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THE ELECTRIC SIREN.

WHAT promises to be an instance of the practical adaptation of a long neglected possibility is the development of the principle of an electrically vibrated diaphragm, as found in apparatus recently elaborated in the hands of Mr. A. G. Trudeau, of Ottawa. The subject is one of such interest from an engineering point of view that some pains have been taken to obtain the information concerning it that is now here presented. The massive apparatus to be seen in Mr. Trudeau's workshops is the outcome of a long line of patient and persevering experimentation, and bears on the face of it

having been given proper shape to fill the requirements.

Mr. Trudeau conceived at the outset that the vibratory alternate current of the electric light might be adapted for the purpose in place of the magneto ringer, and this conception led to the construction of instruments actuable in a commensurate way by any such extraordinarily heavy currents as might be had from such a source. Going further in the same direction, he supplied the sound products with current from a special alternating dynamo, the number of whose current pulsations per second can be altered at will by an increase or decrease of its speed, or otherwise, and thus achieved a

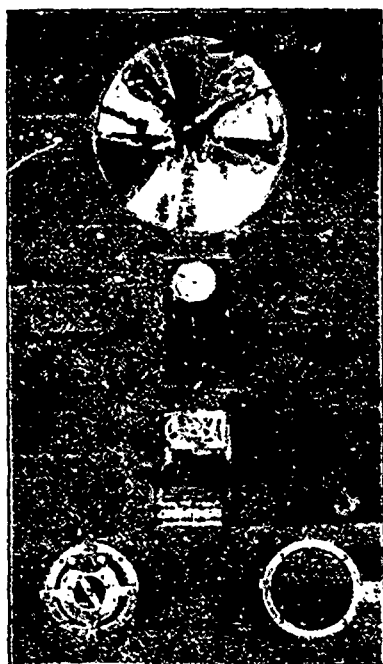


FIG. 1.—CLOCK MECHANISM AND SWITCHES, WITH GROUP OF INCANDESCENT LAMPS AND REFLECTOR.



FIG. 2.—ELECTRIC COAST SIREN.

and in its hugeness strong evidence of the inventor's confidence in the utility of what he had in view.

PRINCIPLE OF THE CONTRIVANCE.

Every user of the telephone is familiar with the behaviour of the 'phone if it happens to be "off the hook" and the distant ringer is put in motion. The diaphragm of the 'phone is subjected to a series of alternating current impulses, and manifests the effect of these by giving out a clattering noise not unlike the automatic electric buzzers sometimes used in place of the ordinary vibratory call bell. This observed behaviour of the 'phone under such conditions has been obviously enough suggestive of the construction of a call system comprising just such parts, but in practice the idea has not taken hold hitherto, perhaps because of the different elements going to make up the system not

variable action in the sound producer, corresponding to the variation of note in a complex steam whistle or siren—whence the descriptive name for it with which this article is headed.

*** DETAILS OF CONSTRUCTION.**

In furtherance of the foregoing comprehensive explanation of the character of the invention, the following details of the apparatus as now elaborated are given for the benefit of those of the readers of the *ELECTRICAL NEWS* interested in any new and unlooked for development of this kind. The outfit shown in the accompanying illustrations comprises what is needful for a lighthouse, with electric light and siren combined. In Fig. 1 a group of three powerful incandescent lamps, with reflector, is shown above the clock-work and switches. The number of these lamps is obviously referable to the