

No. 741,795.

PATENTED OCT. 20, 1903.

G. R. HUFF.  
RAILWAY RAIL.  
APPLICATION FILED OCT. 20, 1902.

NO MODEL.

Fig. 1.

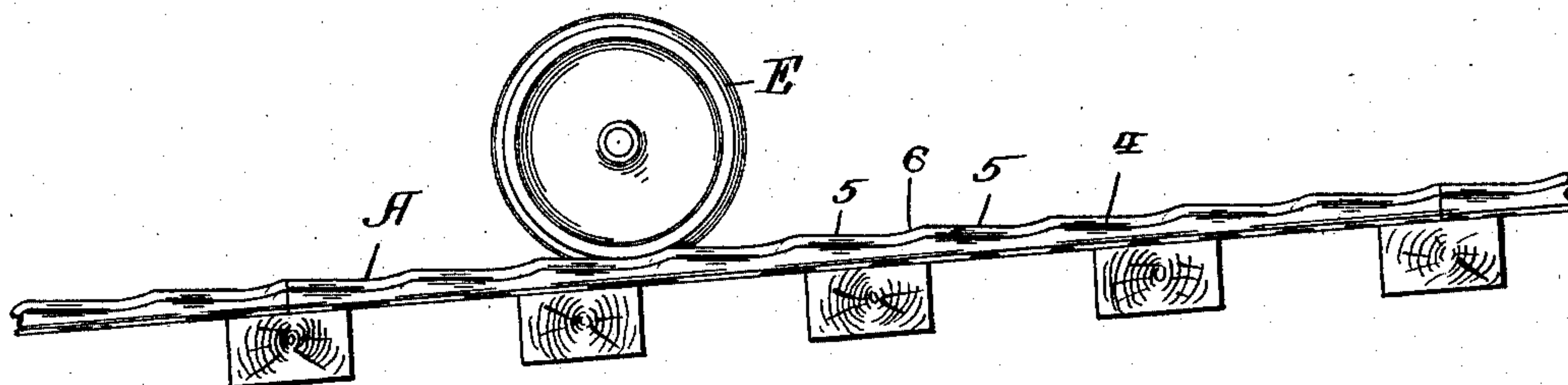


Fig. 2.

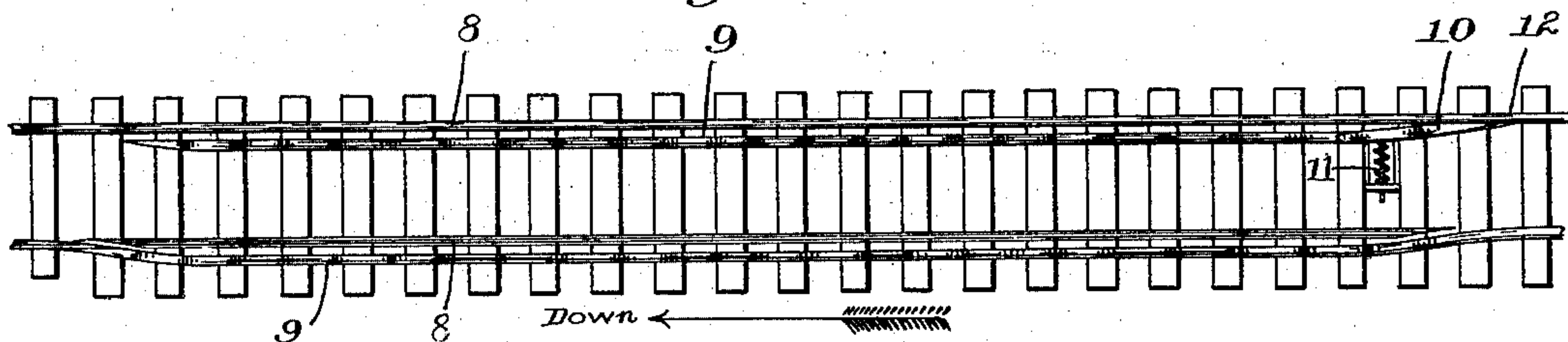


Fig. 3.

