

R. A. Riley.

Rail Joint.

N^o 34,525.

Patented Feb. 25, 1862.

Fig. 1

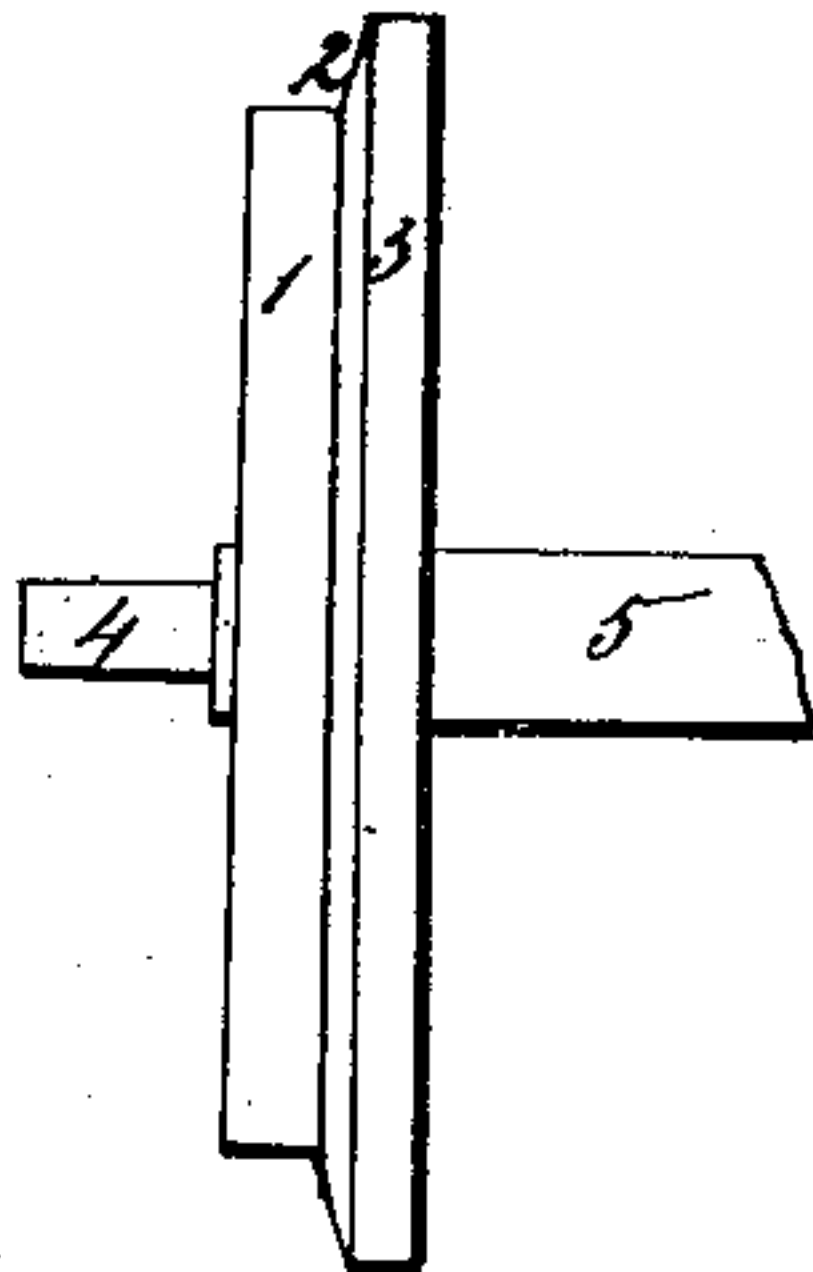


Fig. 2

