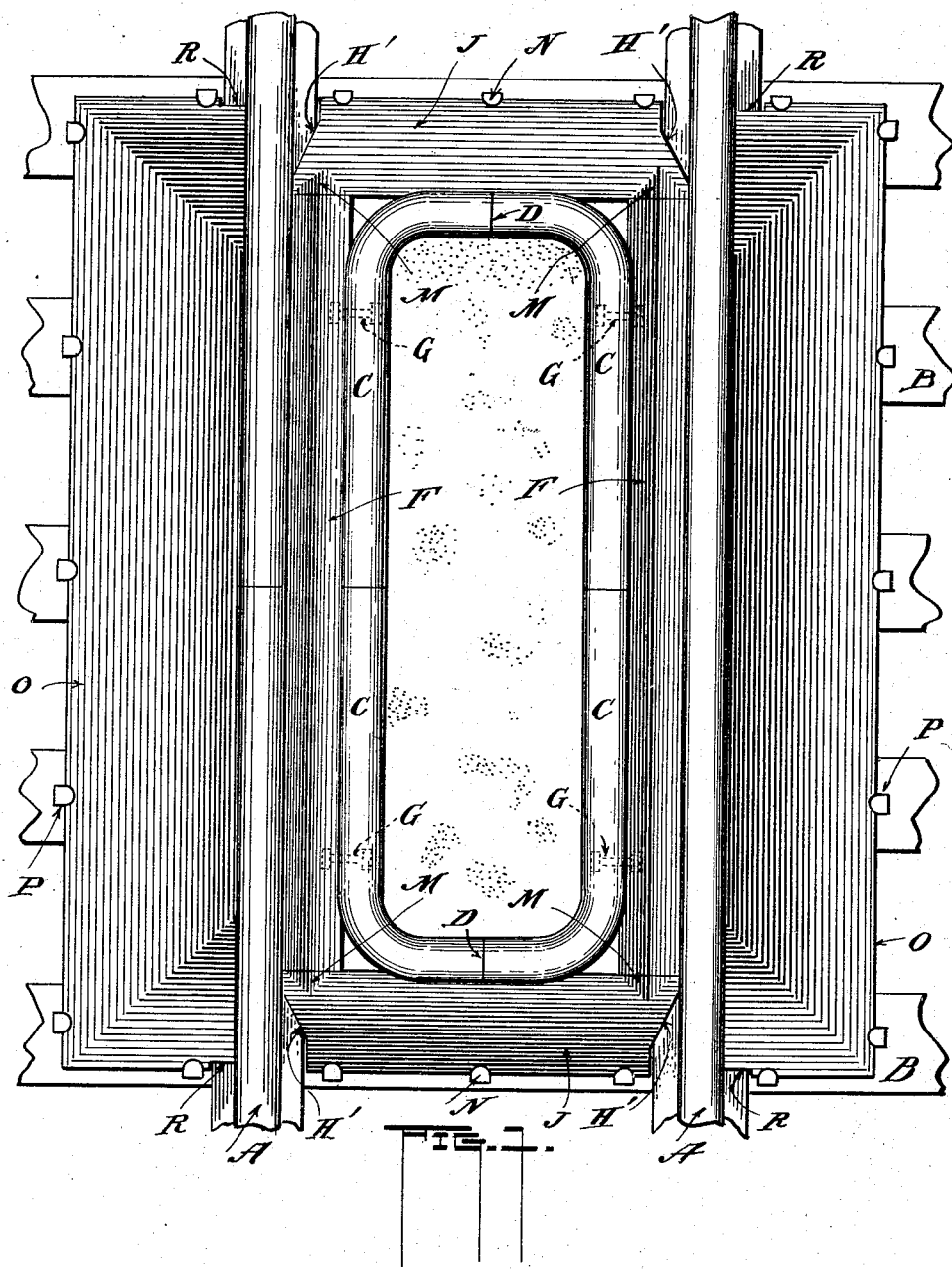


G. H. KNOWLES.
RAILWAY TRACK CROSSING.
APPLICATION FILED APR. 12, 1913.

1,153,166.

