J. T. WALSTON.

RAILROAD CROSSING.

APPLICATION FILED JUNE 2, 1910.

985,646.

Patented Feb. 28, 1911.

2 SHEETS—SHEET 1.

Fig. 1.

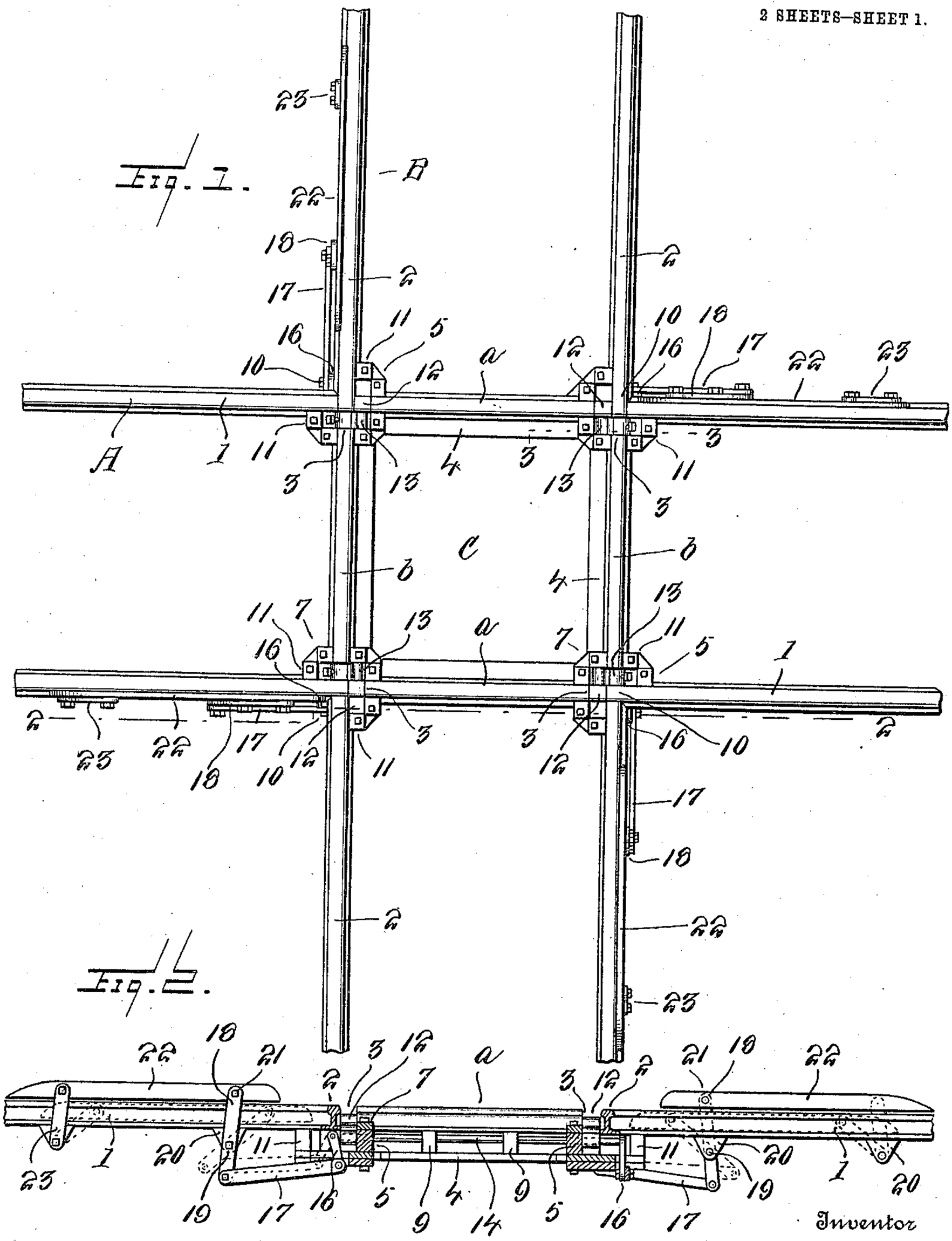


Fig. 2.

