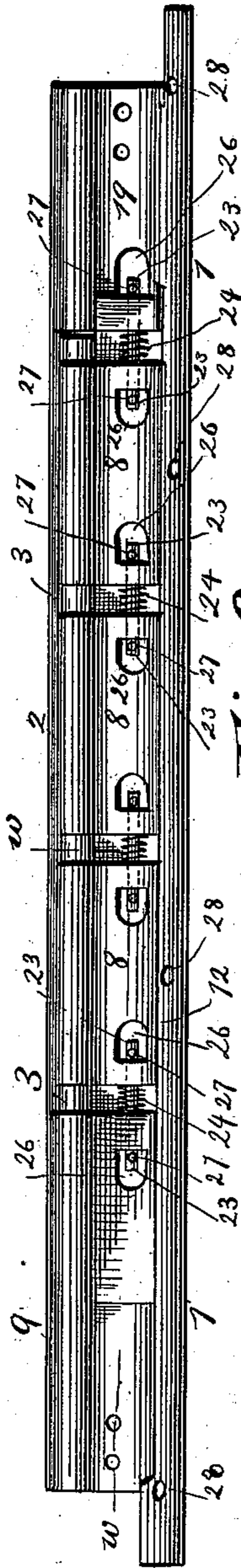


Fig. 2.

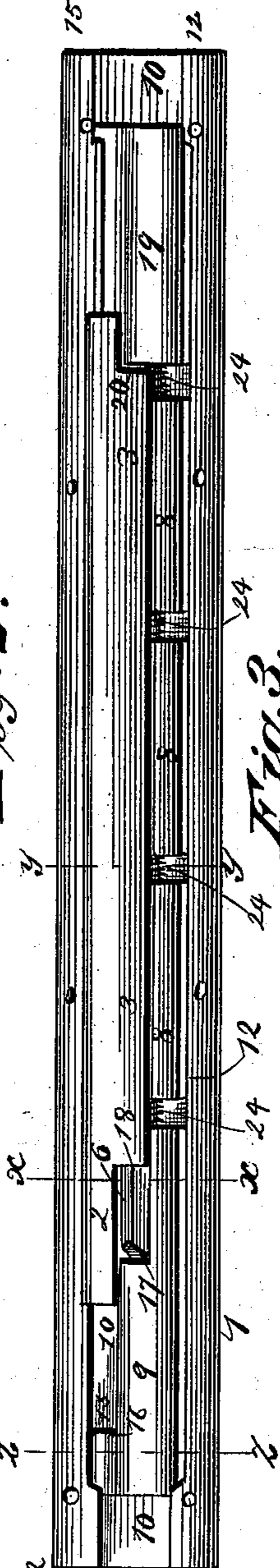


Fig. 3.

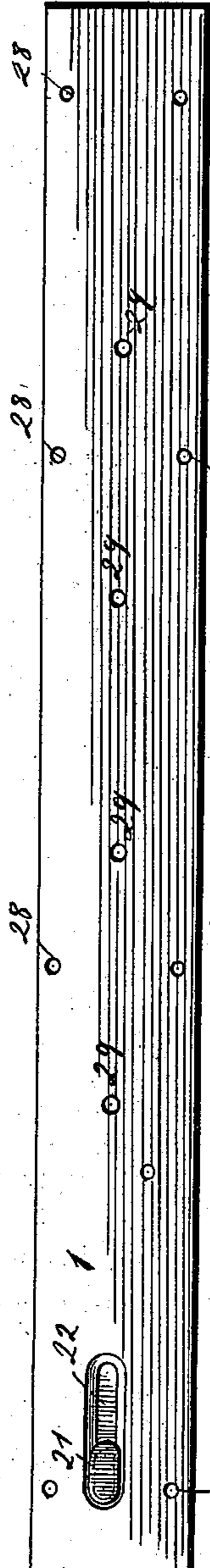


Fig. 4.