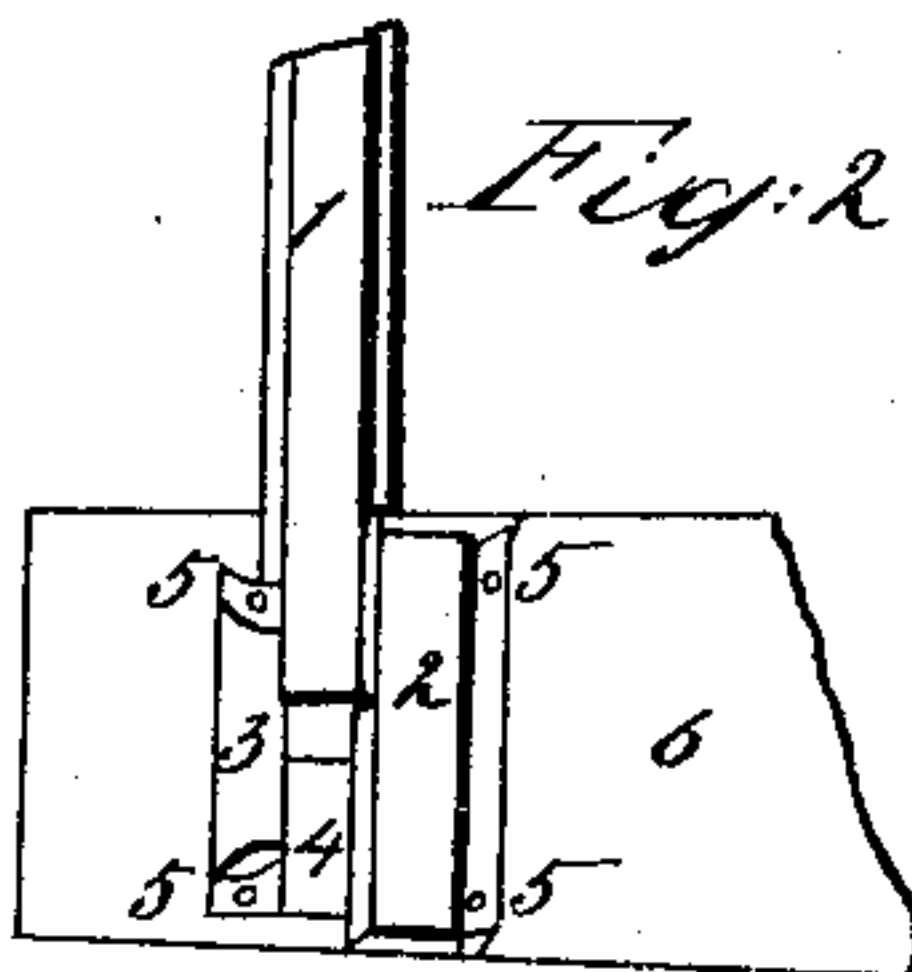


Fig. 3

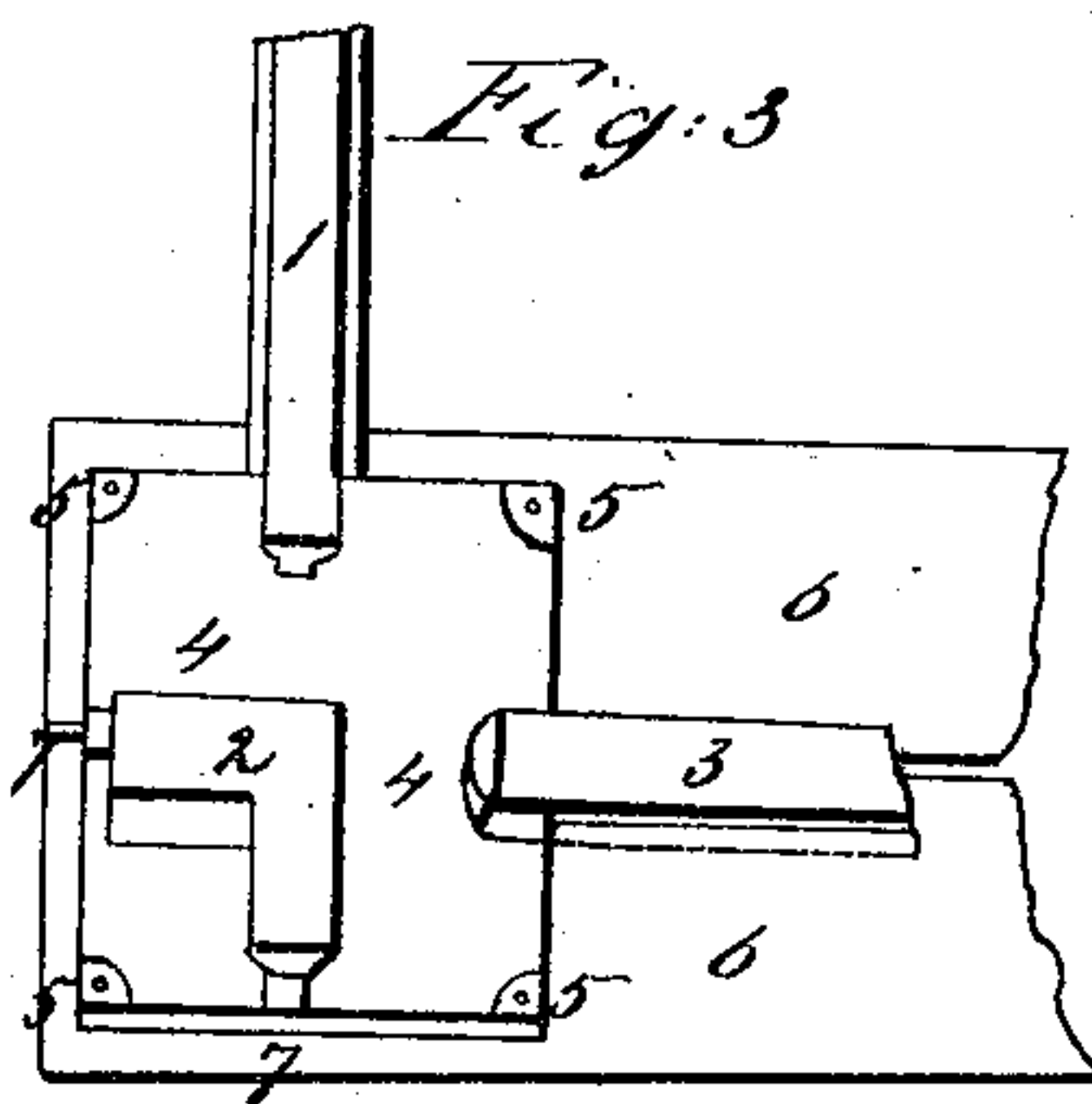
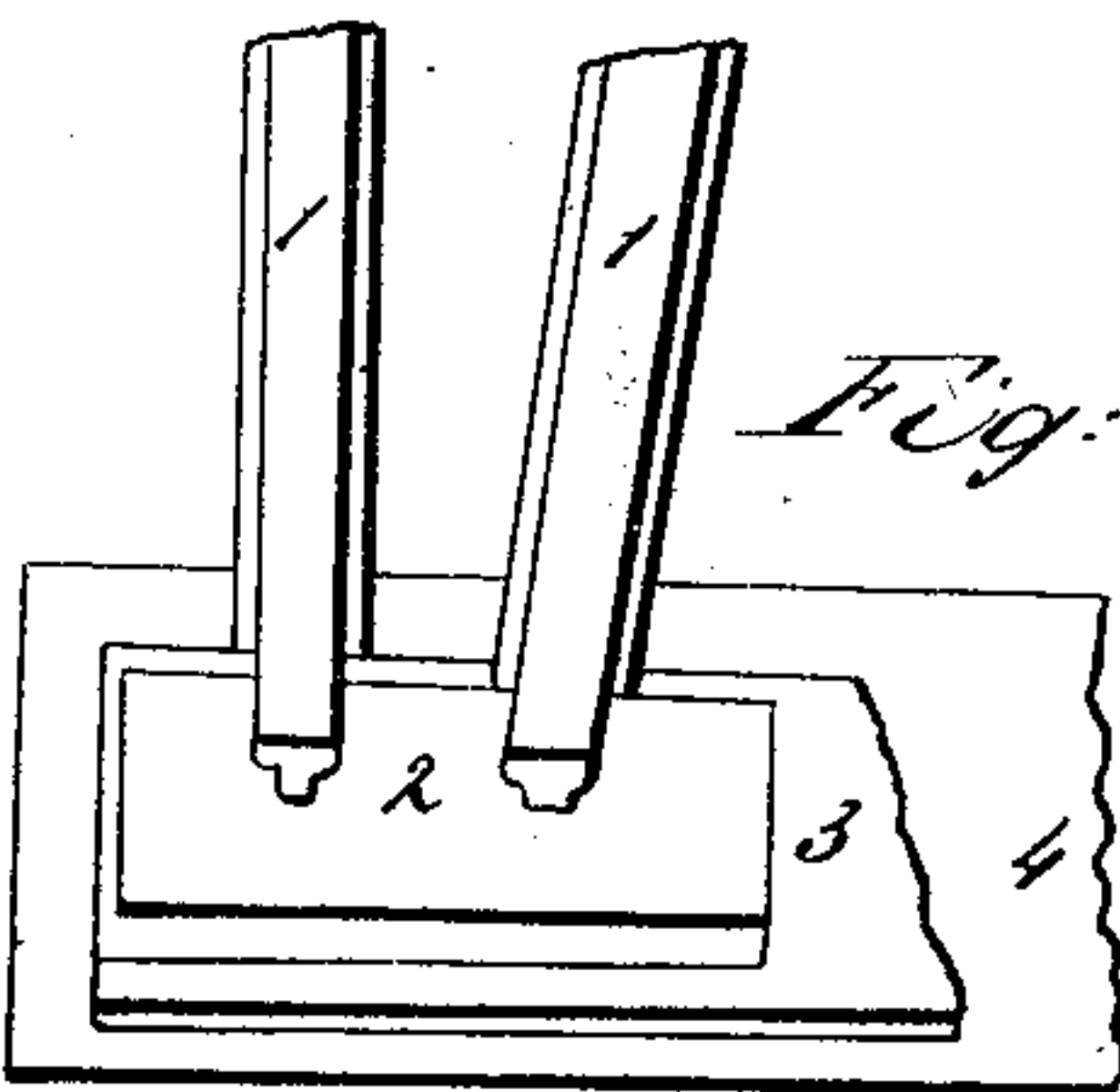


Fig. 4



Witnesses
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REUBEN A. RILEY, OF GREENFIELD, INDIANA.

