

E. C. WEER & H. F. TANSEY.
 TRACK INSTRUMENT.
 APPLICATION FILED JAN. 9, 1908.

1,020,238.

Patented Mar. 12, 1912.

3 SHEETS—SHEET 1.

FIG 1

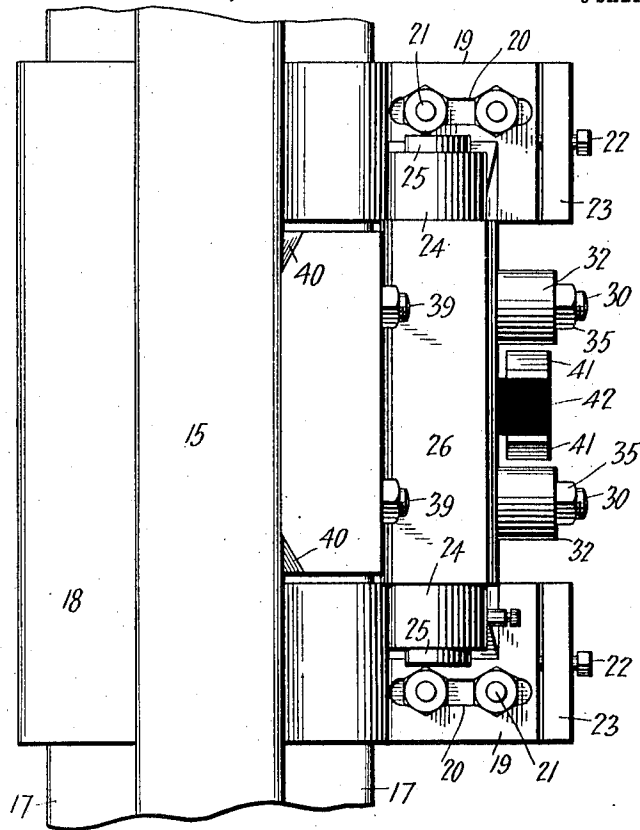
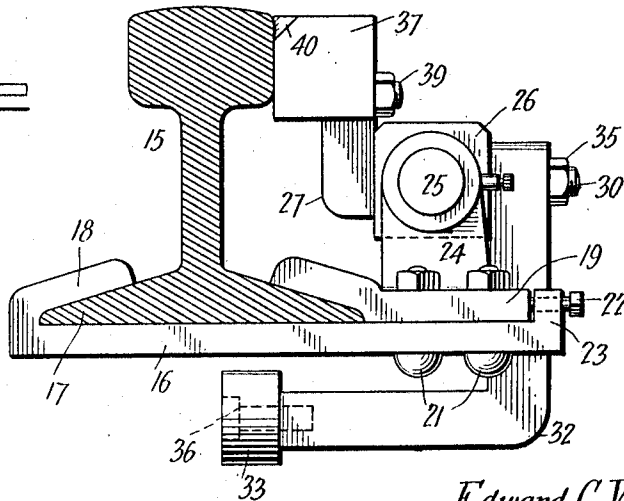