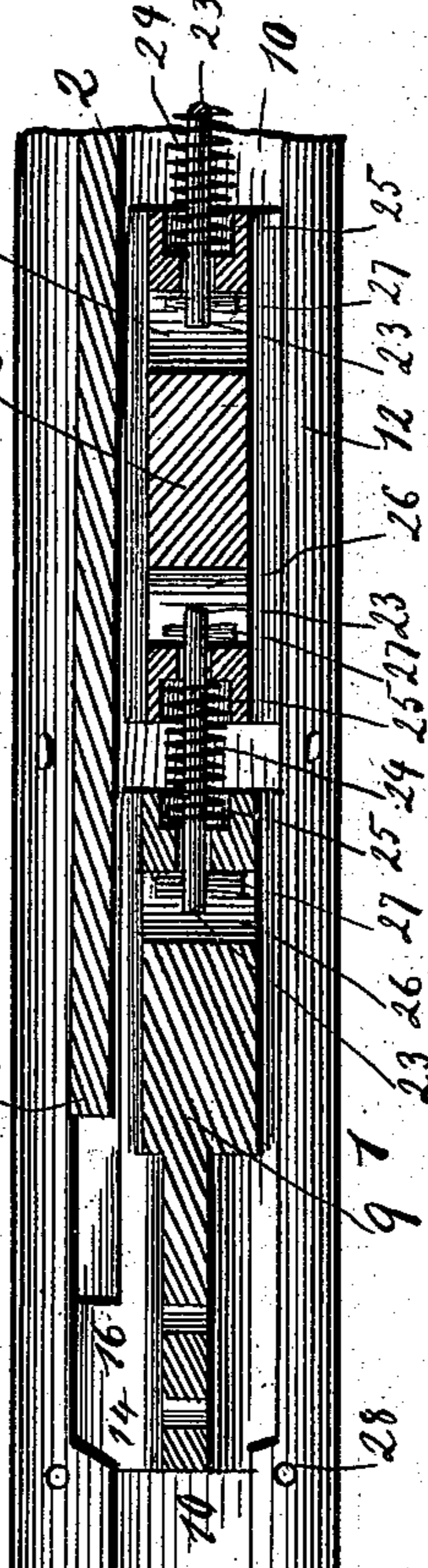
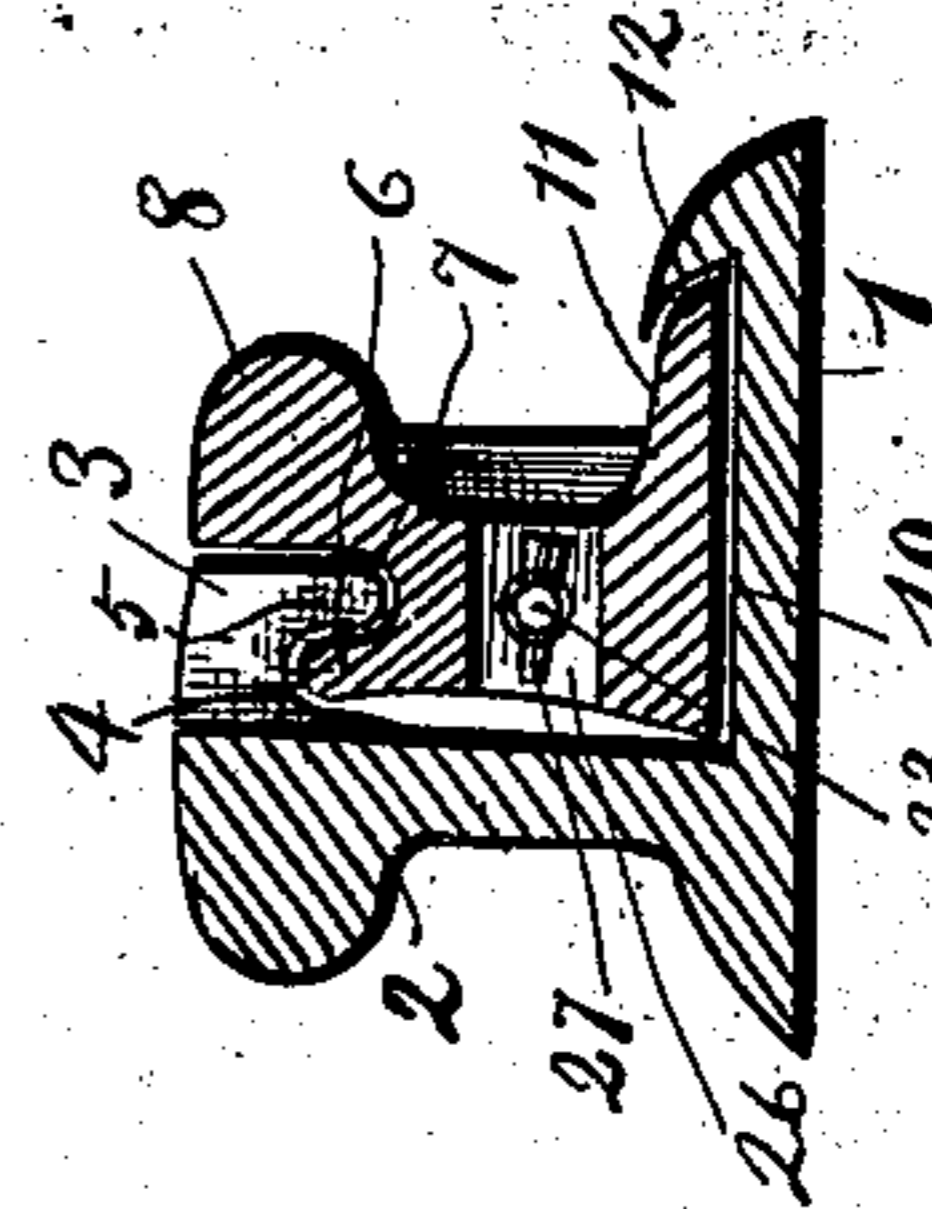