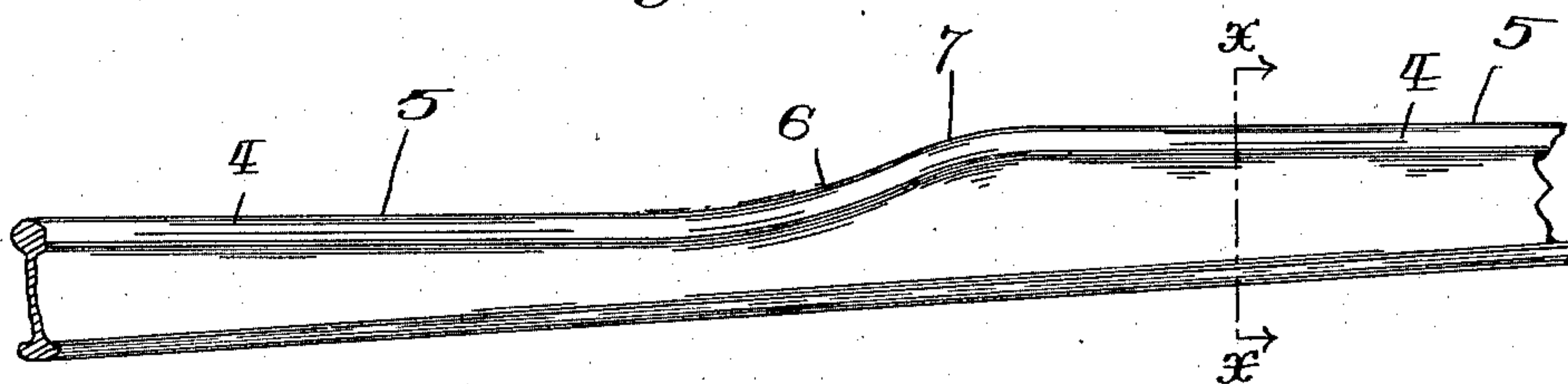
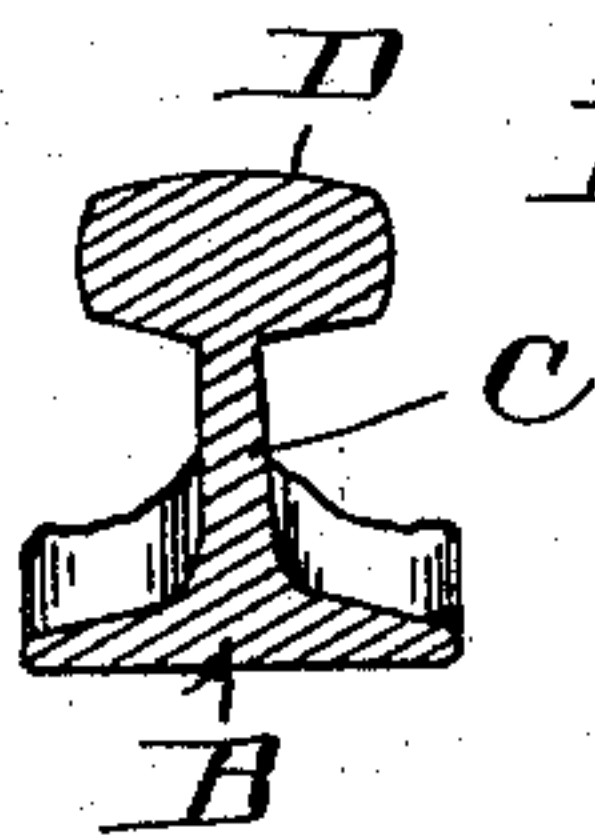


Fig. 4.



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# UNITED STATES PATENT OFFICE.

GEORGE R. HUFF, OF ST. CROIX FALLS, WISCONSIN.

## RAILWAY-RAIL.

SPECIFICATION forming part of Letters Patent No. 741,795, dated October 20, 1903.

Application filed October 20, 1902. Serial No. 127,919. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE R. HUFF, a citizen of the United States of America, and a resident of St. Croix Falls, in the county of Polk and State of Wisconsin, have invented certain new and useful Improvements in Railway-Rails, of which the following is a specification.

My invention relates to improvements in railway-rails, has for its object to provide a rail that reduces the speed of cars when running downgrade, and consists of a rail having a series of steps for the car-wheel to run down.

In the accompanying drawings, forming part of this specification, Figure 1 is a side elevation of my improved rail, showing a car-wheel thereon. Fig. 2 is a plan view of a section of railroad constructed with my improved rail. Fig. 3 is an enlarged side elevation of a detail portion of the rail and Fig. 4 is a section of Fig. 3 taken on the line X X.

In the drawings, let A represent my improved rail for use on inclined roads, B its base, C its web, and D its running-flanges. The running-flanges are constructed, as shown in Fig. 3, with a series of steps 4. These steps have horizontal portions 5, which are curved up at 6 and rounded off at 7, so as to reduce pounding of the car-wheels on the rail. In cross-section the rail appears as shown in Fig. 4, which is substantially the same as the cross-section of the ordinary rail. The difference in height and length of the steps 4 and 5 may be varied according to the degree of incline on which the rail is used. For instance, for an incline of half an inch to the foot I have constructed the rail with horizontal steps about six inches long and one-fourth of an inch high; but it is obvious that other dimensions can be used.

In Fig. 2 I have shown an automatic track system for use with my improved rail, in which the ascending car travels up the ordinary rails 8 and the descending car travels down my improved rails 9. The rails on which the car descends are laid closely adjoining the ordinary rails and the same ties are used for holding both. A switch 10 is provided at the top of the incline. The flanges

on the wheels of an ascending car press the switch open and the spring 11 closes said switch automatically and holds it against the rail 12 when the car descends.

It is obvious that the steps of my improved rail may be slightly inclined either up or down when desired, thus causing the car to descend more slowly or rapidly.

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

1. A rail consisting of a base, a rib and flanges on said rib formed with a series of steps and having concave surfaces connecting with each succeeding step, for the purposes specified.

2. A railway-rail having running-flanges so formed with a series of steps as to retard the motion of car-wheels when descending a grade; said steps being connected by curved surfaces, for the purposes specified.

3. A railway-rail, having running-flanges so formed with a series of steps as to retard the motion of car-wheels when descending a grade.

4. A device of the class described, consisting in combination, with a pair of rails for ascending a grade, of an auxiliary pair of rails adjoining said first pair of rails for descending said grade, said auxiliary rails having a series of steps on their flanges for the car-wheels to run down, and a switch at the top of said grade, between the first and the auxiliary pairs of rails, for the purposes specified.

5. Apparatus of the class set forth, consisting in combination of a pair of rails for ascending a grade, an auxiliary pair of rails adjoining said first pair of rails for descending said grade, and switch mechanism between the first and auxiliary pairs of rails; said auxiliary rails being provided with a series of steps on their flanges, for the purposes specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEORGE R. HUFF.

Witnesses:

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