Witnesses.

E. R. Ruppert.

C. P. Broadway.

Inventor

John T. Walston

By Victor J. Evans

Attorney

J. T. WALSTON.

RAILROAD CROSSING.

APPLICATION FILED JUNE 2, 1910.

985,646.

Patented Feb. 28, 1911.

2 SHEETS—SHEET 2.

Fig. 3.

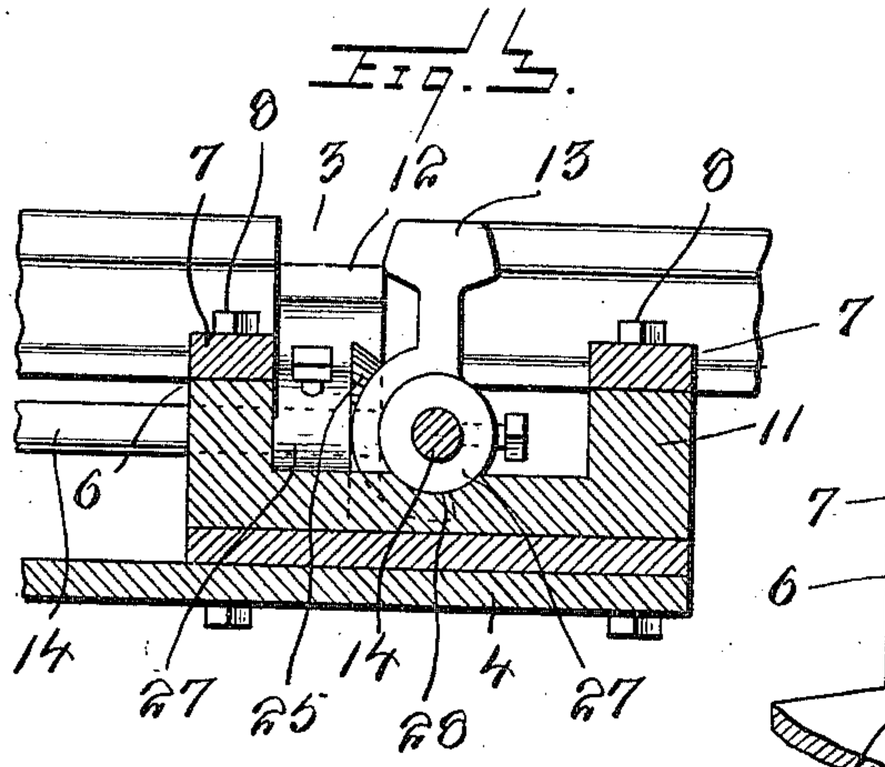
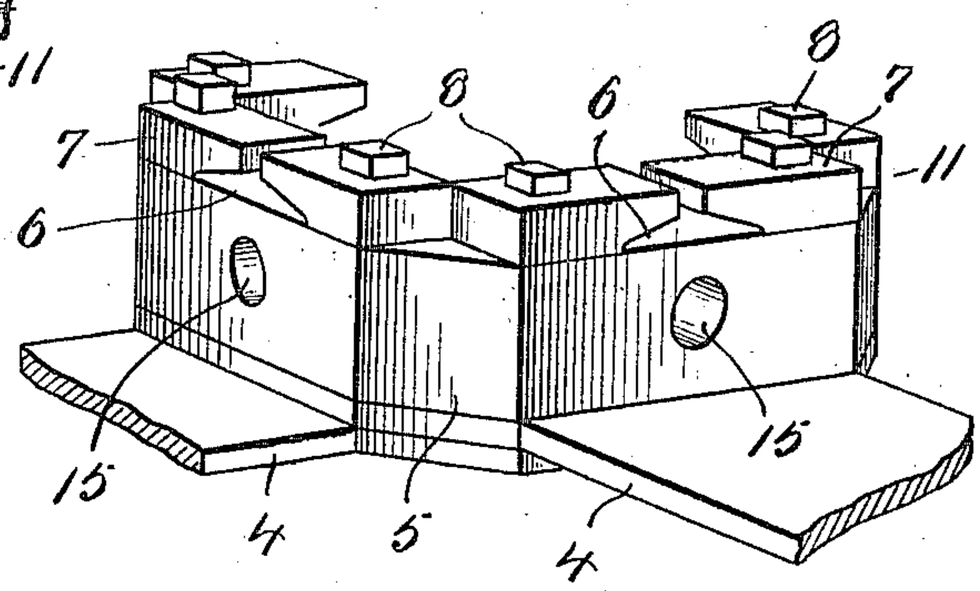


