

EARTHQUAKE SAFETY LAMPS.

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In the Transactions of this Society, Vol. XI., p. 88, I pointed out that the use of some sort of safety lamp would act as a safe-guard against accidents not only at the time of severe shocks, but also in our daily life, and I particularly mentioned the "Shaftesbury" safety lamp patented in England. A sample of this lamp lately arrived in this country. It is represented in Fig. 1 and Fig. 2. The mechanism is such that, when the lamp is either inclined on one side or dropped, the flame is automatically and instantly extinguished. The arrangements consist of a sliding rod $r r$ passing through the body of the lamp, and having the upper end hinged to an extinguishing cap c , while to the lower end a small weight is attached. When the weight rests on a table the cap is removed from the wick as shown in the figure, but when the lamp is tilted a little out of the perpendicular the weight pulls the cap down over the wick and extinguishes the flame. In order to prevent the lamp from being extinguished when lifted off the table a sliding ring is attached to its stem so that the hand in grasping it locks the mechanism. By this means the lamp can be moved without putting out the light, but should the lamp fall from the hand the cap goes up instantly before it can reach the ground. The price of the lamp is two shillings and nine pence (nearly 90 *sen*) and upwards; its patentee is Mr. Edward Phillips, No. 1, Holburn Viaduct, London.

Lamps of like nature have been patented in this country, but they are mostly poorly made. An exception is the one shown in Fig. 3, which, though not so ingenious and certain as its English rival, is fairly effective and exceedingly cheap.

A mouth-piece or gallery containing the whole of the extinguishing mechanism can be bought at the very low price of 10 sen (four pence) and upwards, and it can be fitted to lamps of certain fixed size. In this the mechanism consists of two flaps hinged to, and radiating from, the root of the wick pipe. A thick wire forming a lever passes horizontally into the gallery; to one end of this wire two short wires are attached, each being hinged into the flap. To the other end a spiral spring is fixed so as to shut the flaps by means of the thick wire lever. A counter weight is hung on one side of the lever and keeps the flaps open, but whenever the lamp is hit or knocked over either the spring slackens its force or the weight entirely falls down from its hold; this shuts the flaps instantly extinguishing the flame. I have both used and tested this lamp. It answers the purpose fairly well. The patentee is Mr. K. Yoshikawa, Tawarachō, Asakusa, Tokyō.

After the above description of safety lamps, it may not be out of place to briefly mention the accidents which have occurred from petroleum lamps. In the great earthquake of Yedo in 1855, fire broke out at no less than thirty-seven points. This was at a time when petroleum was unknown in this country, and now almost every one of the 200,000 houses in this city use one or more petroleum lamps; shops generally use a large number. The danger with which we are threatened by oil lamps at the time of another destructive shock is therefore not difficult to imagine. The danger which occurs daily is, however, more serious in the long run than that caused by earthquakes. Tōkyō Fire Reports from 1886 to 1887 give 953 outbreaks of fire, out of which 118 cases, or more than 12 per cent., were caused from petroleum oil. This is not to be wondered at when we consider the flimsy lamps now in such extensive use and the brittle materials of which they are made.

Considering these few facts, it would seem that the inhabitants of large cities, where the dangers from earthquakes and fires are abnormally great, as in this country, could not fail but derive great benefit by using either safety lamps, or at least lamps with metallic oil vessels.

Fig. 1.

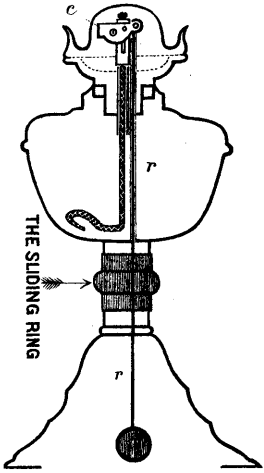
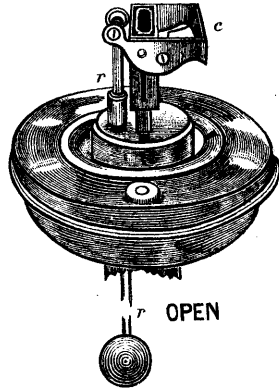


Fig. 2.



POSITION of EXTINGUISHER
WHEN ALIGHT.

Fig. 3.

