No. 875,491. PATENTED DEC. 31, 1907.

J. F. BASTEL.

ALARM CIRCUIT.

APPLICATION FILED JUNE 28, 1906.

Fig. 1.

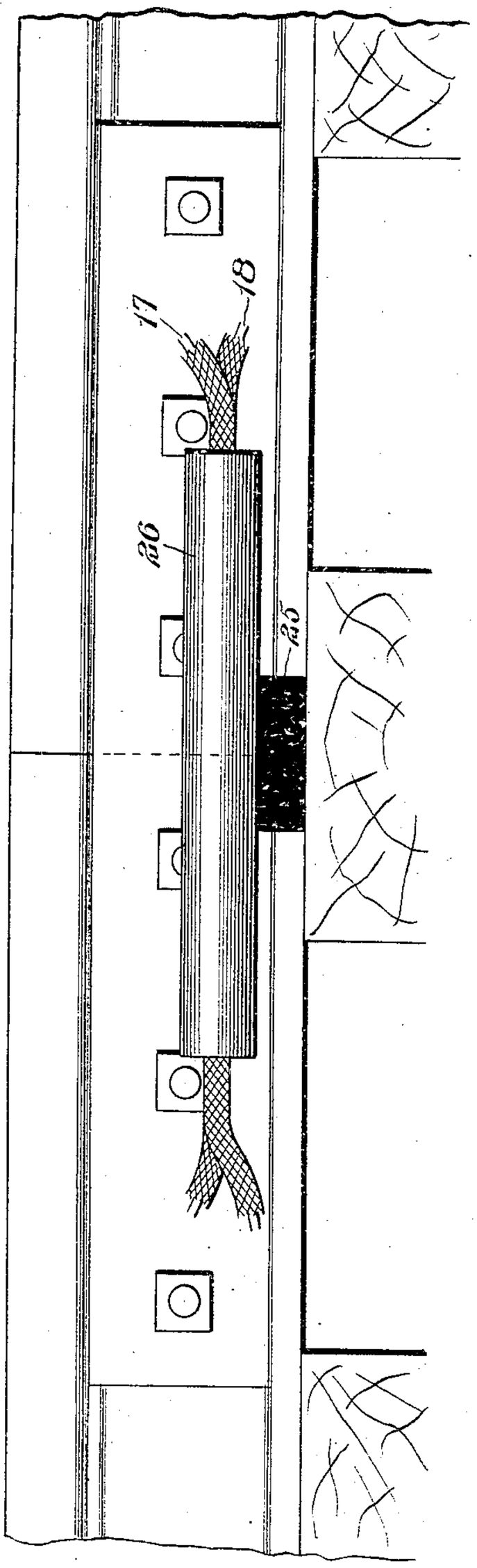
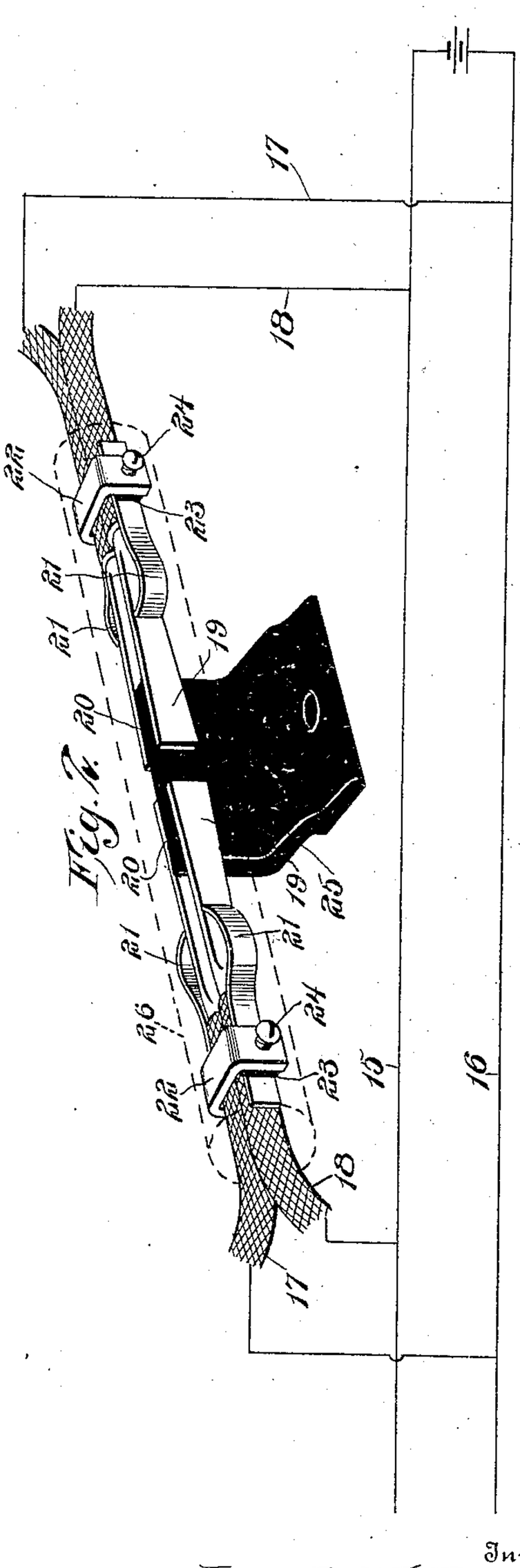


Fig. 2.



