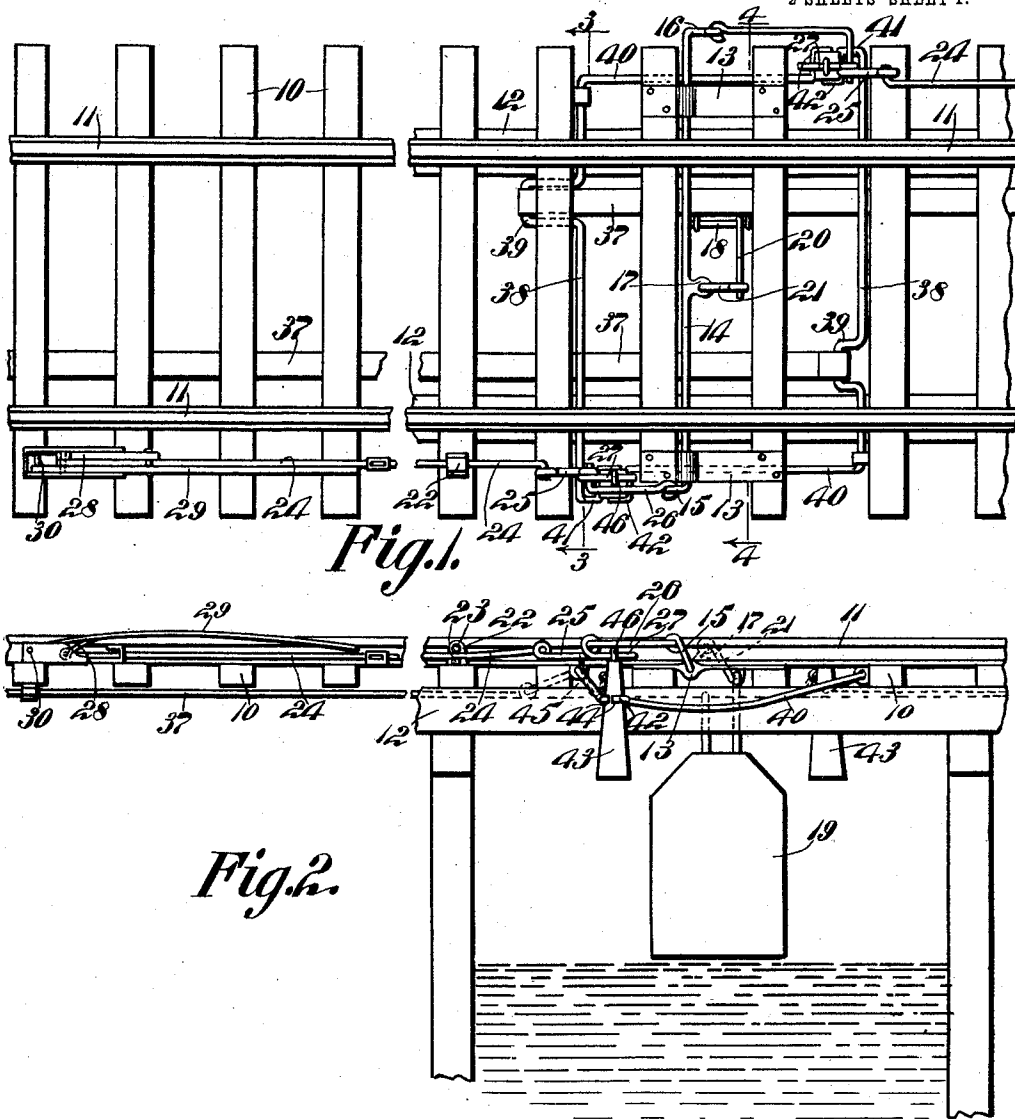


J. M. & B. T. MATSLER.
MECHANISM FOR SIGNALING TRACK CONDITIONS.
APPLICATION FILED APR. 4, 1910.

1,062,022.

Patented May 20, 1913.