Fig. 4.



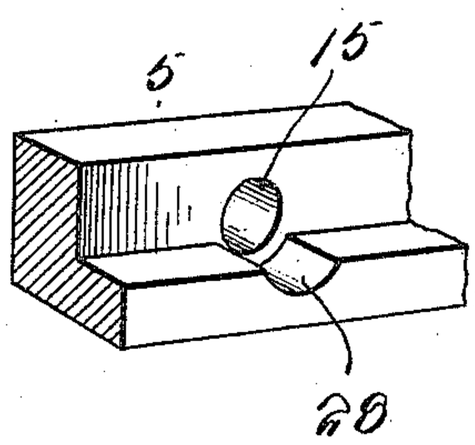


Fig. 6.

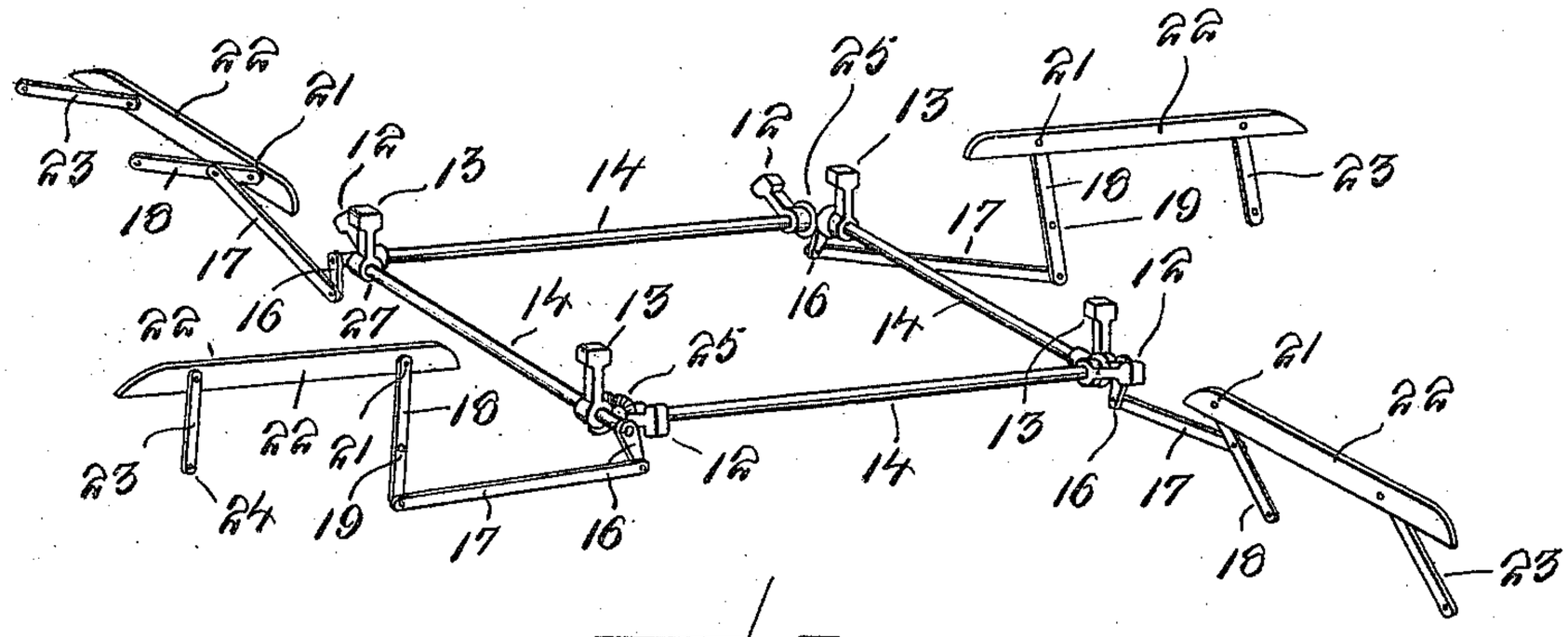


Fig. 5.

Witnesses

E. R. Ruppert.

66 Broadway.

Inventor

John T. Walston

By Victor J. Evans

Attorney

UNITED STATES PATENT OFFICE.

JOHN T. WALSTON, OF SPRINGFIELD, MISSOURI.

RAILROAD-CROSSING.

985,646. Specification of Letters Patent. **Patented Feb. 28, 1911.**

Application filed June 2, 1910. Serial No. 564,640.

To all whom it may concern:

Be it known that I, JOHN T. WALSTON, a citizen of the United States, residing at Springfield, in the county of Greene and State of Missouri, have invented new and useful Improvements in Railroad-Crossings, of which the following is a specification.

This invention relates to railroad track construction and more particularly to crossings.

The invention has for one of its objects to provide a novel arrangement of elements or filling blocks for the gaps formed in the track rails at the points of intersection, so that practically continuous rails will be obtained for a passing train.

Another object of the invention is the employment of automatic means for throwing the gap-closing elements or filling blocks automatically into or out of operation by means of trips located in each track at opposite sides of the crossing, so that trains passing on either track may throw the filling blocks to operative position and render the rails on which the train is moving practically continuous at the crossing, and at the same time throw the filling blocks of the rails of the crossing track to inoperative or open position so that the wheel flanges can freely pass through the gaps of the said crossing track.

