G. C. BRONSON AND M. C. ST. CLAIR.

RAILROAD CROSSING SIGNAL.

APPLICATION FILED MAR. 8, 1921.

1,388,166.

Patented Aug. 23, 1921.

2 SHEETS—SHEET 1.

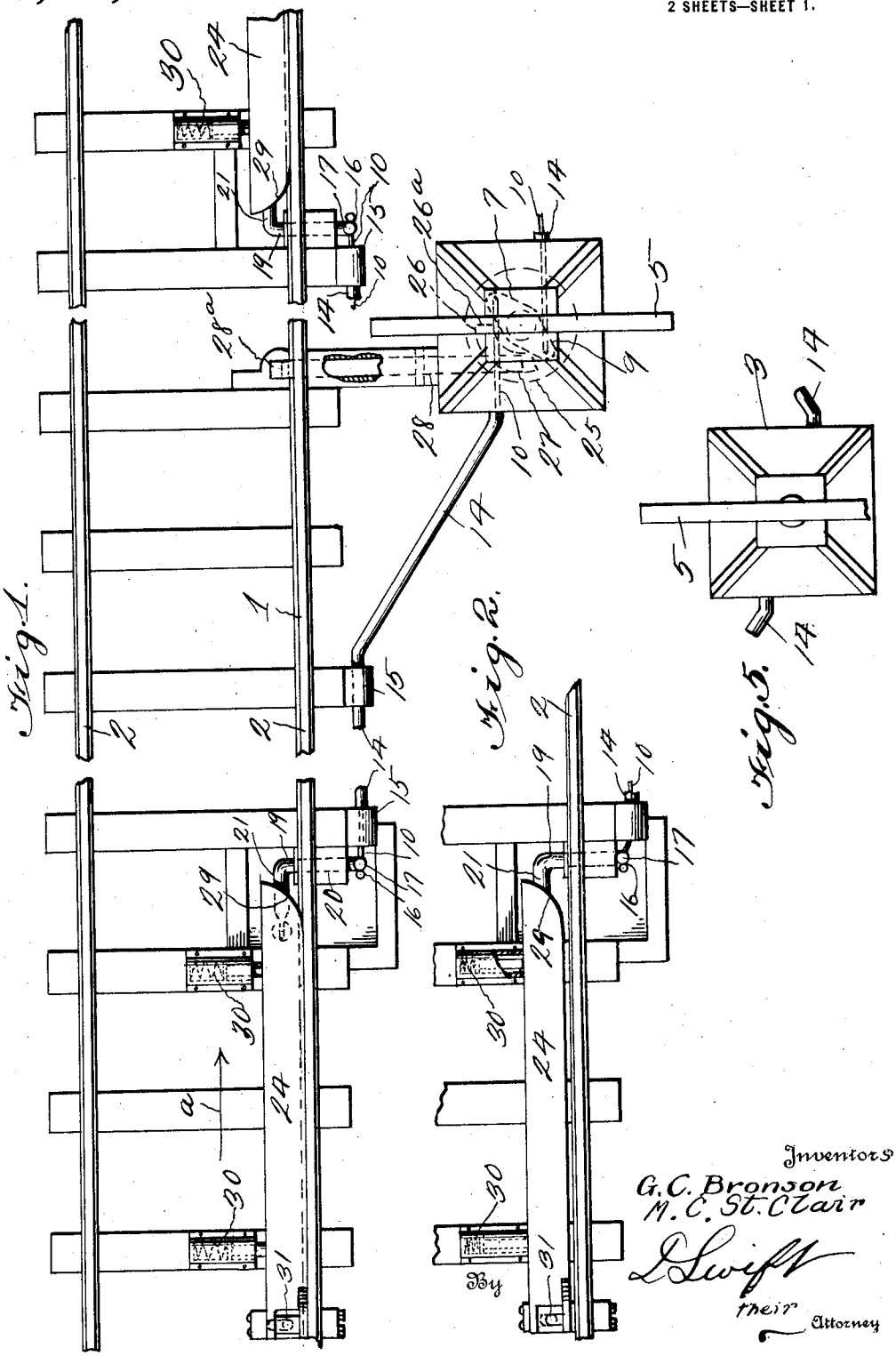

Fig. 1.

Fig. 2.

Fig. 3.

