

(No Model.)

C. AGERSKOV.

ALARM.

No. 401,531.

Patented Apr. 16, 1889.

Fig. 1.

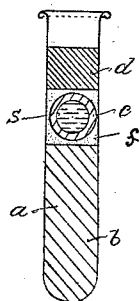
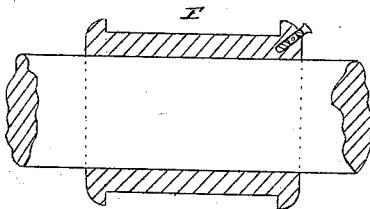


Fig. 2.



WITNESSES.

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ALARM.

SPECIFICATION forming part of Letters Patent No. 401,531, dated April 16, 1889.

Application filed October 1, 1888. Serial No. 286,904. (No model.) Patented in Norway August 23, 1888, No. 1,031; in France August 23, 1888, No. 192,560; in Belgium August 23, 1888, No. 82,985; in England August 23, 1888, No. 12,184, and in Italy August 23, 1888, XXII, 23,950.

To all whom it may concern:

Be it known that I, CHRISTIAN AGERSKOV, engineer, a citizen of Denmark, residing at Copenhagen, Denmark, have invented certain new and useful Improvements in Alarm-Signal Devices, (for which Letters Patent heretofore were granted to me by the governments of Norway, dated August 23, 1888, No. 1,031; France, dated August 23, 1888, No. 192,560; Belgium, dated August 23, 1888, No. 82,985; England, dated August 23, 1888, No. 12,184, and Italy, dated August 23, 1888, XXII, 23,950;) and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to an improved device for indicating by an alarm-signal device when the journal-bearings of car axles or shafts are overheated, the signaling device being inserted into a hole bored into the bearings or brasses of the journal-boxes, so as to automatically give the signal whenever overheating takes place.

The object of this invention is to provide an alarm-signal which will be operated at a temperature lower than that required to explode the charge therein, and which may be recharged and reused after its contents have been discharged or exploded.

In the accompanying drawings, Figure 1 represents a vertical central section of my improved alarm device for the journal-bearings of axles, &c., and Fig. 2 is a vertical longitudinal section of a bearing with my improved signaling device inserted in the same.

Similar letters of reference indicate corresponding parts.

In the drawings, *a* represents a small metallic vessel or shell, which is of tubular shape, closed at the bottom and open at the upper end. The tubular shell *a* is preferably made of sheet-copper and filled for the greater part of its length with a suitable combustible or explosive material, *b*, which can be readily

ignited by an igniting substance formed of three parts—an exterior inclosing part, *f*, composed of a mixture of chlorate of potash and sugar, and an interior ball formed of an exterior layer of paraffine, *c*, and filled with sulphuric acid, *S*. This ball is entirely inclosed by the mixture of chlorate of potash and sugar. The paraffine has the tendency to melt when the bearings are heated beyond a certain temperature—that is, beyond the temperature that is destructive to the bearing—so as to permit them the union of the sulphuric acid with the chlorate of potash and sugar, which takes place quickly, so as to ignite or explode the substance *b* at the lower part of the shell *a*.

The tubular shell *a* is closed by a stopper, *d*, of rubber, cork, or other suitable material. This stopper is forced out of the shell *a* by the explosion, which takes place immediately when the union of the chemicals is produced by the overheating of the bearing. The detonation that is produced, together with the light and smoke accompanying it, gives an effective alarm-signal, by which the attention is drawn to the overheating of the bearing. The shell *a* is placed into a hole drilled in the bearing or brass *E*.

In place of the chemicals described, any other suitable materials which have sufficient chemical affinity for each other to produce the explosion of the filling *b* can be used. The paraffine balls, inclosing a small quantity of sulphuric acid, are made by pouring melted paraffine over a layer of water and then allowing sulphuric acid to drop on the melted paraffine floating on the water. The drops of sulphuric acid, being heavier than the paraffine, carry an enveloping-layer of paraffine with them, said layers being instantly cooled as they are submerged in the water. The drops of sulphuric acid thus enveloped by the layer of paraffine drop to the bottom of the vessel, each drop being thereby fully inclosed by a paraffine shell.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

A torpedo-alarm for journal-bearings, consisting of a tubular shell closed at the bottom

and open at the top, an explosive within said
shell, ingredients of an ignition compound
within said shell, and an envelope separating
said ingredients, said envelope being com-
5 posed of a material which melts at a compara-
tively low temperature and permits said in-
gredients to unite and ignite for setting off
the explosive, substantially as described.

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

CHRISTIAN AGERSKOV.

Witnesses:

J. HOFMAN BOUG,
SIGOARD REDDERSEN.