FIG 2



Witnesses
J. H. Johnson
H. G. Smith

Inventors
Edward C. Weer and
Howard F. Tansey

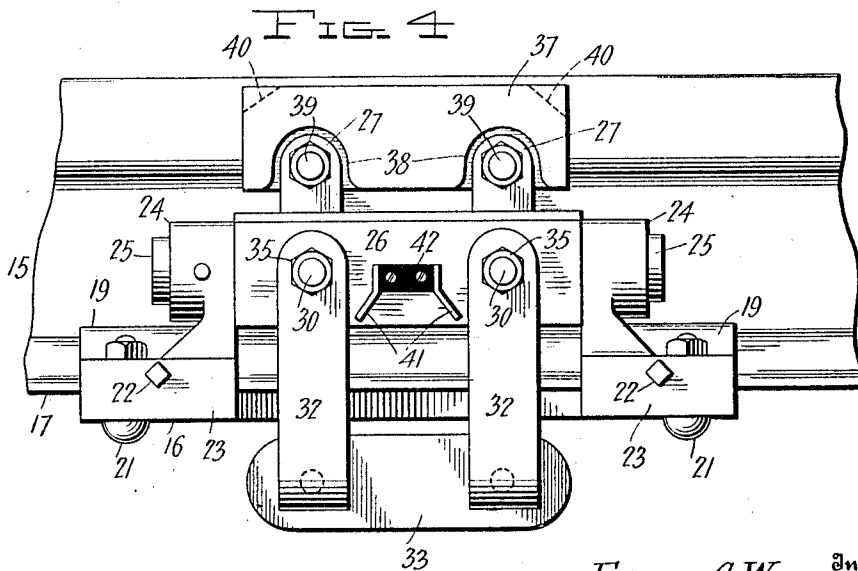
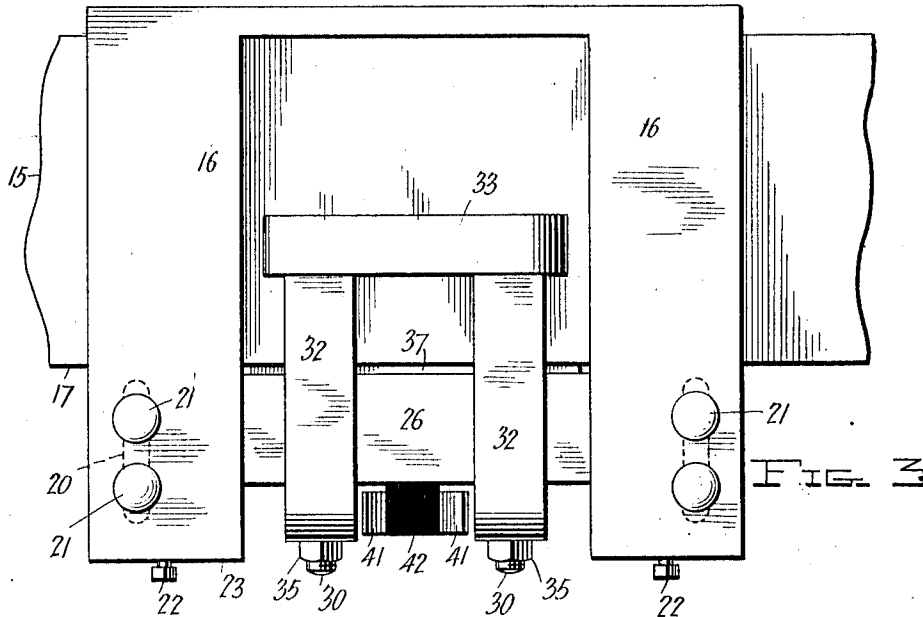
By *Charles C. Conner*
 Attorneys

E. C. WEER & H. F. TANSEY.
 TRACK INSTRUMENT.
 APPLICATION FILED JAN. 9, 1908.

1,020,238.

Patented Mar. 12, 1912.

3 SHEETS—SHEET 2.



Witnesses

J. L. Johnson

H. G. Smith

Edward C. Weer and *Howard F. Tansey*
 Inventors

By [Signature]

Attorneys

E. C. WEER & H. F. TANSEY.
 TRACK INSTRUMENT.
 APPLICATION FILED JAN. 9, 1908.

1,020,238.

Patented Mar. 12, 1912.