2 SHEETS—SHEET 1.



James M. Matsler and
Benjamin T. Matsler,

Inventors

by

C. A. Snow & Co.

Attorneys

Witnesses

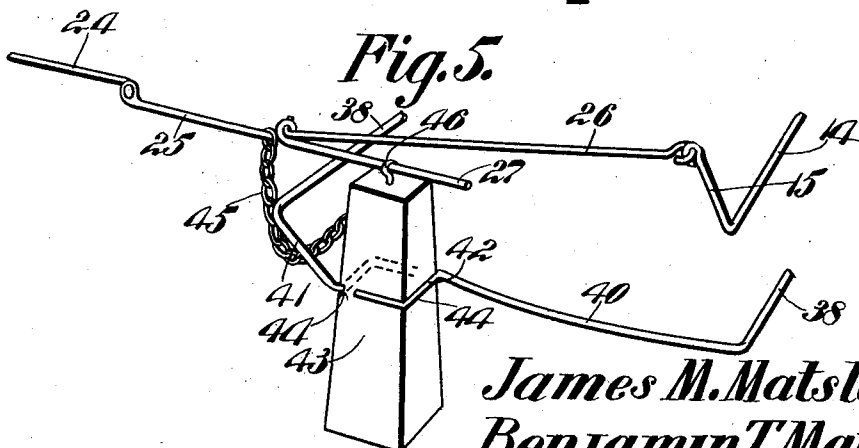
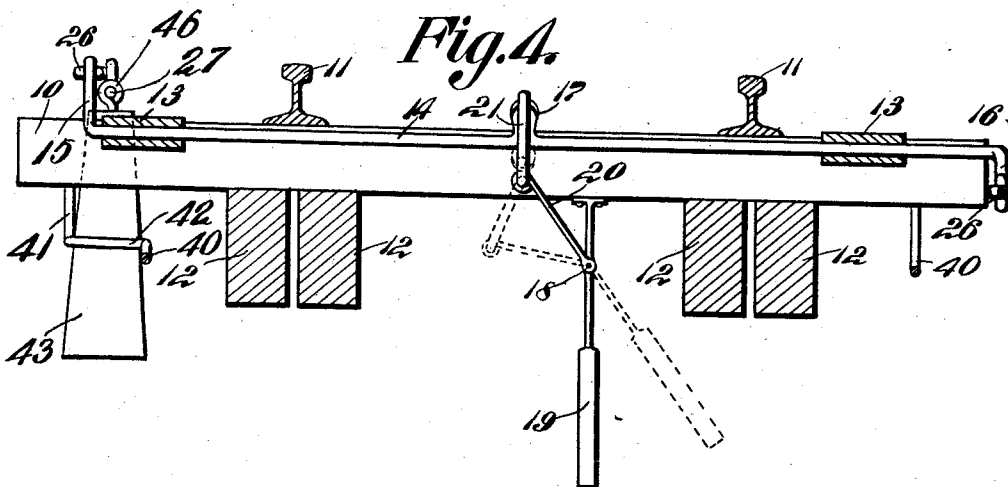
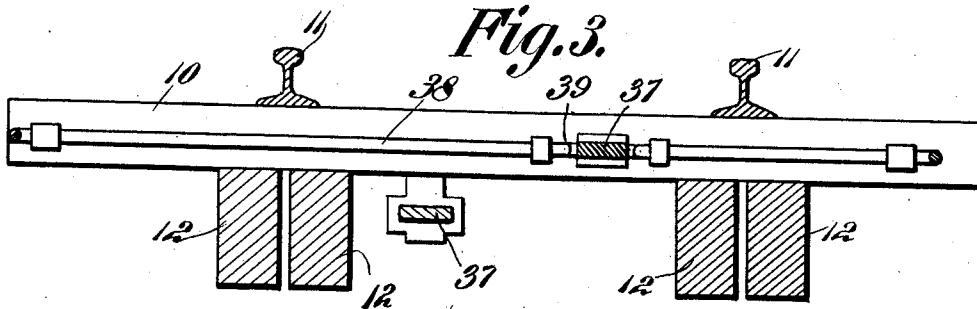
J. P. Somers
L. H. Wilson

J. M. & B. T. MATSLER.
MECHANISM FOR SIGNALING TRACK CONDITIONS.
APPLICATION FILED APR. 4, 1910.

1,062,022.

Patented May 20, 1913.

2 SHEETS—SHEET 2.



*James M. Matsler and
Benjamin T. Matsler,*
Inventors

by

C. A. Snow & Co.
Attorneys

Witnesses

*J. P. Tomlin
L. H. Watson*

UNITED STATES PATENT OFFICE.

JAMES M. MATSLER AND BENJAMIN T. MATSLER, OF CHAPPEL, TEXAS.

MECHANISM FOR SIGNALING TRACK CONDITIONS.

1,062,022.

Specification of Letters Patent.

Patented May 20, 1913.