Patented Sept. 7, 1915.
2 SHEETS—SHEET 1.



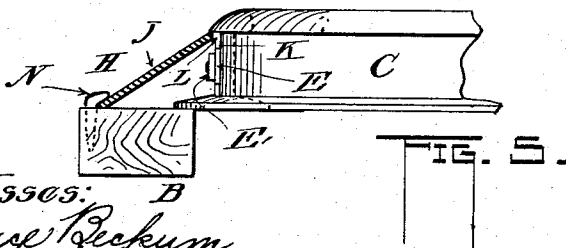
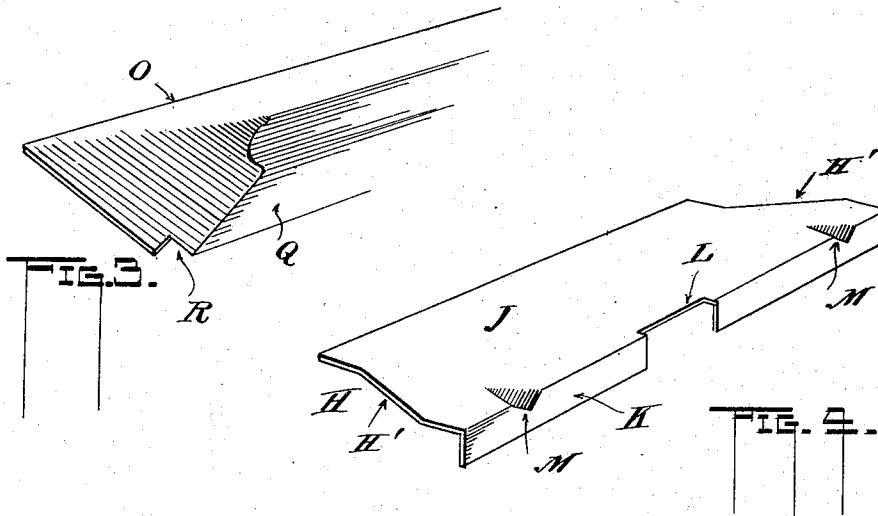
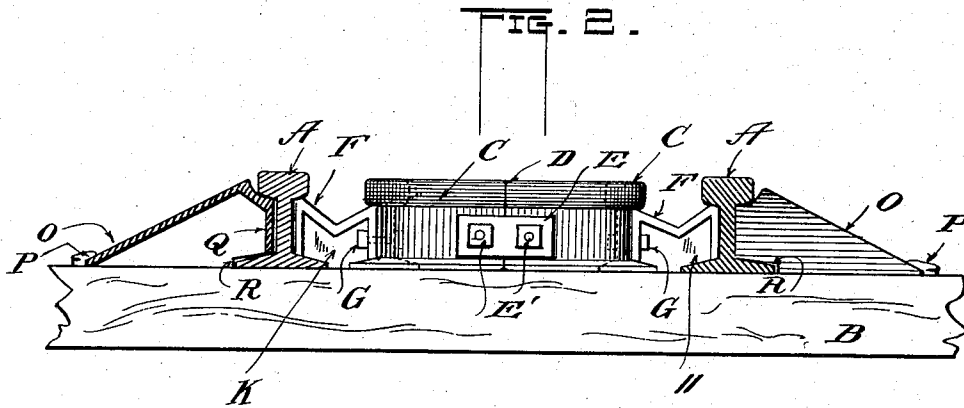
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UNITED STATES PATENT OFFICE.

GEORGE H. KNOWLES, OF WYOMING, ILLINOIS, ASSIGNOR OF ONE-HALF TO JOHN J. ABBOTT AND ONE-HALF TO ALVA J. ADAMS, BOTH OF WYOMING, ILLINOIS.

