S. ALLEY.

Heat-Indicator for Journal-Bearings.

No. 165,780. Patented July 20, 1875.

Fig. 1.

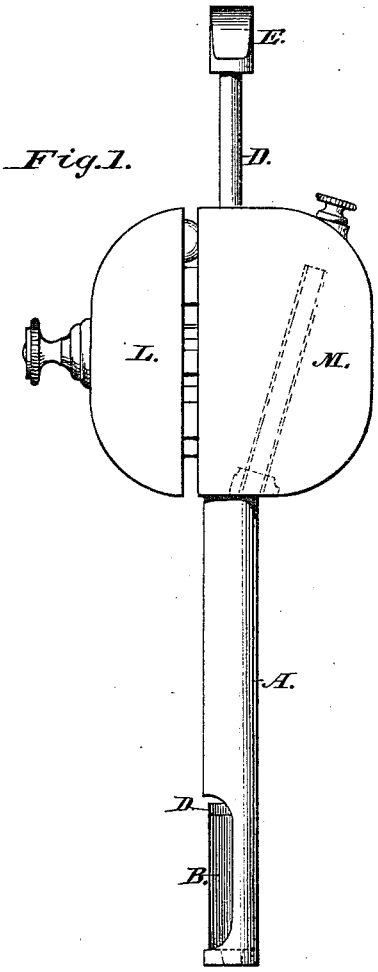
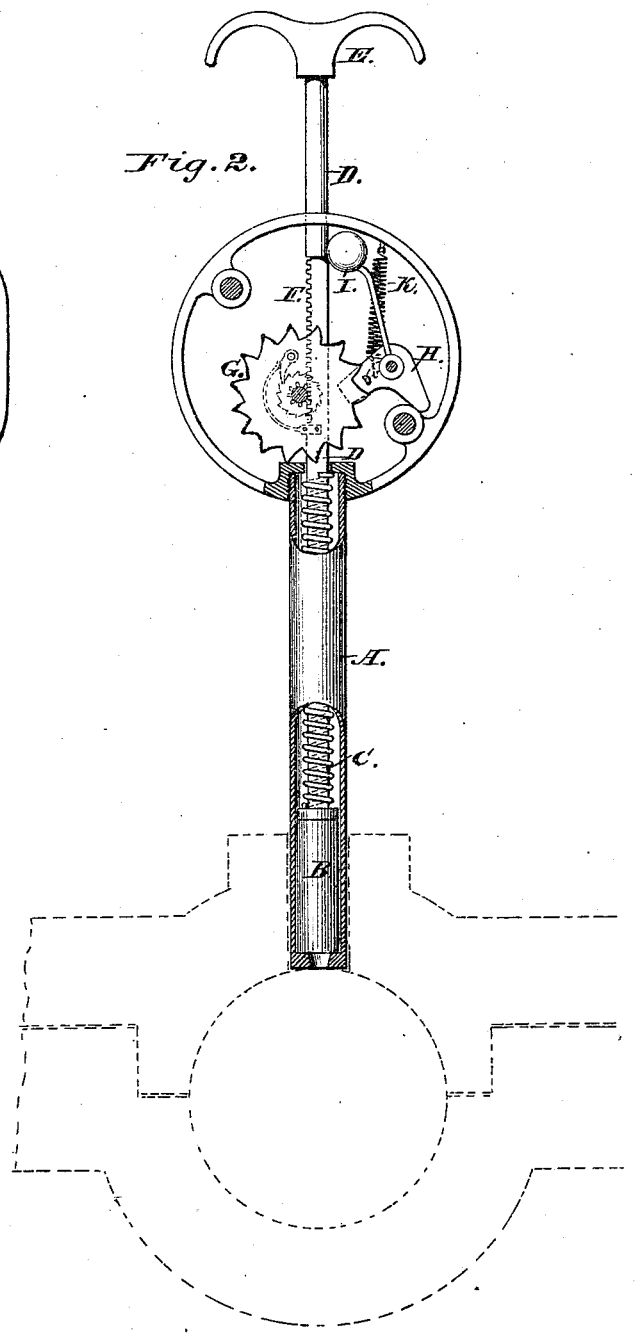


Fig. 2.



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UNITED STATES PATENT OFFICE.

STEPHEN ALLEY, OF GLASGOW, SCOTLAND.

IMPROVEMENT IN HEAT-INDICATORS FOR JOURNAL-BEARINGS.

Specification forming part of Letters Patent No. **165,780**, dated July 20, 1875; application filed May 31, 1875.

To all whom it may concern:

Be it known that I, STEPHEN ALLEY, of Glasgow, in Scotland, have invented a new and useful Bearing-Feeler or Heat-Indicator for Bearings, of which the following is a specification:

My invention has for its object to provide against the injuries liable to arise from the overheating of bearings or parts of machinery requiring lubrication when such overheating is not promptly attended to; and it consists in arranging, in connection with the parts in which overheating may occur, certain apparatus which will indicate the attainment of a predetermined degree of abnormal heating at any part, so as to attract the attention of the engineer or person in charge.

In the accompanying drawing, Figure 1 is a side elevation, and Fig. 2 is a partially-sectioned front elevation.

My bearing-feeler or heat-indicator is made with a metal tube, A, to be inserted into a hole bored in the cap of the bearing to receive it, the bottom of the tube A touching the shaft, or nearly so. At one side, near the bottom, the tube A is partly cut away, so as to admit of the ready insertion of a cylindrical plug, B, formed of a hard substance or compound which will soften or melt at the temperature at which it is desired that the alarm should be given, and which substance will be all the better if of a nature to act as a lubricant when melted. On the top of the fusible plug B there is pressed down by means of a helical spring, C, a rod, D, formed with a handle, E, at its upper end, and with rack-teeth F at an intermediate part. The rack-teeth F gear with a pinion, which, with a ratchet-wheel attached to it, is indicated by dotted lines in Fig. 2, and these are on the same pin as a tappet-wheel, G, fitted with a spring-pawl, so as to be driven in one direction by the ratchet-wheel. The tappet-wheel acts on a projection or pallet on a small cranked lever, H, carrying a bell-clapper, I, and acted on by a spring, K. The bell L is fixed on a bridge-piece, which is supposed to be removed in Fig. 2.

Should the bearing to which the instrument is applied become heated the fusible plug B will melt and allow the rod D to be moved downward by its spring. This will cause the striking of the bell L, and the ringing will continue, if not attended to, until the whole of the plug B has been melted.

When a fresh plug is required the instrument is taken out of the bearing, and the rod D being drawn up by means of the handle E, the plug is inserted through the opening in the side of the tube A.

The instrument is in Fig. 1 shown as having combined with it an ordinary lubricator, M, for oil, which is delivered into the top of the tube A, and finds its way down the tube to the bearing.

Any other suitable alarm apparatus may be substituted for the bell and its clapper.

I claim—

The combination of the spring-rod D, an alarm mechanism connected therewith, and a fusible plug, B, applied to the end of the spring-rod, the whole being constructed to be used in connection with a journal-bearing, substantially as described, whereby, when the journal becomes heated, the fusible plug will melt, release the spring-rod, by the action of which upon the mechanism an alarm will be sounded, substantially as described.

STEPHEN ALLEY.

Witnesses:

EDMUND HUNT,

W. W. BARTHOLOMEW.