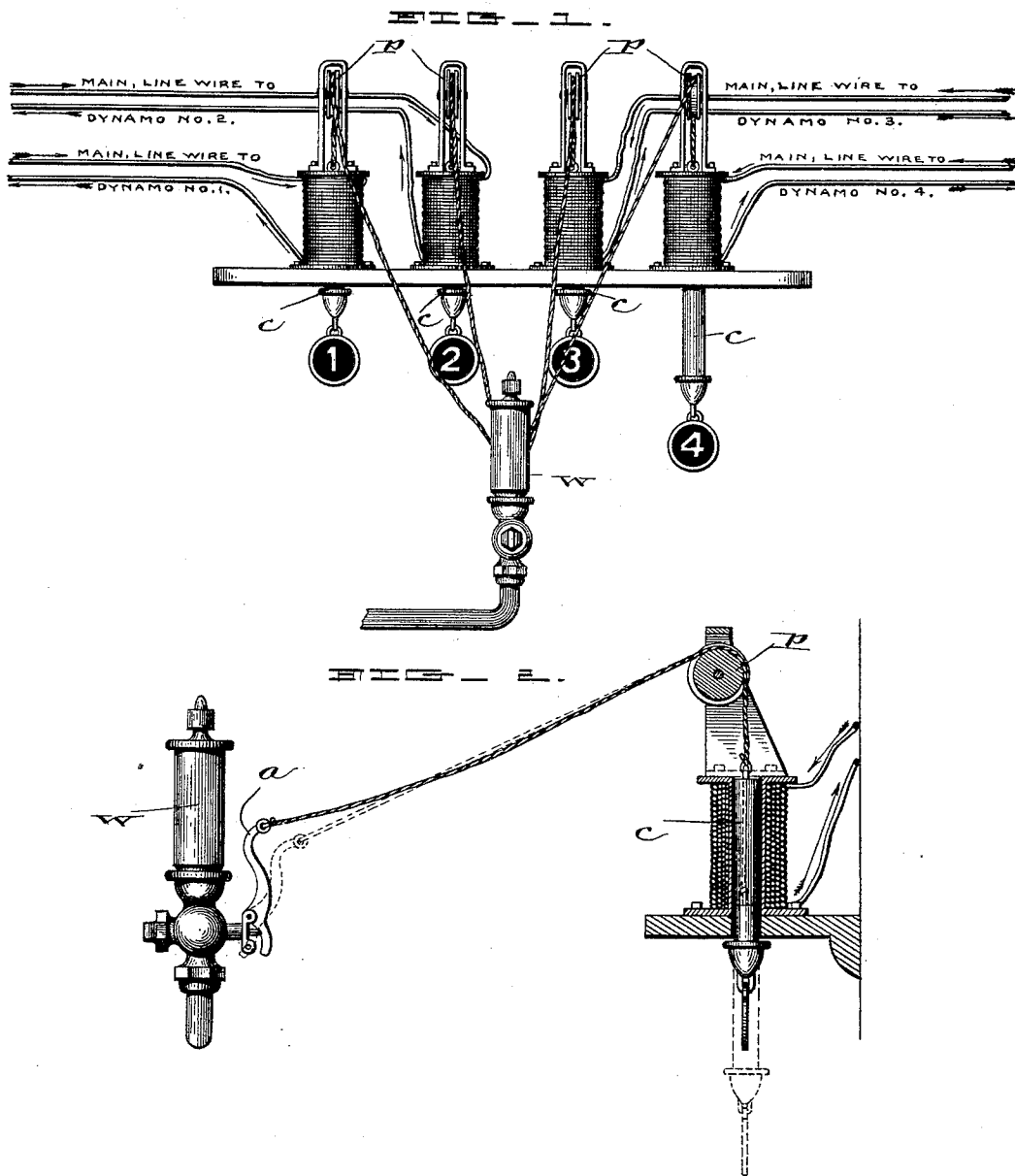


(No Model.)

E. G. METTLER.
ELECTRIC SIGNALING APPARATUS.

No. 461,104.

Patented Oct. 13, 1891.



Witnesses

H. D. Nealy.
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Inventor

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By his Attorney

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UNITED STATES PATENT OFFICE.