RAILWAY-TRACK CROSSING.

1,153,166.

Specification of Letters Patent.

Patented Sept. 7, 1915.

Application filed April 12, 1913. Serial No. 760,722.

To all whom it may concern:

Be it known that I, GEORGE H. KNOWLES, citizen of the United States, residing at Wyoming, in the county of Stark and State of Illinois, have invented certain new and useful Improvements in Railway-Track Crossings; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to a railroad track crossing.

It pertains particularly to a metal crossing for a railroad track at street crossings and road crossings, crossings for pedestrians and the like.

The invention consists in a peculiar construction, combination and arrangement of the several parts as will be fully set forth and made the subject of the accompanying claims.

One of the objects of the invention is to provide a crossing structure for a railroad track that will be thoroughly rigid, some of the parts of which, in fact, interlock with others in order to provide said rigid structure.

Another object is to construct a metal crossing for a railroad track that is capable of being extended to any desired length to accommodate the widest street or roadway.

Another object is to furnish a structure in a railroad crossing that can be disassembled and removed from its position when the track is to undergo repairs, and that can be easily and quickly reassembled.

Other objects and advantages will appear herein as the description proceeds.

In the accompanying drawing forming a part of this application: Figure 1 is a plan of my improved railroad crossing. Fig. 2 is an end elevation of the same with one of the end approaches removed. Fig. 3 shows, in perspective, a part of one of the side approaches for the crossing. Fig. 4 shows in perspective, one of the end approaches, and Fig. 5 is a sectional elevation of an end approach shown in position adjacent a part of an inner inclosure for a pavement or filling between the rails of the track.

A A indicate the track rails and B the ties upon which the rails are mounted

in the usual way. Between the rails is an inclosure for a pavement of rubble or the like and which consists of metal members C bent at right angles and abutting at their ends and forming, when assembled, an inclosure after the manner shown in Fig. 1. This inclosure in the present instance is made up of four of the parts, their ends all abutting on one another, but these may consist of but two parts having their abutting ends at the division lines D or at the narrow ends, in which event the members adjacent each rail will be single parts, it being the desire to withdraw endwise, or move parallel to the rails, either of the described sections in the disassembling operation.

In Fig. 2 it is observed that the abutting ends at D are secured together by a tie plate E and bolts E' so that in use these members C will constitute a rigid structure.

Between each of the members C and each rail is a grooved member F clearly shown in Fig. 2 the bottom of whose groove lies sufficiently low to be out of the reach of the flanges of the wheels. Preferably the members C are provided with heads and broad bases much after the fashion of the track rail, as indicated by broken lines in Figs. 2 and 5. However, the inner flange portions or those at the top and bottom of the parts within the inclosure may be omitted. The members F consist each of a casting or of rolled steel of sufficient width to lie beneath the rail head and the head of the adjacent member C; their height being such as to snugly fit between the heads and the bases of those members so that when the whole structure is assembled the members F at the rails and the parts C will fit snugly and rigidly between the rails regardless of the passage of trains which would tend to loosen them. Said members F may be secured to the member C if desired by means of bolts G, for example, Figs. 1 and 2, while said members F may be merely slidable against the inner sides of the rails.

As previously stated, the crossing may be extended to any distance depending upon the width of the street or roadway, and in order to provide for this, straight bar sections corresponding in form of cross section to the members C may be inserted between the ends of said members C adjacent

the rail A; the bent portions being kept outermost to complete the required inclosure. Additional lengths of the members F may likewise be added to increase the length of the grooved parts to correspond in length with the extended parts C, suitable provision being made for securing all of the parts F and C together.