Fig. 5.



WITNESSES:

Phil. Dietrich.
G. Sedgwick.

Fig. 6.

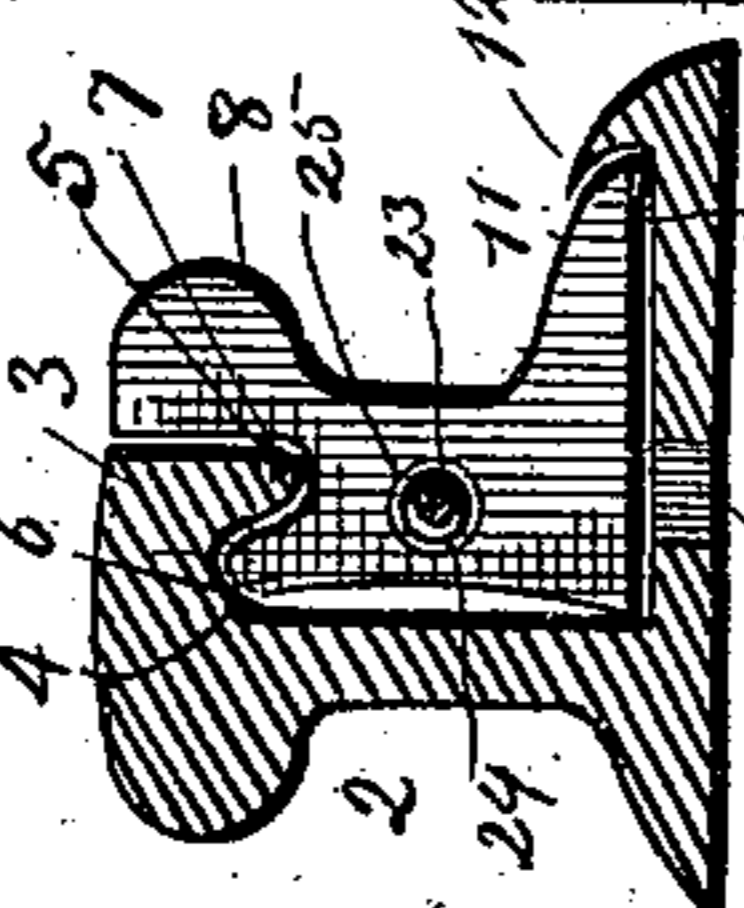
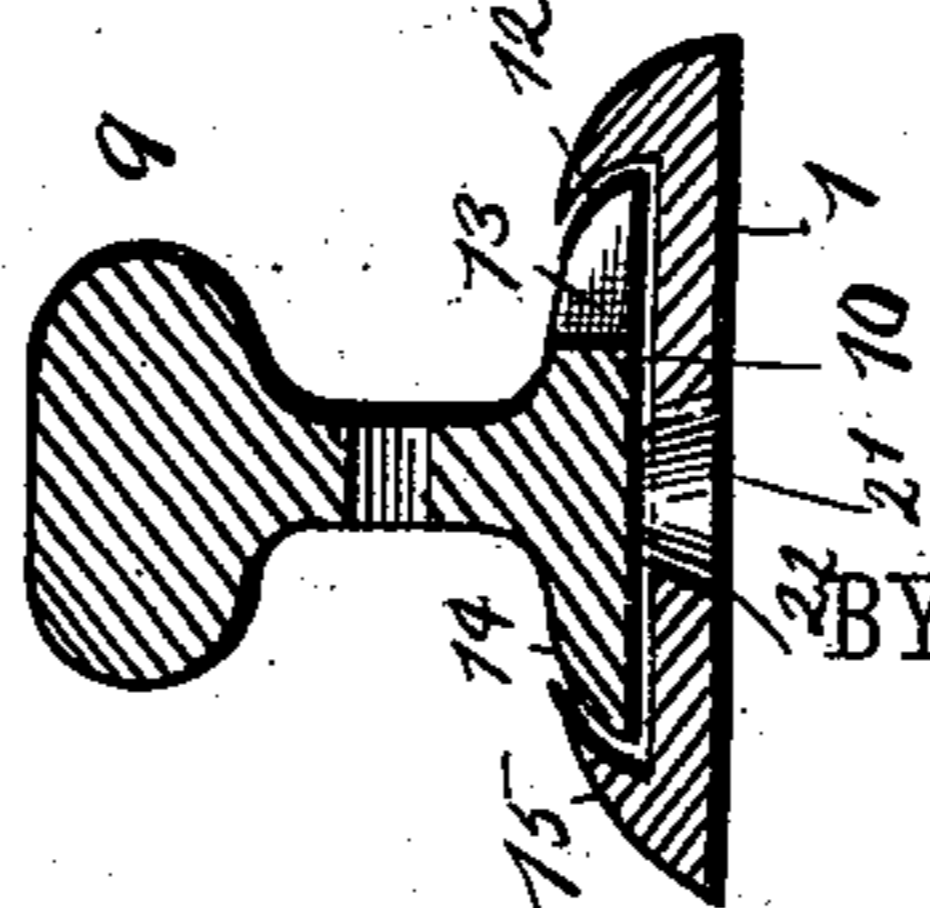