3 SHEETS—SHEET 3.

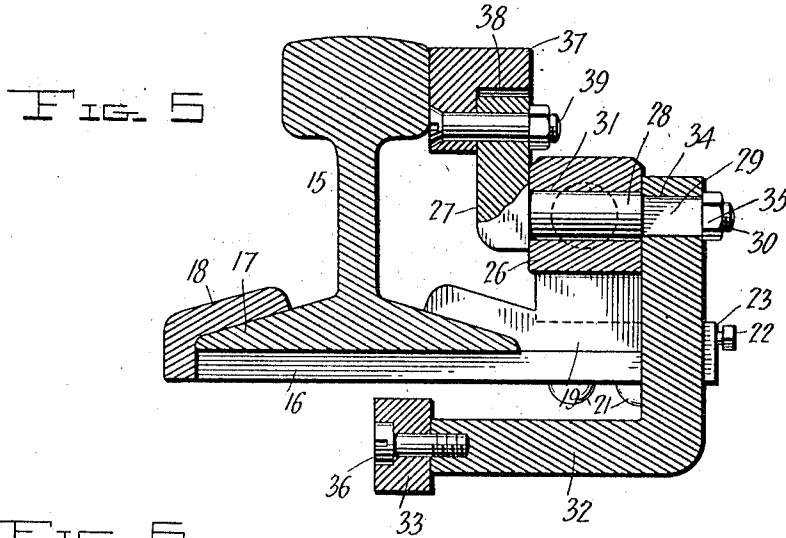


FIG. 6

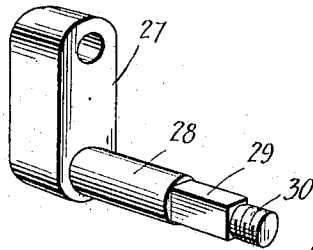
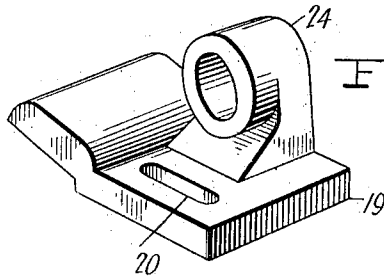
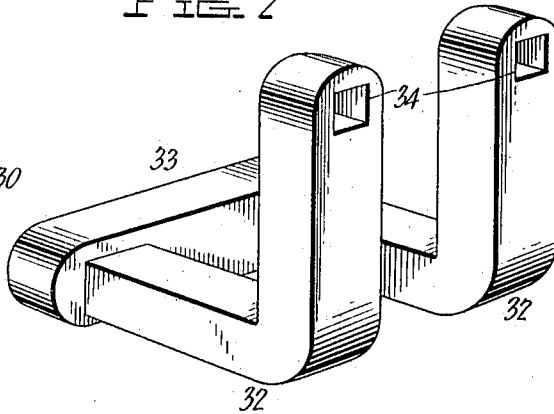


FIG. 7



Witnesses
J. L. Borkman
H. G. Smith

Inventors
Edward C. Weer and
Howard F. Tansey
 By *Charles Chandler*
 Attorneys

UNITED STATES PATENT OFFICE.

EDWARD C. WEER, OF FRANKLIN, AND HOWARD F. TANSEY, OF DAYTON, OHIO.

TRACK INSTRUMENT.

1,020,238.

Specification of Letters Patent.

Patented Mar. 12, 1912.

Application filed January 9, 1908. Serial No. 410,047.

To all whom it may concern:

Be it known that we, EDWARD C. WEER and HOWARD F. TANSEY, citizens of the United States, respectively residing at Franklin and Dayton, in the counties of Warren and Montgomery, State of Ohio, have invented certain new and useful Improvements in Track Instruments; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to an improvement in track instruments of that type including a signal designed to give warning at a crossing of the approach of a train from either direction.

The principal object of the invention is to provide an instrument embodying a novel construction for closing the circuit by the weight of a train passing thereover.

Another object of the invention is to provide an instrument of the character described, which is composed of a minimum number of parts, is therefore simple in construction and is cheap to manufacture.