A further object of the invention is the provision of an extremely simple, practical and durable track construction of the character referred to, which is thoroughly reliable and efficient in use and entirely automatic in its operation.

With these objects in view and others, as will appear as the description proceeds, the invention comprises the various novel features of construction and arrangement of parts which will be more fully described hereinafter and set forth with particularity in the claims appended hereto.

In the accompanying drawings, which illustrate one embodiment of the invention, Figure 1 is a plan view of the track crossing. Fig. 2 is a vertical section on line 2—2, Fig. 1, showing the block-operating trips in raised position by full line, and in depressed position by dotted lines. Fig. 3 is a detail section on line 3—3, Fig. 1. Fig. 4 is a perspective view of the rail-supporting blocks at one corner or point of intersection of the crossing, the rails being removed. Fig. 5 is a diagrammatic perspective view of the filler blocks or gap-closing elements and their operating means. Fig. 6 is a fragmentary perspective view of one of the supporting blocks, showing the bearing shoulder for a gap-closing element or filler block.

Similar reference characters are employed to designate corresponding parts throughout the views.

Referring to the drawings, A and B designate two tracks extending at right angles to each other and intersecting at the crossing C. The rails 1 of the track A and rails 2 of the track B are provided with the usual gaps 3 at the points where the rails of the track intersect so that the wheel flanges on the trains moving over the tracks can pass through the crossing C without the crossing rails interfering.