Witnesses

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JOSEPH F. BASTEL, OF ST. LOUIS, MISSOURI.

ALARM-CIRCUIT.

No. 875,491. Specification of Letters Patent. Patented Dec. 31, 1907.

Application filed June 28, 1906. Serial No. 323,786.

To all whom it may concern:

Be it known that I, JOSEPH F. BASTEL, a citizen of the United States, residing at St. Louis, in the county of St. Louis City and State of Missouri, have invented new and useful Improvements in Alarm-Circuits, of which the following is a specification.

The invention relates primarily to an alarm circuit, which is open under normal conditions and designed to be automatically closed to sound an alarm under predetermined conditions.

The main object of the present invention is the utilization of particularly formed conductor terminals, which are normally maintained in spaced relation and automatically brought into contact to close the circuit and sound an alarm under predetermined conditions.

The invention will be described in the following specification, reference being had particularly to the accompanying drawings, in which:—

Figure 1 is a side elevation showing my improved alarm circuit applied to the rails of a railroad track; Fig. 2 is a perspective view illustrating the arrangement of the circuit terminals, the main alarm circuit being shown in diagram.

In the drawings I have illustrated the device as primarily designed for sounding an alarm in the event the rails of a railroad track should become displaced. In this form of the device the alarm circuit includes line wires 15 and 16 extending throughout the length of the track or for any desired distance and including one or more alarms and a source of energy, the main alarm circuit being normally open. Contacts 17 and 18 are connected to the respective line wires 15 and 16 on each side of any particular rail joint, said contacts being secured to the rail on each side of the joint in any appropriate or desired manner. These conductors which are of the usual insulated type are stripped of their insulation adjacent their terminals and flattened as in the preferred form to provide relatively broad contacts 19 and 20. The contacts 19 and 20 are supported in proximate position through the medium of spring fingers 21—21 bearing on the respective contacts and tensioned so as to normally cause electrical engagement of said contacts. The fingers are secured in place and the terminals of the conductors bound together by clamping strips 22 embracing said conductors and spring arms, the depending branches of the clamp being insulated from the spring arms by insulating blocks 23. A clamping screw 24 passes through each depending arm of the clamp and is designed to secure the parts in fixed relation, as clearly shown in Fig. 2. The conductors 17 and 18 of each of the respective branch circuits are supported immediately adjacent the rail terminals at any particular section of the track and are held in spaced relation through the medium of an insulating block 25 designed to be secured to the underlying tie but formed with a centrally projecting section normally positioned between the respective contacts 19 and 20 of each pair of conductors.

By preference a protecting sleeve 26 is arranged to encircle the exposed portions of the conductors 17 and 18, being formed with a slot for the reception of the vertical portion of the insulating block. The sleeve forms no material part of the present invention and is primarily designed as a protective covering to guard the exposed portions of the auxiliary surface against deterioration by the elements.

In use should either track rail be disturbed or removed by accident or design from its normal gage, one or the other of the pairs of contacts 19 and 20 of the auxiliary circuits will be withdrawn from normal position relative to the insulating block 25 owing to the fact that said block is free of connection with the rails and supported solely by the tie. As the particular contacts 19 and 20 are withdrawn from normal position relative to the insulating block, the spring arms 21 and 22 operate to force said contacts into engagement with the effect to close the main alarm circuit and sound the alarms. This particular form of the device contemplates the use of an alarm circuit extending for example throughout the length of the track and including alarms at despatch stations or any other particular location, whereby upon disturbing of any of the track rails one or more alarms will be sounded with the effect to enable the operator to be advised of the conditions in time to avoid accident to an approaching train.

The main feature of the present invention, it will be evident, resides in the forming of the terminals of ordinary conductors to provide relatively broad contacts and disposing said contacts in spaced relation to normally maintain the circuit open. In addition to

the telephone and railway alarm circuits described the device is capable of many varied and extensive uses, as for instance in normally separating the contacts by an insulating material readily destroyed under a predetermined degree of heat, so that the presence of fire will operate to destroy the spacing insulation and sound the alarm.

The device as a whole is exceedingly simple comprehending in its broad scope simply the flattening of the conductor terminals and the provision of means for maintaining them normally in spaced relation, as the particular purpose to which the auxiliary alarm is applied will in itself provide means for automatically causing engagement of the spaced contacts under predetermined conditions.

Having thus described the invention what is claimed as new, is:—

1. An alarm circuit for railway rails including conductors having spaced terminals and secured to the rails, an insulating block disposed between the contacts and secured to the rail supporting means, and a clamp for securing the conductors together beyond the block.

2. An alarm circuit for railway rails including conductors having spaced terminals and secured to the rails, an insulating block disposed between the contacts and secured to the rail supporting means, and a clamp for securing the conductors together beyond the block, and spring arms carried by the clamp and bearing upon the contacts.

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

JOSEPH F. BASTEL.

Witnesses:

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J. HUGO GRIMM.