

piano itself. The film, therefore, furnishes a full and adequate record of piano performance.

This preliminary notice of the camera was sent to this journal because it was felt that the method here employed has many possibilities for application in other fields of science.

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A NEW MECHANICAL DISINTEGRATOR

INVESTIGATORS working with filterable viruses appreciate how much time may be consumed in reducing virus tissues to a finely divided physical state, a task generally carried out by hand with the aid of a mortar and pestle. This method of grinding tissues is not only comparatively inefficient but also exceedingly monotonous and tiring. In order to overcome these objections in our own work, we designed a machine some time ago whereby the mortar and pestle could be operated mechanically. This apparatus has

proved so satisfactory that we offer a brief description of it for the benefit of those who may be interested.

Fig. 1 gives a top view and Fig. 2 a lateral view of the machine. It consists of a suitable cast-iron pedestal (2), provided with a thrust bearing (7), into which is fitted a shaft (6), which passes through the floor (4) of the grinding chamber and bears at its upper end a driving disk (8) provided with several eccentrically placed apertures (9). Shaft (6) is driven by means of worm gear (10), which engages with a worm (11), attached to the horizontal shaft (12) of an electric motor (13). The machine is fastened to a metal base (1) on which rest also the legs (5) which support the floor (4) of the grinding chamber.

Within the grinding chamber a platen (14) is movably positioned above disk (8) by means of a pin (15) which fits into one of the eccentric apertures (9). The platen (14) is provided with a bifurcated end (16), which engages with a fixed pin (17) attached to the pedestal (2). The mortar may be fixed into position on the platen by means of rubber-covered metal fingers (20) extending upward from the platen (14).

The pestle (26) is held in position by means of a round flexible metal arm (23) provided with a clamp (24), operated with a thumb screw (25). The metal arm (23) is fastened by means of a special clamp (22) to a vertical triangular rod (21) fixed to the pedestal (2).

The mechanism described imparts to the platen holding the mortar an eccentric motion. By thus moving the mortar the pestle is brought into essentially the same operable relationship with the mortar as when the grinding process is carried out by hand. When desirable, grinding may be carried on under a hood (3), which may be entered by means of a hinged lid, provided with a glass window (31) to facilitate inspection of the material while the machine is in operation.

The machine described should prove useful not only in grinding virus tissues, but also in grinding most substances that are commonly disintegrated by means of a mortar and pestle.

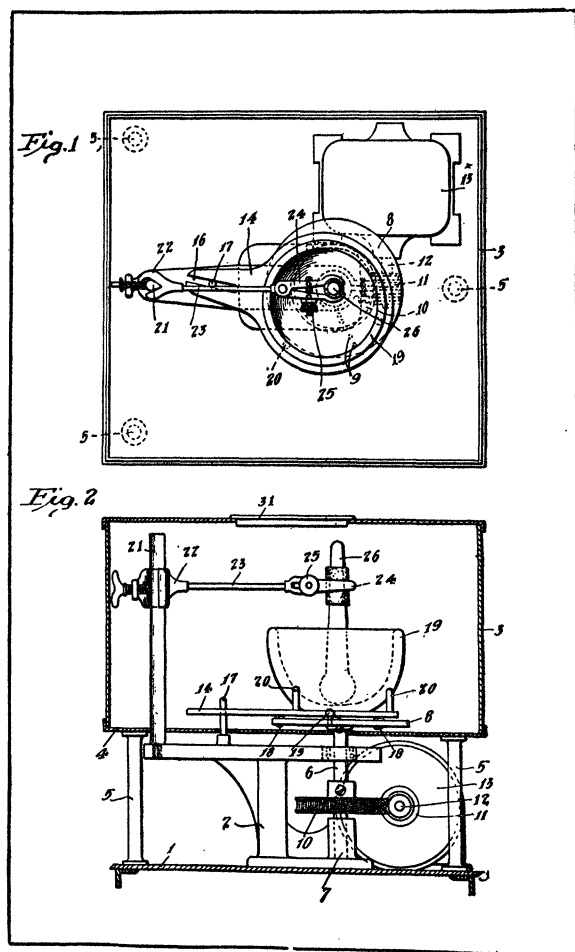
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A METHOD OF TITRATING PROTEOLYTIC ENZYMES

IN 1927¹ the author published a brief note on a method of enzyme titration, which was later somewhat modified and demonstrated at the 1928 meeting

¹ *Proc. Soc. Exp. Biol. and Med.*, 24: 936, 1927.



FIGS. 1 and 2