

C. H. WADDLE & E. C. ROBERTSON.
RAILROAD SIGNAL.

APPLICATION FILED NOV. 26, 1910.

1,054,155.

Patented Feb. 25, 1913.

2 SHEETS—SHEET 1.

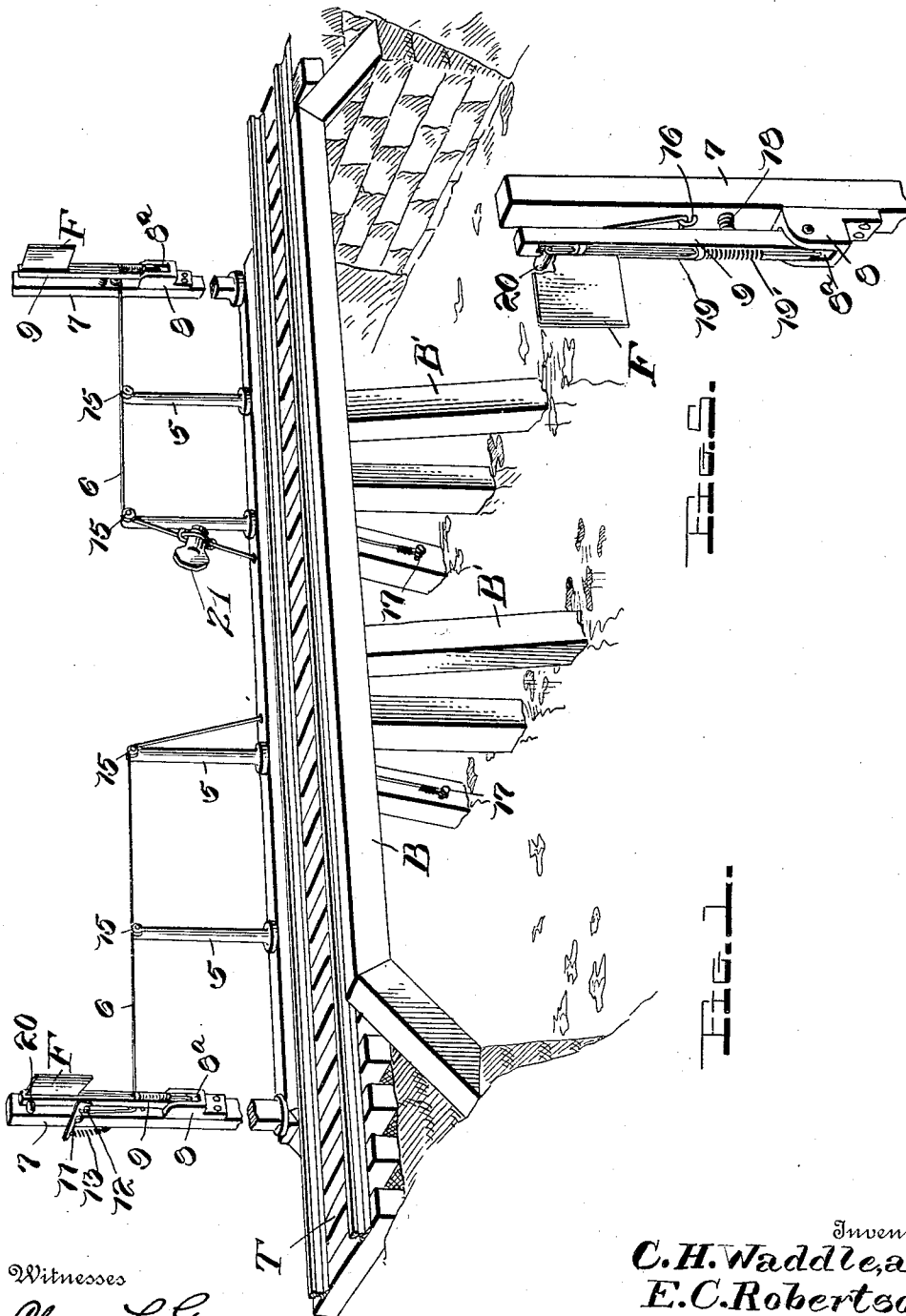


FIG. 1.

FIG. 2.