Fig. 7.



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RAIL-JOINT.

SPECIFICATION forming part of Letters Patent No. 382,815, dated May 15, 1888.

Application filed January 31, 1888. Serial No. 202,480. (No model.)

To all whom it may concern:

Be it known that I, JOHN V. KOSS, of North Yakima, in the county of Yakima and Territory of Washington, have invented a new and Improved Rail-Joint, of which the following is a full, clear, and exact description.

This invention relates to rail-joints in which an expansion and contraction rail is employed, and has especial reference to keeping switch-rails in order and preventing them from becoming jammed and getting out of order.

The invention consists in a rail-joint which provides for expansion and contraction of the rails, constructed and arranged as hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a side view of the invention. Fig. 2 is a plan view thereof. Fig. 3 is a bottom view. Fig. 4 is a plan view in horizontal section on line *ww*, Fig. 1. Fig. 5 is a cross-section on line *yy*, Fig. 2. Fig. 6 is a cross-section on line *xx*, Fig. 2; and Fig. 7 is a cross-section on line *zz*, Fig. 2.

In the construction of this invention a chair, 1, is employed, having a rail, 2, preferably integral therewith. The rail 2 is formed like the half of an ordinary T-rail, and has a strip, 3, on its inner upper edge, formed with a groove, 4, and tongue 5, engaging a corresponding tongue, 6, and groove 7 on short sliding rail-sections 8 and sliding T-rail end section, 9. The sections 8 are held in a groove, 10, of chair 1 by a flange, 11, and lip 12, and the end section, 9, by a flange, 13, engaging lip 12, and a flange, 14, engaging a lip, 15. The flange 14 is cut away to form a shoulder, 16, and permit the section 9 to be moved forward and bring the shoulder 16 against the end of rail 2. The top of rail-section 9 is also cut away to form a shoulder, 17, which is brought against a shoulder, 18, on rail 2, when the section 9 is moved forward. A short T-rail section, 19, is held in groove 10 by means of its base-flanges engaging the lips 12 and 15 of chair 1, and abuts at its inner end against a shoulder, 20, on strip 3. Its inner lower flange is also cut away and abuts against the web of rail 2. It is held from moving by means of spikes located behind its