With these and other objects in view, the invention consists in the construction and novel combination of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended; it being understood that various changes in the form, proportion, size and minor details of construction within the scope of the claims, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings, Figure 1 is a top plan view of the circuit closing device, Fig. 2 is an end view thereof, the rail to which the device is applied being shown in section, Fig. 3 is a bottom plan view, Fig. 4 is a side elevation of the device, Fig. 5 is a vertical transverse sectional view thereof through and through the rail, Figs. 6, 7 and 8 are detail perspective views of portions or elements of the device showing their specific construction.

In the figures of the drawings illustrating the circuit closing device, the numeral 15 denotes a rail to which the circuit closing device is applied and the said device comprises, in part, a base formed of spaced portions 16 which extend beneath the

base flange 17 of the rail and are connected at one of their ends by an integral base flange-engaging boss or flange 18. The said spaced portions 16 extend beyond the opposite edge of the base flange 17 of the rail and disposed upon the upper face of the said portions at their last mentioned ends are base flange-engaging plates 19, these plates being slotted as at 20 for the passage of attaching bolts 21, these bolts being passed through bolt openings in the said spaced portions 16 and serving to securely hold the plates 19 upon the said portions and in engagement with the inner portion of the base flange of the rail. It will be understood of course that the slots 20 in the rail base flange-engaging plates permit of these plates being adjusted to properly engage the said inner portion of the base flange of the rail and an adjusting bolt or screw 22 is engaged through an upstanding flange 23 formed at the inner end of each of the portions 16 and bears against the adjacent end of the corresponding plate 19, it being understood that by turning these bolts or screws, the plates 19 may be adjusted as above stated and then secured in their adjusted position by means of the bolts 21.

Formed upon the upper face of each of the plates 19 is an upstanding bearing 24 and received in these bearings are trunnions 25 which are formed at the ends of a squared rocker 26 this rocker of course being extended longitudinally with respect to the rail 15 and directly opposite the web thereof. A pair of blocks 27 are formed each with a stud 28 having a squared portion 29 and beyond this portion a reduced threaded end portion 30 and these studs are engaged at their cylindrical portions through openings 31 formed in the rocker adjacent each end thereof. A counterbalancing member, the function of which will be presently described, is supported from the rocker and this member comprises a pair of arms 32 each of which is bent at a right angle substantially at its middle and which are connected at one of their ends by means of a weight bar 33, the said arms being provided at their opposite or upper ends with squared openings 34 in which the squared portions 29 of the corresponding studs are engaged, there being nuts 35 engaged upon the threaded reduced end portions 30 of these studs and bearing against the outer faces of the said upper end portions of the arms to

hold the arms or in other words counterbalance the member securely to the rocker and also to hold the blocks 27 in place upon the rocker, it being understood, however, that these blocks may have a rocking movement independently of the rocker and upon an axis at right angles as clearly shown in Fig. 5 of the drawings, these arms by reason of the fact that they are bent at their middles at right angles, have vertical portions and horizontal portions the latter portions being extended outwardly beneath the base flange of the rail. The weight bar 33, as shown in Fig. 5, is attached to the lower ends of the arms 32 by means of screws 36 and consequently the weight bar 33 will maintain a horizontal position regardless of any rocking movement had by the arms 32 in a direction longitudinally of the rails.

A trip block 37 is formed in one of its side faces with recesses 38 and in these recesses are received the upper ends of the blocks 27, the said block 37 being held upon the blocks 27 by means of pivot bolts 39 which are engaged through the upper ends of the said blocks 27 and through the recessed portions of the block 37, it being understood that, as in the case of the weight bar 33, the block 37 will maintain a horizontal position regardless of the swinging movement to be had, longitudinally of the rail, by the blocks 27 and the arms 32. It will be readily apparent that as the trip block 37 and the weight bar 33 are located to the rail side of the axis of the rocker 26, the trip block will be held normally and yieldably in engagement with the inner side of the tread of the rail 15. It will further be understood in connection with the foregoing description that two axial movements are provided for in the circuit closing mechanism, one being upon the axis of the rocker 26 and the other in a transverse direction or upon the correspondingly located axes of the studs 28 carried by the blocks 27. The upper corners of the trip block 37 which are adjacent the tread of the rail 15 are beveled as at 40 and it will be understood that this block is intended to be struck or engaged by the flange of a car wheel traveling on the said rail the initial movement of the block, caused by such engagement or contact being in the direction longitudinally of the rail and upon the axes of the studs 28. The flanges riding upon the beveled corners 40 however will serve to oscillate or rock the circuit closing device upon the axis of the rocker 26 or in other words to move the trip block 37 in a direction away from the rail tread. Upon the above described initial movement of the device however one or the other of the vertical portions of the arms 32 will be brought into contact with one or the other of a pair of contact leaves 41 carried by a block 42 of insulation which is fixed