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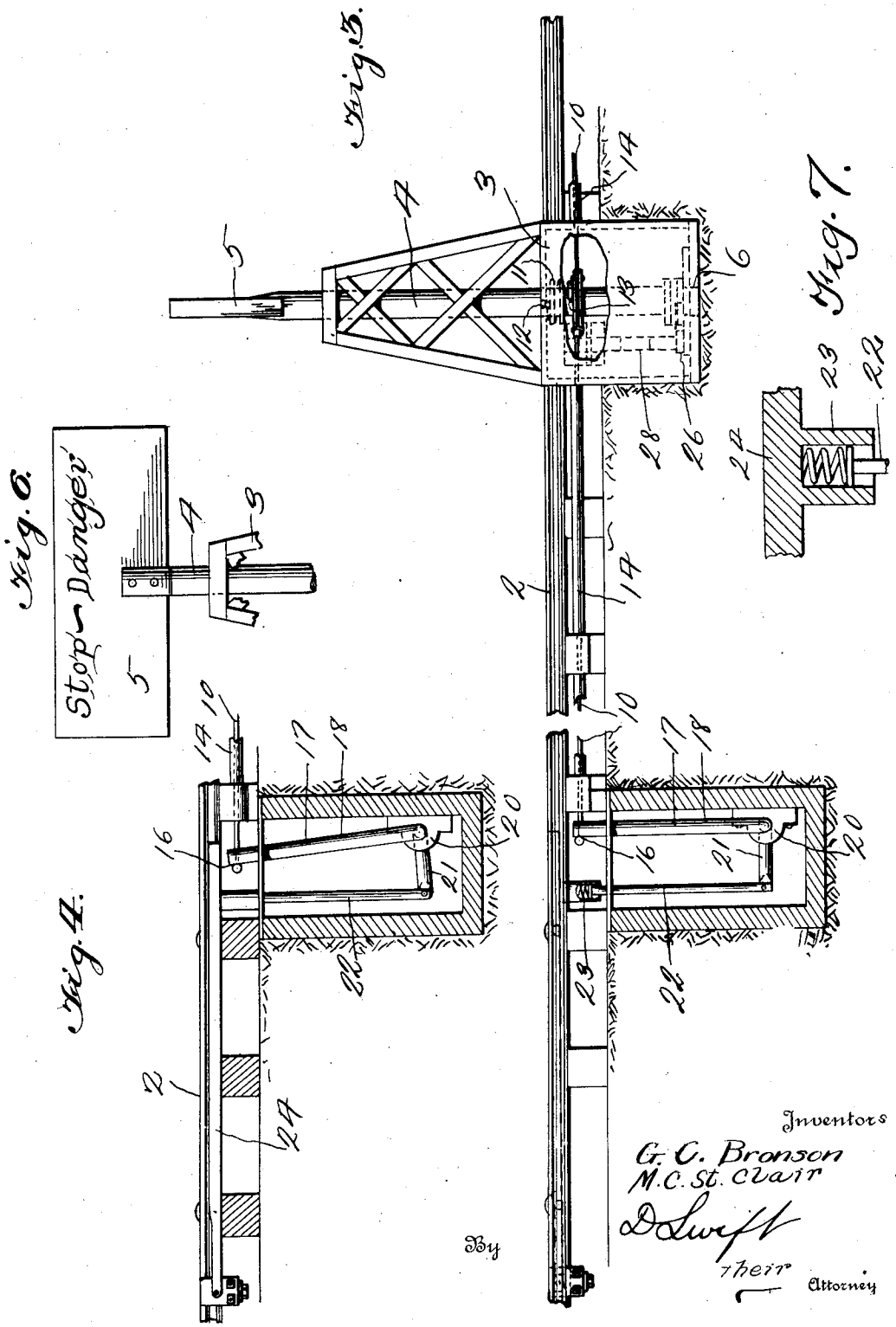

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UNITED STATES PATENT OFFICE.

GEORGE C. BRONSON AND MERLE C. ST. CLAIR, OF NEWCASTLE, INDIANA.

RAILROAD-CROSSING SIGNAL.

1,388,166. Specification of Letters Patent. Patented Aug. 23, 1921.

Application filed March 8, 1921. Serial No. 450,796.

To all whom it may concern:

Be it known that we, GEORGE C. BRONSON and MERLE C. ST. CLAIR, citizens of the United States, residing at Newcastle, in the county of Henry and State of Indiana, have invented certain new and useful Improvements in Railroad-Crossing Signals, of which the following is a specification.

The invention relates to railroad crossing signals and has for its object to provide a device of this character which is train operated and so constructed that when the train approaches a crossing the flange of one of the wheels thereof will depress the member adjacent the tread of the rail and rock a lever, which lever is connected to the arm of a vertical post adjacent a railroad crossing thereby partially rotating the post and moving the sign carried thereby to a position parallel with the track, whereby persons approaching the crossing may easily see the same.

A further object is to provide spring means for normally holding the sign at a right angle to the track and to provide means whereby said sign will be held in parallel relation with the track against the action of the spring, said holding means being so positioned that it will be released by the wheel flange as the train passes the signal post.

A further object is to provide means whereby a signal sign will be moved to a parallel position with the track when the train approaches the crossing from either direction.

A further object is to provide means whereby only one of the signal operating members will be actuated when the train approaches and passes the crossing.

With the above and other objects in view the invention resides in the combination and arrangement of parts as hereinafter set forth, shown in the drawings, described and claimed, it being understood that changes in the precise embodiment of the invention may be made within the scope of what is claimed without departing from the spirit of the invention.