The track rails are mounted on cross ties in the usual manner and the short sections *a* and *b* of the rails at the crossing C are mounted on bed plates 4 that extend parallel with the rails and arranged with their ends crossing. On the ends of each bed plate 4 are bearing blocks 5 that have seats 6 for the short sections of the rails, and these sections can be clamped to the bearing members 5 by plate-like members 7 that engage the flanges of the rails, there being bolts 8 passing through the members 7, blocks 5 and plates or beams 4 so as to securely fasten the parts together. The short sections of the rails are supported at intermediate points on posts or blocks 9 positioned between the beams 4 and rails at spaced points. The angles 10 of adjacent crossing rails are fastened to blocks 11 similar to the blocks 5. The gaps 3 in the rails 1 are closed by outwardly and downwardly swinging fillers or gap-closing elements 12, while the gaps in the rails 2 are closed by inwardly and downwardly swinging fillers or gap-closing elements 13. Under each rail at the crossing is a rock shaft 14, and each shaft has rigidly secured thereto fillers or gap-closing elements for the rail under which the shaft is mounted. The rock shafts are journaled in bearing openings 15 in the blocks 5 on the ends of the plates or beams 4, and these fillers prevent longitudinal movement of the rock shafts. Each rock shaft is provided with a depending crank arm 16 at one end which is connected by a link 17 with a rocker 18 which is fulcrumed at 19 on a bearing 20 secured to the adjacent track rail. The upper end of the rocker is hingedly connected at 21 with a trip 22 in the

form of a bar extending longitudinally of the rail and at the outside thereof. The point of connection between the rocker and trip bar is adjacent one end thereof, while the opposite end is connected with a swinging arm 23 which is pivoted at 24 to the same rail or track as the rocker. The trip bars for the gap-closing elements 12 for the rails 1 are mounted on the track A, while the trips for the track-closing elements 13 are mounted on the track B, and it will be noted that the trips are located on the right hand rails of the tracks. The various rockers and shafts are operatively connected together so that all will operate when any trip is depressed. For this purpose, the gap-closing elements at each point of intersection of two track rails are provided with intermeshing miter gear teeth 25, so that the rock shafts will be geared together at their ends and all will rock together. Each gap-closing element has an arcuate bearing face 27 struck around the rock shaft on which such element is mounted and this arcuate face engages a bearing or shoulder 28 formed on the adjacent block 5 so that when the wheels of a train ride over the gap-closing element, the weight of the car or locomotive will not be brought to bear on the rock shaft but will be sustained by this bearing shoulder 28.

In describing the operation of the apparatus, it will be assumed that the last train which passed over the crossing traversed the track B and the gap-closing elements 12 are down or in open position while the elements 13 are up or in closing position, and furthermore the trip bars in the track A are raised. If a train approaches the crossing in either direction on the track A, the trip bar on the approaching side of the crossing will be struck by the wheels of the train and depressed, and during this depressing movement, the gap-closing elements 12 will be raised and the elements 13 lowered so as to thereby open the gaps of the rails 2 by the passage of the wheel flanges and to close the gaps of the rails 1 so that the wheels of a train can pass over the same without shocks and noise. If another train should pass over the track A in either direction, it will have no effect on the gap-closing elements of either track because the trip bars of the track A will remain depressed. At the time the trip bars of the track A were depressed by the train passing over such track, the trip bars of the track B were raised, so that a train approaching the crossing of the track B could automatically shift the gap-closing elements.

Having thus described the invention, what I claim as new, is:—

1. The combination of two sets of track rails intersecting each other and having wheel flange gaps at the points of intersection, rock shafts mounted directly under and in the same vertical plane with the rails, inwardly and downwardly swinging gap-closing elements fastened to the rock shafts under one set of rails, outwardly and downwardly swinging gap-closing elements connected with the rock shafts under the other set of rails, gear teeth on the elements, the gear teeth on the element of one rail meshing with the adjacent element of the contiguous crossing rail, a crank arm on each rock shaft, a wheel-operated trip bar extending along each rail, and a connection between each trip bar and the crank arm of the adjacent rock shaft whereby all the rock shafts are rocked to operate the gap-closing elements and to throw the other trip bars to operative or inoperative position.

2. The combination of sets of track rails crossing each other and having wheel flange gaps at the points of intersection, swinging gap-closing elements, rock shafts on which the elements are mounted, bearings in which the said elements are seated for sustaining the weight of the train passing over the elements, blocks forming supports for both the rails and rock shafts and means for operating the rock shafts to throw the elements to operative and inoperative position.