Witnesses

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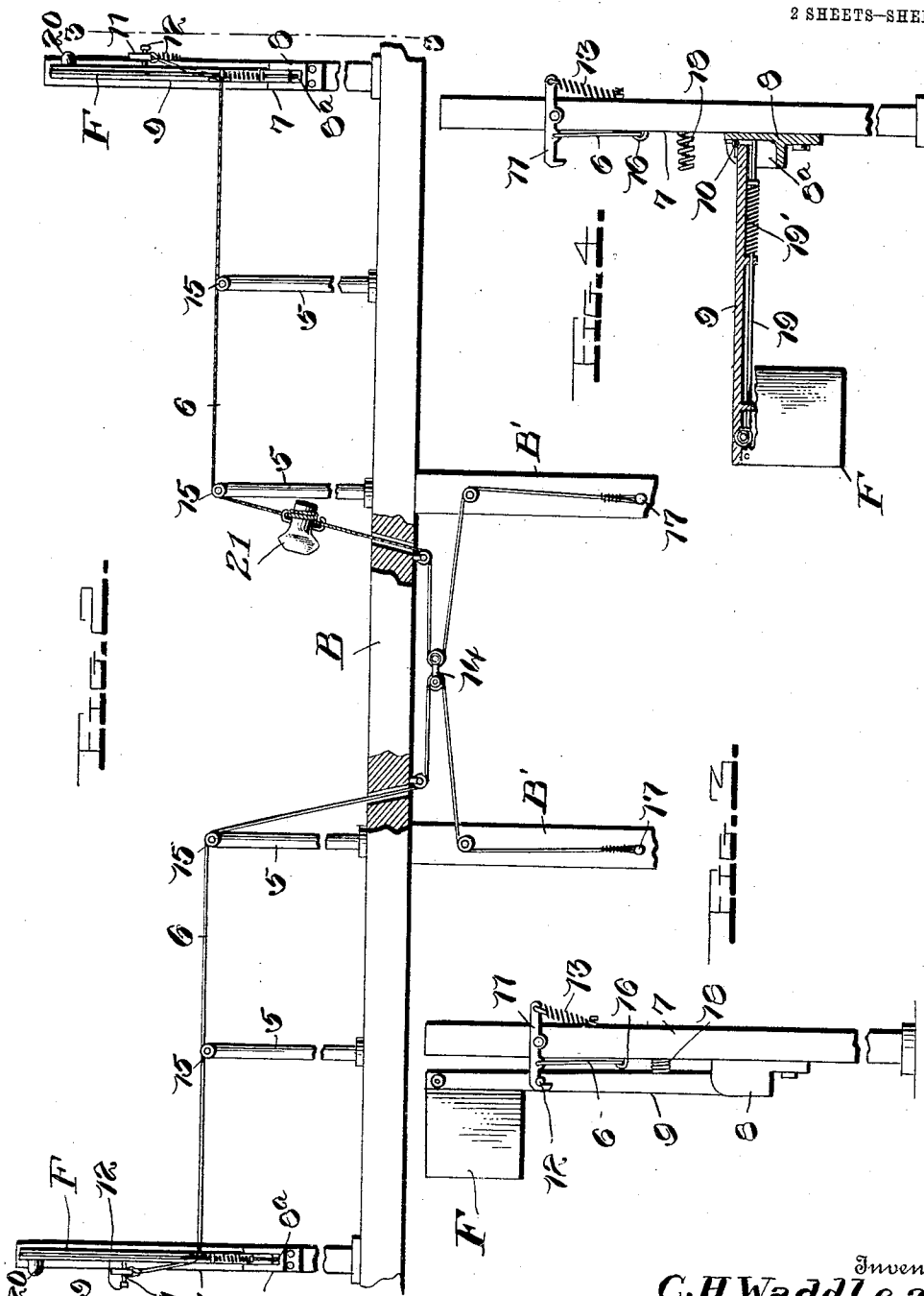
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UNITED STATES PATENT OFFICE.

CALVIN H. WADDLE AND EVERETT C. ROBERTSON, OF LOHN, TEXAS.

RAILROAD-SIGNAL.

1,054,155.

Specification of Letters Patent.

Patented Feb. 25, 1913.

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To all whom it may concern:

Be it known that we, CALVIN H. WADDLE and EVERETT C. ROBERTSON, citizens of the United States, residing at Lohn, in the county of McCulloch and State of Texas, have invented certain new and useful Improvements in Railroad-Signals, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to improvements in railroad signals and more particularly to an improved bridge signal, whereby the engineer of a locomotive may be notified in the event that the bridge should catch fire or be broken or damaged by flooding of the body of water which it spans.

The primary object of our invention is to provide an extremely simple and efficient device of the above character which is entirely automatic in its operation and is provided with day and night signaling means.

A further object of the invention is to provide a signaling mechanism which may be constructed and installed at a comparatively low cost and which is very reliable in practical use.

With the above and other objects in view, the invention consists of the novel features of construction, combination and arrangement of parts hereinafter fully described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of a bridge provided with our improved signaling mechanism; Fig. 2 is a longitudinal section through the bridge; Fig. 3 is a section taken on the line 3—3 of Fig. 2; Fig. 4 is an enlarged detail section of the hinged flag-staff; Fig. 5 is a detail perspective view of the flag-staff.