In placing the described structure in position one of the members F and the part or parts C with which it is associated through the bolts G are placed adjacent one of the rails, the opposite member F and its part or parts C being slipped endwise into position between the opposite rail and said part C, or after one of the members F and its associated part C is in place the other member F may be placed against its rail and the associated part C slipped in afterward. However, this is merely a matter of choice and either of the methods or any other may be used. But when slipped in separately, the member F and part C would require bolting together afterward, the bolts being inserted from beneath, if indeed they are to be bolted at all.

At each end of the inclosure C C is placed an approach H, see Figs. 4 and 5. This may consist of a casting or of pressed metal, and comprises an upwardly slanting portion J and a vertical part or apron K, the latter resting upon the lower flange of the end portions C. Said apron is notched at L to admit the tie plate E and permits said apron to lie close up against the vertical flange of the member C or at least so that the topmost portion of the approach may lie beneath the head of the part C, as shown in Fig. 5. As shown in this figure also, the top flange of the member C at the ends is preferably sloped down at an angle to more nearly agree with the angle of the approach, see Fig. 5, to present a neat appearance and so that track men will not be likely to be injured by catching their toes beneath it. Also, that if parts of the rolling stock by chance were to drop down and hang from the car and drag between the rails there will be little chance of those parts catching and cause damage to the roadway or to the said rolling stock. Again, as shown very clearly in Fig. 1 the ends of the approaches are recessed as at H' in such a manner as to snugly overlie the flanges of the rails.

I have stated that the members F are grooved. The approaches H are likewise grooved or rather provided with notches on their highest surfaces, as shown at M in Fig. 4 in line with said grooves of said members F so that the wheel flanges will not strike them, this notching being made necessary from the fact that the approach in lying up snugly beneath the head or flange of the part C would likely be too high for the flanges to readily pass above them with-

out striking. The notches communicating with the grooves also admit of readily permitting the dirt accumulating in the groove of the members F to be cleaned away.

The end approaches described are secured in position by suitable means and this said means may consist of the usual spikes N driven into the ties adjacent to the edges of the approaches and upon which said approaches rest. It is clear that these approaches in abutting upon and against the parts will prevent end movement thereof.

Outside each rail I provide an approach O for vehicles crossing the track. These may consist of castings or of stamped metal of good heavy gage whose outer lower edges lie close to and upon the ties, being secured by spikes P thereto, and each having an inner part lying beneath the rail head and extending under the same as clearly shown in Fig. 2 and continuing into a depending portion Q to rest upon the rail base, there being a notch R in each approach to receive the lower flange of the rail. Any suitable filling may be placed within the inclosure made up of the parts C, for example, as brick, rubble, concrete or the like, which will make a solid roadway for the vehicles passing over the track.

When necessary to repair the track as in replacing the ties, or replacing the rails, the parts C F may be slipped out from between the rails as already described by merely removing either one or both of the end approaches H. There are several advantages arising from my crossing structure outside of those mentioned. For example, the members F which lie between the rails and the members C by their structure are very strong and can withstand an immense vertical pressure without bending or yielding, and when placed between the head of the rail and the lower flange the ends of two rails where they abut will be rigidly supported. Again, the end approaches will assist in rerailing a car that may be off the track. The wheels in running up said approach can be made to run upon the rails by any of the usual methods.

My crossing structure differs from those of the prior art in that the inclosure made up of the parts C and corresponding to the parts of other railway crossings lying between the rails, is not secured upon the rails but is held entirely by the members F which in effect interlock with the rails and said parts C to hold said inclosure. This not only makes a crossing whose parts cannot become loosened by travel over it but admits of slipping the parts out by merely withdrawing the spikes that hold one of the approaches H and withdrawing the latter. In addition, none of the parts require spiking except the said approaches.