IMPROVED MODE OF PREVENTING JARRING AND JOLTING OF RAILROAD CARS AND LOCOMOTIVES.

Specification forming part of Letters Patent No. 34,525, dated February 25, 1862.

To all whom it may concern:

Be it known that I, REUBEN A. RILEY, of the county of Hancock, in the State of Indiana, have invented a new and Improved Mode of Preventing the Jarring, Jolting, and Bounding of the Locomotives and Cars Running on Railroads, produced by crossing the head-joints of the rails and switches and the open spaces in frogs, and preventing to a great extent the wear of wheels, the battering of the ends of the rails, the crystallization of the face of the rails, and the breaking and wear and tear of the rolling-stock on railroads, and which invention, in comparison with the other modes of constructing car-wheels and railroad-tracks, will materially lessen the resistance to running the cars, lessen the danger, and materially increase the speed, safety, and ease of railroad travel and transportation. In short, my improvements contemplate the use of the common T-rail and making the railroad-track the equivalent at all points of one continuous rail, notwithstanding the head-joints, frogs, and switches; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the figures and explanations thereof marked and written thereon, which are included and made a part thereof.

The nature (philosophy) of my invention is to construct the flanges of the locomotive and car wheels designed to be used on any particular railroad of exactly equal depth and with a face or tread on the flange of sufficient width and strength to sustain the car with any burden and at any speed, and to construct a short rail of sufficient width and strength to sustain the cars, which short rail is placed upon the chair on the inside of the track, breaking or lapping the head-joint of the rails, and which short rail is so placed that its face is exactly as far below the face of the (common T or any other) long rail as the flange of the car-wheel is deep, such short rail to be made of iron, either cast or wrought, or of any other hard substance, slightly convex or lowered on the face near the ends. It (the short rail) may be cast upon and as a part of the chair, or it may be of wrought-iron, fastened by means of a dovetailed groove in the chair, or it may be spiked

down against the inside of the long rail upon the chair, and it may be of any desired length.

The frog is constructed of like material with dovetail mortises at the proper places to receive and hold the ends of the long rails, and with such short rails constructed or fastened upon it of any desired angle. The mortises which receive and hold the ends of the long rails and the short rails that may be constructed or fastened upon the frog are each so constructed that the face of these rails shall be exactly as high above the face of the frog as the flange of the car-wheel is deep, the face of the frog being made to receive and sustain the weight of the cars upon the flange of the wheel at the joints and open spaces between the rails on the frog while resting upon or passing over. That part of the face over which the flange of the wheel passes is slightly convex near the edge. The frog may be constructed of such shape and angle as may be desired in all other respects.

The face of the switch upon which the movable rails slide to meet in line the stationary ones is constructed with dovetail mortises to receive and hold the stationary rails on the one side, and on the other the end of the movable rails is cut away from beneath, so as to allow the rail to be passed over the face of the switch and form in line at the proper height with the stationary rails, so as to form a head-joint on the face of the switch. The stationary rails are so let into the side and the movable so cut from beneath and placed upon the face of the switch that both will extend the exact distance above the face of the switch that the flange of the wheels are deep. The face of the switch should be slightly convex near the edges.

These invented improvements contemplate the use of the common T-rails without alteration, and can be made applicable to all kinds of rails. They contemplate no change in the construction of locomotive or car, except the face on the flange of the car-wheels of the proper width and depth.

I claim as my invented improvement the following:

The faced flange on the car-wheels, of uniform depth, the low rail on the chair on the inside of the track, lapping the head-joints of

the rails to support the car on the flange of the wheel while passing over the same, the face on the frog, and the face on the switch to receive and support the car on the flange of the wheels while passing over the head-joints and open spaces thereon, and all these, in combination, fitted and adapted to each other, by which all open spaces in the track of rail-

roads are practically closed and the even plane of the cars in motion upon the track at all points maintained.

REUBEN A. RILEY.

Attest:

L. H. CRALL,
J. E. MENDENHALL.