3. The combination of two sets of track rails crossing each other and having wheel flange gaps at the points of intersection, the rails of each track including short sections disposed between the rails of the other track, bearing blocks for supporting the ends of the said short sections, said blocks having bearing openings, rock shafts disposed under the said short sections and rotatably mounted in the bearing openings of the blocks, gap-closing elements fastened to the ends of the rock shafts, means for operatively connecting adjacent gap-closing elements together whereby the elements of one set of rails swing open while those of the other set of rails swing closed, and a wheel-operated trip connected with each rock shaft and located adjacent one of the rails of each track to operate the gap-closing elements, the trips on one track being depressed while those of the other track are raised.

4. The combination of two sets of track rails crossing each other and having wheel flange gaps at the points of intersection, the rails of each track including short sections disposed between the rails of the other track, bearing blocks for supporting the ends of the said short sections, said blocks having bearing openings, rock shafts disposed under the said short sections and rotatably mounted in the bearing openings of the blocks, gap-closing elements fastened to the ends of the rock shafts, means for operatively connecting adjacent gap-closing elements together whereby the elements of one set of rails swing open while those of the other set of rails swing closed, shoulders on

each block for forming a seat for the adjacent gap-closing element, and separate devices connected with the rock shafts and arranged in the tracks to be operated by approaching trains to throw the elements of one track to open position and the elements of the other track to closed position.

5. The combination of two sets of track rails crossing each other and having wheel flange gaps at the points of intersection, each rail having a short section extending between its gaps, beams extending under the rails at the crossing, inner bearing blocks on the beams for the ends of the short sections of the rails, outer bearing blocks on the beams for the main portions of the rails, means for securing the bearing blocks to the beams, means for securing the rails to the bearing blocks, rock shafts mounted under the short sections of the rails and journaled in the inner bearing blocks, gap-closing elements on the rock shafts, intermeshing gear teeth between adjacent track-closing elements whereby the elements for one set of rails move open while the elements for the other set of rails move closed, and train-operated means connected with the rock shafts for rocking the same.

6. The combination of two sets of track rails crossing each other and having wheel flange gaps at the points of intersection, each rail having a short section extending between its gaps, beams extending under the rails at the crossing, inner bearing blocks on the beams for the ends of the short sections of the rails, outer bearing blocks on the beams for the main portions of the rails, means for securing the bearing blocks to the beams, means for securing the rails to the bearing blocks, rock shafts mounted under the short sections of the rails and journaled in the inner bearing blocks, gap-closing elements on the rock shafts, intermeshing gear teeth between adjacent track-closing elements whereby the elements for one set of rails move open while the elements for the other set of rails move closed, train-operated means connected with the rock shafts for rocking the same, and seats disposed under the track-closing elements for sustaining the weight of the trains passing thereover.

7. The combination of two sets of track rails crossing each other and having wheel flange gaps at the points of intersection, each rail having a short section extending between its gaps, beams extending under the rails at the crossing, inner bearing blocks on the beams for the ends of the short sections of the rails, outer bearing blocks on the beams for the main portions of the rails, means for securing the bearing blocks to the beams, means for securing the rails to the bearing blocks, rock shafts mounted under the short sections of the rails and journaled in the inner bearing blocks, gap-closing elements on the rock shafts, intermeshing gear teeth between adjacent track-closing elements whereby the elements for one set of rails move open while the elements for the other set of rails move closed, train-operated means connected with the rock shafts for rocking the same, seats disposed under the track-closing elements for sustaining the weight of the trains passing thereover, a crank arm on each rock shaft, a link connected with each crank arm, a rocker connected with each link, a trip bar connected with each rocker and mounted adjacent the track rail operated by the wheels of a train passing thereover.

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

JOHN T. WALSTON.

Witnesses:

BENNETT S. JONES,

C. BRADWAY.