Application filed April 4, 1910. Serial No. 553,254.

To all whom it may concern:

Be it known that we, JAMES M. MATSLER and BENJAMIN T. MATSLER, citizens of the United States, residing at Chappel, in the county of San Saba and State of Texas, have invented a new and useful Mechanism for Signaling Track Conditions, of which the following is a specification.

One object of the present invention is to provide a mechanism adapted to be placed upon a bridge or trestle, over which trains pass, for automatically indicating dangerous track conditions.

The invention contemplates the automatic giving of a signal when the stream or other body of water spanned by the bridge or trestle rises to such an extent as to render liable the washing away of the bridge or trestle or damage thereto, and the invention contemplates the giving of such a signal in the event of burning of the bridge or its collapse.

Further the invention contemplates the attainment of either of the above results and objects by signal mechanism adapted to be actuated in either of two ways, depending upon the character of the conditions causing such actuation.

The invention, in its present embodiment, contemplates the provision of a trip member which is located beside the track and is to be elevated to position to engage and actuate a signal upon an engine approaching a bridge or trestle which is in a dangerous condition.

In the accompanying drawings,—Figure 1 is a top plan, parts of the mechanism being broken away. Fig. 2 is a side elevation, parts being broken away. Fig. 3 is a transverse sectional view on the line 3—3 of Fig. 1. Fig. 4 is a transverse sectional view on the line 4—4 of Fig. 1. Fig. 5 is a detail perspective view of the weight controlled portion of the mechanism.

In the drawings, there is shown a length of trestle, the ties of which are indicated by the numeral 10 and the rails thereon by the numeral 11. The beams supporting the ties are indicated by the numeral 12.

Mounted for rocking movement in suitable bearings 13 on certain of the ties 10 is a rock shaft 14, the said shaft extending transversely of the track and beneath the rails. At one end, the shaft 14 is formed with a crank arm 15 and at its other end

the shaft is provided with a crank arm 16. Between its ends, the shaft is provided with a crank arm 17. A shaft 18 is mounted to rock beneath the shaft 14 at right angles thereto and supported from this shaft 18 is a vane, which is indicated by the numeral 19. Normally this vane hangs in a substantially vertical plane and with its lower end above the normal water level, as shown in Fig. 2. It will be understood, however, that should the water rise above normal, it will swing the vane 19, thereby rocking the shaft 18. In order that this rocking movement of the shaft 18 may be imparted to the shaft 14, the said shaft 18 is provided with a crank arm, indicated by the numeral 20, and connected by means of a link 21 with the crank arm 17 of the said shaft 14. The normal position assumed by the vane is clearly shown in Fig. 4 of the drawings in full lines and in dotted lines is shown its position when the water has reached an abnormal level. It will be clear that inasmuch as the tendency of the vane is to assume a vertical position; should an abnormally high water level be reached, followed by a fall to normal level, the vane will automatically swing from dotted line position in Fig. 4 of the drawings to its normal position shown in full lines in the said figure.

A number of brackets 22 are mounted upon the ties 10 beside each rail 11 and in each of these brackets is journaled a pair of rollers, indicated by the numeral 23. In the drawing, but one of the brackets 22 is shown, but it is within the scope of any skilled mechanic to provide as many brackets 22 as may be desired, depending upon the length of the bridge. A rod 24 is mounted for sliding movement between the rollers 23 at each side of the track, and inasmuch as the arrangement of each rod and its related parts at each side of the track is the same, a description of one of the rods and its related parts will suffice.

A link 25 is pivotally connected to that end of the rod 24 which is located adjacent the shaft 14 and this link is connected, to a link 26, which in its turn, is connected with the crank arm 15. The link 25 is formed with a rigid finger 27 which projects in a substantially horizontal plane and performs a function which will be described hereinafter. At its opposite end, the rod 24 connects pivotally to the lower end of a link 28 which

at its upper end connects to a trip arm 29 near the pivot 30 thereof. This trip arm 29 is curved to a slight degree, as illustrated clearly in Fig. 2, and is adapted to be engaged by a signal upon the locomotive (not shown). It will be readily understood from an inspection of the drawings and also from the foregoing description that should the shaft 14 be rocked so as to swing the arm 15 (or the arm 16) the associated rod 24 will be moved in the direction of its length and this movement of the said rod will actuate the link 28 and elevate the free end of the trip arm 29, so that the trip arm may engage with any suitable signal operating mechanism upon the locomotive.