Referring more particularly to the drawings B designates a bridge which may be of any approved construction and is supported upon the bases B' built upon the bed of the river or other stream which is spanned by the bridge. The tracks T are laid upon the bridge in the usual manner and at one side of the tracks a plurality of posts 5 are arranged. These posts support the wires 6 for movement in the operation of the signaling mechanism as will more fully hereinafter appear. A pole or standard 7 is also arranged at the opposite ends of the bridge in line with the posts 5. A block 8 is secured to each of the poles 7 on the side thereof adjacent the railroad tracks

and above the same, and these blocks are bifurcated as shown at 8^a to receive one end of a flag-staff 9, said staff being pivotally mounted in said block for movement transversely with relation to the railroad tracks, when the staff is in signaling position. The ends of the staff are hinged to the poles 7 by means of the hinges 10. A trip 11 is pivoted intermediate of its ends to one side of the poles 7. These trips have hooks formed upon one of their ends for engagement over a pin 12 secured to the flag-staff 9. To the other ends of the trips one end of a spring 13 is secured, the other end of said spring being opposed to the poles 7. These springs normally act to retain the hooked ends of the trips in an elevated position out of engagement with the pins 12. To the trips 11 one end of the wires 6 are connected, said wires extending through openings in the bridge floor and around a double sheave 14 arranged beneath said floor. These wires extend over pulleys 15 arranged on the upper ends of the innermost posts 5 and through guide eyes 16 secured to the outer posts. The portions of the wires extending beneath the bridge floor are of fusible material while the portions of the wire above the bridge are preferably of copper. The ends of these wires are extended in opposite directions and provided with loops for engagement over pins 17 secured to the base supports of the bridge.

The flag-staffs 9 are adapted to be forced outwardly and downwardly upon the release of the trips by means of the springs 18 which are secured to the poles 7 at one end and bear at their other ends upon said shafts. These flag-staffs each have a flag F secured to its outer end and a rod 19 is longitudinally movable within the staff. These rods extend beyond the inner hinged ends of the flag-staff and coiled springs 19' are arranged thereon to yieldingly hold said rods against longitudinal movement. To the outer end of each of the flag-staffs a suitable night signal 20 is secured, and is adapted to be operated by the rod 19.

A winding pin 21 is arranged upon one of the wires 6 and carries hooks for engagement upon opposite sides of the wire whereby the wire may be wound around the pin to take up the slack therein.

In the operation of the device, the wires 6 are drawn downwardly and the loops on the ends thereof engage over the pins 17.

This movement of the wires moves the trips 11 into engagement with the pins 12 on the flag-staff, said staff being arranged in a vertical position. When thus disposed the
 5 springs 18 are under tension as well as the springs 13 which are connected to the trips. The rods 19 in the flag-staffs extend below the hinged ends of said staffs. In the event that the bridge should catch fire, the fusible
 10 portions of the wires 6 will be burned through, thus allowing the springs 13 to lift the hooked ends of the trips, whereupon the springs 18 will force the flag-staffs outwardly and downwardly across the tracks
 15 so that the flag may be readily observed by the engineer. The rods 19 are forced outwardly by this movement of the flag-staffs to operate the night signals 20. Thus the signal may be readily observed at night.
 20 The signal will also be operated in the event that the stream becomes swollen by floods, the soft metal lower portions of the wires 6 being broken by the current thus allowing the flag-staffs to drop and indicate to the
 25 engineer that the water is at a high level and the bridge in imminent danger of destruction.

From the foregoing it is believed that the construction and operation of our improved
 30 railroad signal will be readily understood.

The device is comparatively simple in construction and may be installed at a small cost. It is also highly reliable and efficient in practical operation.

35 While we have shown and described the preferred construction and arrangement of the various parts, it will be understood that the invention is susceptible of considerable modification without departing from the essential feature or sacrificing any of the advantages thereof.

Having thus described the invention what is claimed is:—

45 1. In a signal of the character described, the combination with the spaced supporting poles, of staffs pivotally mounted upon said poles at one of their ends, night signaling devices mounted upon the other ends of said staffs, spring held rods mounted upon the

staffs to operate the night signals, latch 50 members mounted upon said poles to support the staffs in an upright position, springs connected to the latch members and normally tending to move the same to their
 55 release positions, and fusible elements connected to the latch members to retain the same in their effective positions to support the staffs, the release of the staffs permitting the same to move downwardly and outwardly to a position at right angles to the
 60 supporting poles, the inner ends of said rods being adapted to engage the supports and be moved upon the staffs against the tension of the holding springs to operate the signaling devices.

2. In a signal of the character described, the combination with a supporting pole, of a staff and attaching plate therefor mounted upon the pole, said staff being pivotally
 65 mounted at one of its ends upon the plate, a night signaling device mounted upon the other end of the staff, a spring held longitudinally movable rod upon said staff to operate the night signal, a latch member to support the staff in an upright position and in
 70 parallel relation to the pole, a spring normally acting to move the latch member to its release position, a fusible element connected to said latch member to hold the same against the action of said spring and retain
 75 the staff in its upright position, and a coil spring mounted upon the supporting pole adapted to force the staff outwardly and downwardly to a position at right angles to the pole upon the release of the latch member, said rod engaging at one of its ends with the attaching plate of the staff whereby the rod is forced outwardly and the night signal operated.

In testimony whereof we hereunto affix 90 our signatures in the presence of two witnesses.

CALVIN H. WADDLE.
 EVERETT C. ROBERTSON.

Witnesses:

Z. T. BLANTON,
 A. Y. BLANTON.