The two half portions of the frame made

up of the parts C C when disconnected at the ends by removing the plate E can be withdrawn or replaced with perfect ease, the members F since secured to them likewise being removed or replaced, there being no means used to secure the members to the rails. From the fact that the members lie between the base and the head of the rails, and the two frame parts and said members just fill the space between the rails, the whole is solidly and permanently positioned when the plates E and the bolts E' are in place, no other holding means being required. The said members F can extend the full length of the frame portions C or they may be any length desired and in assembling the two parts of the frame and the attached members they are laid in about the positions they are to occupy, then moved laterally so that the members are slipped beneath the rail-heads, then by shifting either frame portion, or both, slightly in a longitudinal direction, the two ends thereof are made to abut whereupon by attaching the plate E the assembling of these parts of the device is accomplished. I am not aware of any other device of this nature that has the advantage of quickly and easily assembling or removing the parts.

Various changes may be made in the structure described without departing from the spirit and intent of the invention and the accompanying claims since the device is susceptible of various modifications.

Having described my invention, I claim:—

1. In a track crossing structure, in combination, the track rails, a frame lying between the rails, opposite portions of which lie substantially parallel to and spaced from the rails, a member secured to and carried by the frame at each side and extending between the frame and an adjacent rail and engaging beneath the head of the same and held by it, and a member extending between the rails at each end of the frame and extending beneath the rails heads and secured relative to said rails and lying adjacent the frame ends.

2. In a track crossing structure, in combination, the track rails, a frame lying between the rails comprising two half portions each lying substantially parallel to and spaced from one of the rails and each at its ends being formed with a bend substantially at right angles, the ends of the portions abutting upon one another, a member secured upon the outer side of each frame portion and engaging beneath the head of its respective rail and held down by the same, and a member lying between the rails adjacent the frame its ends lying beneath the rails heads.

3. In a track crossing, in combination, the track rails, a rectangular part lying between

the rails and spaced from the same, a member lying between the part and each rail and having a groove in its upper surface, an approach at each end of the said part lying at right angles to the length of the rails and abutting against the part, and against the ends of the said members, each said approach having a notch in its upper portion in register with and forming a continuation of the grooves of the said members.

4. In a track crossing, the combination with the track rails, of an inclosure or frame lying between the rails, a ground member lying between the frame and each rail and engaging beneath the head of each said rail and adapted to secure the said frame relatively to the rails, and an approach abutting upon the frame and lying perpendicularly to the rails.

5. In a track crossing, the combination with the track rails, of an inclosure or frame lying between the rails, a ground member lying between the frame and each rail and engaging beneath the head of each said rail and adapted to secure the said frame relatively to the rails, and an approach abutting upon the frame and upon the ends of the grooved member and having recesses therein corresponding in position to the grooves of said member.

6. In a track crossing, the combination with the track rails, of an inclosure lying between the rails and including a flange at its upper portion, a grooved member lying between the inclosure and each rail, a slanting approach lying between the rails and abutting against the inclosure and the ends of the members and engaging beneath the flange of the former.

7. In a track crossing, the combination with the track rails, of an inclosure lying between the rails and including a flange at its upper portion, a grooved member lying between the inclosure and each rail, a slanting approach lying between the rails and abutting against the inclosure and the ends of the members and engaging beneath the flange of the former, and provided with recesses corresponding in position to the grooves of said members.

8. In a track crossing, the combination with the track rails, of an inclosure or frame lying between the rails, a grooved member lying between the frame and each rail, and engaging beneath the head of each said rail and adapted to secure the said frame relatively to the rails, and an approach abutting upon the frame and lying perpendicularly to the rails, and an approach outside the track adjacent each rail.

9. In a track crossing, in combination, the track rails, a part lying between the rails to receive a road filling, each being spaced from each said rail and lying substantially

parallel thereto, a member secured to each part adjacent each rail and engaging beneath the head of the same, an approach lying parallel to and adjacent the outside surface of each rail, and an approach lying between the rails at each end of the frame substantially at right angles to the length of the rails, and means to secure the several approaches in place.

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

GEORGE H. ^{his} X KNOWLES,
mark

Witnesses:

HARLEY COX,
FRANK M. COX.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents," Washington, D. C."