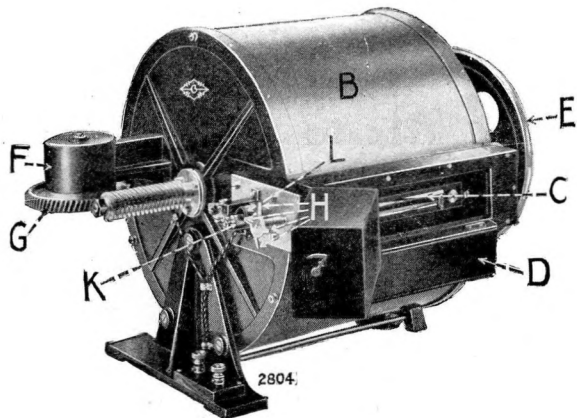
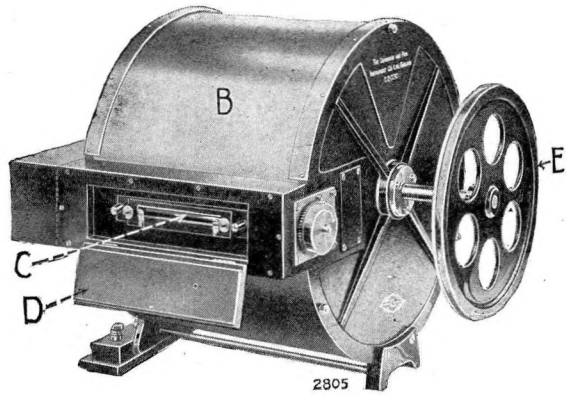


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CAMBRIDGE SCIENTIFIC INSTRUMENT COMPANY LTD





OSCILLOGRAPH OUTFIT FOR RESEARCH WORK

by the

CAMBRIDGE SCIENTIFIC INSTRUMENT COMPANY, LTD.

An Oscillograph Outfit incorporating some novel features has been designed. The Outfit comprises a set of double DUDELL oscillographs and a six-string EINTHOVEN galvanometer, each instrument being used in conjunction with a drum camera of a form originally designed by the Bureau of Standards, Washington. Each camera (Fig.) consists of an aluminium drum, one metre in circumference and 150 millimetres in breadth, around which a photograph film or sensitive photographic paper is wound. The drum is rotated by means of an external pulley E mounted on the drum shaft, and it can be given a lateral motion by means of a worm gear operated by a magnetic clutch F. A record 3 metres long is thus obtained. A faster or a slower traverse may be obtained by substituting other worm gearing, while the speed of rotation may be varied by altering the speed of the driving motor or the size of the motor pulley; normally, the speed is about 3 metres per second. The drum is enclosed in a cylindrical aluminium box B, fitted with a shutter and a cylindrical lens. An electrically operated trip mechanism H enables the camera shutter to be operated simultaneously with the magnetic clutch, so that it is opened when the drum commences to traverse horizontally. The shutter and clutch may also be operated independently. The period during which the camera shutters are open and the lateral feed of the drum is in operation, is regulated by means of a pendulum which is normally held in a position out of the vertical by a catch, operated by an electro-magnet. When the electro-magnet is energized, it closes a circuit which opens the shutters of the cameras and starts the drums, at the same time releasing the pendulum. The pendulum, in its travel, operates other contacts which cause the shutters to close and liberates the worm gear clutches, at the same time cutting off the current through the oscillographs and the galvanometer. By adjusting the position of the contacts, or by altering the position of movable weights on the pendulum arm, the time occupied by a record can be modified. A time record is marked upon each drum by means of a light which shines through slots in the prongs of an electrically maintained tuning fork vibrating at 50 periods per second, thus giving flashes at the rate of 100 per second. The tuning forks are controlled by a master tuning fork, so that the time intervals are synchronous. A simultaneous flash is made on all the drums by means of a beam of light from a single stroboscope, directed by reflecting mirrors, thus providing a datum point from which all the records can be synchronised.

Dimensions of the Revolving Drum Camera $55 \times 39 \times 37$ cm,

Weight 24 kg.

Further particulars will be given on request by the Cambridge Scientific Instrument Co., Ltd., 45 Grosvenor Square, London, S. W. 1; representatives of this Company are to be found in most countries of the world.