As heretofore stated, the invention contemplates the embodiment in the mechanism, of means for actuating the trip arm 29 in the event that the bridge or trestle is destroyed by fire or partly destroyed by such agency, or in the event that it collapses or in the event that any portion of its under structure drops from position to support the rails 11, and this means will now be specifically described.

Secured to and extending lengthwise of the track, beneath the ties 10 are relatively thin beams 37, these beams being held in place and supported each at one end only, and such end being the one located near the respective end of the trestle. In other words, the beams 37 are so disposed that each will extend from a point adjacent one end of the trestle toward the middle thereof and will terminate substantially midway between the ends of the trestle, the latter ends of the beams 37 being supported in a manner hereinafter described. These beams are to be made of wood and may or may not be treated with a substance which will render them more combustible than the trestle itself, it being intended that in the event of fire at any point in the length of the trestle or in the event of dropping any of the ties 10 from position beneath the rails 11 or in the event of the collapse of any portion of the under structure, the said beams, or one of them, shall be broken or sagged.

Shafts 38 are mounted to rock transversely beneath the rails 11, one to each side of the shaft 14 and each of these shafts 38 is provided with a crank portion 39 to which is pivotally connected the adjacent end of one of the beams 37. It will now be understood that inasmuch as the crank portions 39 of the shafts 38 are normally substantially horizontal, destruction or sagging of the beams 37 or one of said beams, will result in an oscillation of one or both of the shafts 38. Each of the shafts 38 is provided at one end with a relatively long arm 40, and at the other end with a relatively short arm 41, and these arms upon the two shafts are oppositely located so that the long

arm 40 of one shaft will be opposite the short arm 41 of the other shaft and each of arms 40 and 41 is formed at its extremity with an angularly bent portion 42. A weight 43 is shown the weight having grooves 44 in its opposite sides, and the portions 42 of the arms 40 and 41 of the two shafts 38 seat in these grooves and support the weight between them in the manner illustrated clearly in Fig. 5 of the drawings. It will be readily understood that there are two of the weights 43 and that oscillation of either shaft 38 will result in a dropping of both weights 43. In order that this fall of the weights may exert a pull upon the rods 24, a chain or cable 45 is connected to each weight and to the link 25 adjacent the joint between the links 25 and 26 so that in the event of dropping of the weights, these links will exert a pull upon the rods 24 and elevate the trip arms 29. It will be observed that each weight 43 is provided at its upper end with an eye 46, and through which slides the finger 27 of the link 25, it being understood that this engagement of the finger or extension through the eye serves to prevent relative folding of the links except under the conditions noted.

What is claimed is:

1. In mechanism of the class described, a member mounted for oscillation; a crank shaft; a connection between said member and the crank shaft; a trip arm; a rod connected to the trip arm; links connecting the shaft and the rod; a weight connected with the links; releasable means for supporting the weight; and means carried by the weight to uphold the links.

2. In mechanism of the class described, a member mounted for oscillation; a rock shaft; an operative connection between the member and the rock shaft; a trip arm; a rod operatively connected with the trip arm; links connecting the rod with the rock shaft; a weight having connection with one of said links; rock shafts having crank portions at corresponding ends engaging the weight; and means for actuating the last mentioned rock shafts.

3. In mechanism of the class described, a member mounted for oscillation; a rock shaft; an operative connection between the member and the rock shaft; a trip arm; a rod operatively connected with the trip arm; links connecting the rod and the rock shaft; a weight having connection with one of said links; rock shafts having crank portions at corresponding ends engaging the weight; and a flexible connection between the weight and said links, at the point of juncture of the links; and means for actuating the last mentioned rock shafts.

4. In mechanism of the class described, a member mounted for oscillation; a rock shaft; an operative connection between the

member and the rock shaft; a trip arm; the
rock shaft at one end having a crank por-
tion; a rod operatively connected with the
trip arm; a link pivoted to one end of the
5 rod; a link pivoted to the crank portion of
the rock shaft; the two links being pivoted to-
gether; one of the links having a rigid finger;
a weight connected at its upper end to the
finger; rock shafts having crank portions at
10 corresponding ends, engaging and support-

ing the weight; and means for actuating the
last mentioned rock shafts.

In testimony that we claim the foregoing
as our own, we have hereto affixed our signa-
tures in the presence of two witnesses.

JAMES M. MATSLER.

BENJAMIN T. MATSLER.

Witnesses:

JOE KRING,

JOHN KEENEY.

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