In the drawings:—

Figure 1 is a plan view of a portion of a railroad track, showing the signal operated mechanism applied thereto.

Fig. 2 is an enlarged detail view of a portion of the track and one of the flange operated members, showing said member moved to one side by the flange of one of the wheels of the train.

Fig. 3 is a side elevation of a portion of the track, the signal post and the operating mechanism.

Fig. 4 is an enlarged side elevation of one of the operated mechanisms, showing the same in operated position.

Fig. 5 is a top plan view of the signal portion.

Fig. 6 is an enlarged detail view of the upper end of the signal post and sign.

Fig. 7 is a detail sectional view through a portion of one of the treads and its connection to the operating mechanism.

Referring to the drawings, the numeral 1 designates a railroad track and 2 the rails thereof. Disposed adjacent the railroad track in a housing 3 is a signal post 4 which post is provided with a sign 5 which is normally transversely disposed as shown in Fig. 1 and when operated is longitudinally disposed in relation to the railroad track on the approach of a train in either direction so that persons approaching the track from either side will be warned that a train is approaching. Post 4 is pivotally mounted in a bearing 6 of the housing 3 and is provided with oppositely disposed arms 7 and 9, to which arms are secured cables 10 which cables extend in opposite directions. Surrounding the post 4 is a coiled spring 11, one end of which is secured as at 12 in the housing 3 and the other end secured at 13 in the post, said spring normally maintaining the sign 5 in positions shown in Figs. 1 and 3. Cables 10 extend through pipes 14, which pipes extend in opposite directions and are supported in brackets 15, said cables extending beyond the ends of the pipes 14 and have their ends secured at 16 to upwardly extending arms 17 of levers 18. The levers 18 have their transverse portions 19 rockably mounted in bearings 20 and the transverse portions 19 terminate in right angle arms 21. Pivotally connected to the arms 21 are upwardly extending rods 22, the upper ends of which are slidably mounted in sleeves 23 carried by the depressible treads 24 located adjacent one of rails 2 and depressed by the flange of one of the wheels of the train as it passes over the same. It will be seen that when a train is moving over the track in the direction of the arrow *a* the tread 24 will be

depressed thereby forcing the rod 22 downwardly and causing a rocking of the lever 18 and imparting a pull on the cable 10, which cable which is connected to the arm 7 carried by the post 4 will cause said post to be partially rotated and the sign 5 moved to a position parallel to the track 1. During this movement a plate 25 carried by the post 4 is also rotated and the segmentally shaped member 26 rotated to a point where the end 27 of a pivoted lever 28 will engage the end 26^a of the segmentally shaped member 26 and hold the post against retrograde rotation under the influence of the coiled spring 11. However as the train reaches the crossing adjacent the signal the flange of the wheel engages the end 28^a of the lever 28 and depresses the same thereby releasing the segmentally shaped member 26 and allowing the post to be rotated and the sign 5 turned to transverse position as shown in Fig. 1. After the train has rocked the lever 28 and released the post 4 so that it can return to its normal transverse position and the train reaches the tread 24, the flange of the wheel will engage the curved edge 29 of the tread and force said tread sidewise without depressing the same as shown in Fig. 2, thereby not operating the sign and as the train moves to a position to release the tread 24, said tread is forced into engagement with the side of the rail 2 by means of springs 30. Each tread 24 is slidably pivoted at 31 at one of its ends thereby allowing a pivotal action when the flange of the wheel passes between the tread 24 and the rail 2.

From the above it will be seen that a railroad crossing signal is provided, which is simple in construction and one wherein the signal will be actuated upon approach of the train from either direction. It will also be seen that means is provided intermediate the actuating mechanism whereby the signal will be returned to normal position.

The invention having been set forth what is claimed as new and useful is:—

A train operated signal comprising wheel engaging treads spaced from each other and a signal disposed intermediate said treads, arms carried by said signal and extending in opposite directions, cables connected to the ends of said arms, said cables extending through conduits, spring means for normally maintaining the signal in normal position, the ends of said cables being connected to upstanding arms of levers, said levers being rockably mounted in bearings and provided with horizontally disposed oppositely extending arms, rods pivoted to the ends of said arms and extending upwardly, the tread members located adjacent a rail and loosely pivoted at one of their ends, the adjacent ends of the tread members having loose connections with the upper ends of the upwardly extending rods carried by the horizontally disposed arms of the levers, spring means for normally holding the treads in engagement with the rail, a lever pivoted adjacent the rail, a lug carried by the signal and forming a stop, one end of said lever being disposed adjacent the rail and adapted to be engaged by a flange of a wheel, said lug being so positioned that when either of the signal actuated mechanisms is actuated the signal will be held against retrogade movement, said lever forming means whereby when the train passes the signal, said signal will be released and allowed to return to normal position.

In testimony whereof we affix our signatures.

GEORGE C. BRONSON.
MERLE C. ST. CLAIR.