upon the rocker 26. The part 26 as already described is so mounted that it rocks on an axis which is parallel to the longitudinal axis of the rail, and when the block 37 is depressed by the car wheels, the arms 32, through the parts 27 and 28, swing in parallelism on an axis which is at right angles to the axis on which the part 26 swings, by reason of which one or the other of the contacts 41 will be engaged by one of the arms 32 according to the direction in which the arms swing. A car going from the right to the left will swing said arms in such a direction that the left arm will engage the left contact 41, whereas a car going in the opposite direction will engage the right arm with the right contact. This operation will be apparent from an inspection of Fig. 4. When the car wheels clear the block 37, the counterweight 33 restores the parts to their normal position and breaks the circuit.

Any suitable signal circuit (not shown) may be connected to the contact leaves 41 as will be clearly understood.

What is claimed, is:—

1. In an electric signal system, a track instrument including a rocker member, a contact element fixedly connected to said member, a shaft journaled transversely in said member, a contact element fixedly connected to said shaft, and a trip block connected to the shaft to oscillate the same to contact said elements.

2. In an electric signal system, a track instrument including a rocker member, a contact element fixedly connected to said member, a shaft journaled transversely in said member, a contact element fixedly connected to said shaft, a trip block connected to the shaft to oscillate the same to contact said elements, and means connected to the shaft for automatically returning the trip block and the member to their normal positions.

3. In an electric signal system, a track instrument including a rocker member, a contact element fixedly connected to said member, a shaft journaled transversely in said member, a contact element fixedly connected to the shaft, a trip block connected to the shaft to oscillate the same to contact said elements, an arm connected to the shaft and having one end extending under and beyond the rocker member, and a weight connected to the free end of the last mentioned arm to automatically return the trip block and the rocker member to their normal positions.

4. In an electric signal system, a track instrument including a rail clamp, bearings carried by the clamp, a rocker member journaled in said bearings and adapted to be disposed parallel with the rail, a shaft journaled transversely in said member, a contact element fixedly connected to said shaft,

and a trip block connected to the shaft to oscillate the same to contact said elements.

5 5. In an electric signal system, a track instrument including a rocker member adapted to be disposed parallel to the rail, contact elements fixedly connected to said member, spaced shafts journaled transversely in said member, each shaft terminating at one end in a crank arm, a contact element fixedly connected to each shaft, and a trip block pivotally connected with the crank arms of the shaft to oscillate the latter to contact one of the elements of the shaft with the adjacent element of the member.

10 6. In an electric signal system, a track instrument including a rocker member adapted to be disposed parallel to the rail, contact elements fixedly connected to said member, spaced shafts journaled transversely in

said member, each shaft terminating at one end in a crank arm, a contact element fixedly connected to each shaft, a trip block pivotally connected with the crank arms of the shaft to oscillate the latter to contact one of the elements of the shaft with the adjacent element of the member, and a counterbalance carried by the contact elements of the shaft for returning the trip block and the rocker member to their normal positions.

In testimony whereof, we affix our signatures in presence of two witnesses.

EDWARD C. WEER.
HOWARD F. TANSEY.

Witnesses:

A. TANSEY,
MARY E. BOLTON.

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