outer end and passing through holes in the chair. It will be observed that a space is left at each end of chair 1 in the groove 10 to receive the abutting ends of the adjoining rails, the base flanges of the latter engaging lips 12 and 15.

The rail-section 9 is limited in its outward movement by means of a pin, 21, engaging a slot, 22, in chair 1, and by this means the sections are prevented from being pulled apart.

The rail-sections 8, 9, and 19 are connected by means of pins 23, encircled by coiled springs 24, having their ends resting in recesses 25 in the rail-sections, the pins 23 projecting into transverse slots 26 in said rail-sections, and held in place by pins 27. It will be seen by this construction that the sections 8, 9, and 19 are normally held apart by the springs 24, and permit of being brought together when pressure is occasioned by the rails by reason of expansion, and of separating by means of the reaction of the springs 24 when contraction occurs. While a specific form of yielding spring-joint is shown as connecting the sections, it is obvious any other form may be used to accomplish the same purpose. The chair 1 is secured in place by spikes passing through holes 28. The rail 2 extends sufficiently above the section rails 8 to permit the bevel of the car-wheels to rest thereon, and thus avoid any jar when passing over the rail-joint. The tread of the rails 9 19 will be even with that of rail 2. The rail 2 and sections 9 8 19 and their joints are to be of such length as to allow the estimated degree of expansion and contraction. The bottom chair, 1, is provided with holes 29, to let out sand and other particles collecting in groove 10.

In use the sections 8 are slid through groove 10 into place opposite rail 2, and the section 9 similarly at one end, and the section 19 at the other. The several sections are then connected by the pins 23, springs 24, and transverse pins 27. The abutting ends of the adjoining rails are then slid into groove 10 until they bear against sections 9 and 19, respectively.

In employing this invention adjacent to a switch or throw rail it is put down with a rail located between it and the switch or throw rail. By means of this construction of an ex-

pansion and contraction rail-joint ample provision is made for the free movement of the parts and the expansion and contraction of the rails, so that the switch or throw rail cannot become jammed or form a dangerous open joint between it and the main rail, as is the case where pieces of rail have to be cut off on account of expansion by the heat of the day, which then leaves a dangerous gap at the switch when the rails contract by cooling at night.

Neither the expansion and contraction rail nor the switch has to be watched, as the parts will always be in order and proper position.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. An expansible rail-joint consisting of a chair having a fixed rail and sliding rail-sections, with intervening spring-joints, and located in a groove in the chair adjacent to the fixed rail, the latter having its ends overlapping the inner ends of the end sections, one of which is fixed, and the grooved chair extending beyond the end sections, substantially as shown and described.

2. An expansible rail-joint consisting of a chair grooved from end to end, rail-sections located at intervals apart and adapted to slide in said groove and connected by pins and rest-

ing springs, end rail-sections, one of which is fixed, overlapping the ends of the fixed rail, and the grooved chair extending beyond the end sections, substantially as described.

3. An expansible rail-joint consisting of a chair having a groove throughout its length, sliding rail-sections located in said groove and connected at intervals apart by spring-joints, and a fixed rail at one side of said groove, the intervening sliding rail sections being less in height than the fixed rail, and the end rail-sections forming with the fixed rail a continuous rail shorter than the grooved chair, substantially as shown and described.

4. An expansible rail-joint consisting of chair 1, having groove 10, and fixed rail 2, having shoulders 18 20, groove 4, tongue 5, and lips 12 and 15, in combination with sliding rail-sections 9 8 8 8, and fixed section 19, connected by pins 23, springs 24, with ends in recesses 25, transverse slots 26, and pins 27, the end section, 9, having a shoulder, 17, and pin 21, engaging slot 22 in chair 1, and the sections engaging the lips of groove 10, substantially as described.

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Witnesses:

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