EUGENE G. METTLER, OF INDIANAPOLIS, INDIANA, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, OF ONE-HALF TO FREDERICK L. MCGAHAN, OF SAME PLACE, AND HENRY C. BAILEY, OF EDINBURG, INDIANA.

ELECTRIC SIGNALING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 461,104, dated October 13, 1891.

Application filed October 15, 1890. Serial No. 368,228. (No model.)

To all whom it may concern:

Be it known that I, EUGENE G. METTLER, of Indianapolis, county of Marion, and State of Indiana, have invented certain new and useful Improvements in Electric Signaling Apparatus; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which like letters refer to like parts.

My invention relates to improvements in the construction of electric signaling apparatus, and is especially intended to give notice of the breaking of wires arising from overheating or burning out of any of the wires of a series of dynamos in an electric station, and will be understood from the following description.

In the drawings, Figure 1 is a front view of a series of coils set in the circuits of the dynamos connected to a signaling-whistle. Fig. 2 is a side view, the coil being in section, showing the connection of the weighted core to the whistle, this view being on an enlarged scale.

In Fig. 1 I show a series of four coils supported upon a shelf or bracket connected to the wall or any suitable place, these coils being connected to the main-circuit wires of a series of dynamos numbered 1, 2, 3, and 4. The cores *c* of these coils are preferably weighted or enlarged at the lower end, and tags are attached indicating the number of the dynamo to which the coil is connected. The cores are connected by cords passing over sheave-pulleys *p*, all leading to a whistle *w*, which may be located in any convenient position, being connected by a steam-pipe to the boiler. The whistle is provided with the ordinary valve, having an arm *a*, to which the cord leading to the core is connected, as shown in Fig. 2.

My device operates as follows: In an ordinary electric-light or power station a number of dynamos are more or less in constant use, and it often happens that one of these dynamos becomes disabled by overheating or by some accident happening to it, which would break the connection and open the circuit,

which would short-circuit the dynamo and interrupt the main current. The main-line wires lead directly through the coils to the dynamos, and of course when any circuit is thus interrupted it destroys the magnetism in the coil, and this allows the weighted core to drop, and this pulls the cord and opens the valve, sounding the alarm upon the whistle, and by looking at the tags the engineer in charge can tell at once which dynamo is affected. These dynamos being independently connected through the coils to the whistle, the interruption of one only drops the tag upon its particular core, and if another should become affected it would drop its core, and so on in turn, and if all the dynamos were affected all the cores would be dropped and the tags would indicate the disturbance or interruption of the circuit. The brushes often become bent and dust, cinders, or ashes collect upon them, so as to prevent the free passage of the current, and the resistance then becomes so great that the magnetism of the coil is affected, the core is dropped, the whistle is sounded, and the engineer is notified. Of course the whistle is located so as to be heard readily in any part of the building, and the engineer can at once direct his attention to the dynamo affected and by prompt action prevent its burning out.

The weight of the core is such that when dropped it will not again be drawn up either by the force of the current alone or together with the pressure from the steam-whistle, and, as a consequence, when the dynamo has been repaired the engineer lifts the weight, pushing it up and into the coil by hand, and the force of the current will then hold it in place.

What I claim as my invention, and desire to secure by Letters Patent, is the following:

1. An electric-signaling apparatus comprising an electro-magnet set in the main circuit between the dynamo and the mechanism to be operated upon, the core of such magnet weighted and provided with a numbering-tag at its lower end, its upper end connected to a steam-whistle, the latter suitably connected to the steam-supply, all combined substantially as shown and described.

2. An electric signaling device comprising
an electro-magnet set in the main circuit be-
tween the dynamo and the light or motor, the
core of such coil provided with an indicating-
5 tag at its lower end and connected at its up-
per end by a cord to a steam-whistle, such core
normally held up by the force of the current
and weighted, so that when dropped it over-
balances the resistance of the steam in the

whistle and the force of the current in the 10
coils, substantially as shown and described.

In witness whereof I have hereunto set my
hand this 8th day of October, 1890.

EUGENE G. METTLER.

Witnesses:

C. P. JACOBS,

H. D. NEALY.