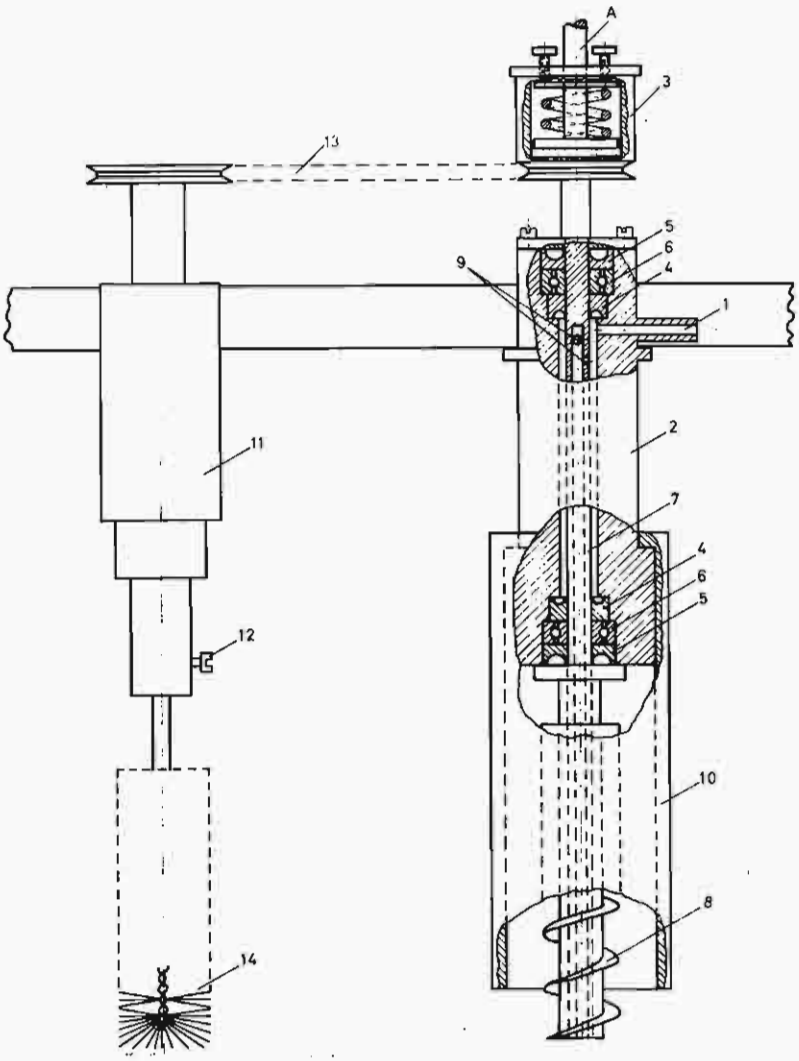
Wind, Heinz and Heinz Mertens. Institut für Strahlenbiologie, Münster (Westf.) Germany. A device to clean culture tubes.

In order to clean Drosophila culture tubes in relatively short time, we have developed a cleaning device which is in operation in our laboratory since a year and proved to be very helpful.



In principle it consists of a waterflown rotating spiral of polyamide (see Fig., position 8) with the help of which the used culture medium is detached from the glass walls and - based on the Archimedes Principle - spiraled out. The finer particles still attached to the glass walls are removed by a a rotating brush (14). The whole assembly is driven by an ac motor provided with a gear that can be continuously regulated. The number of revolutions is about 250 rpm. To protect the worker from being hit by the glass pieces of a breaking tube, a safetyclutch (3) is built between the motor and the washing assembly. The washing unit is built as follows: Through the inlet (1) the water flows into a chamber contained in a brass cylinder (2). The upper and the bottom ends of the chamber are sealed with Simmer rings (4), thus protecting the ball bearings (6) from the inflowing water. The outer Simmer rings (5) protect the ball bearings from the atmospheric humidity. In the ball bearings (6) a hollow waterflown shaft (7) rotates. To the distal part of this shaft the polyamide spiral (8) is fastened tightly. The proximal part of the shaft is closed and connected with the safetyclutch (3). Two holes (9) are drilled in the proximal part of the hollow shaft. The water enters the shaft through the holes and flows out of the distal end of the spiral under pressure, thus helping to eject the medium out of the tube. The plexiglass tube (10) gliding on the cylinder (2) protects the worker from the spray. The support (11) for the brush (14) is built in the identical way. The brush is not waterflown (normal reagent-glass brush); but if required a waterflown brush can be inserted. The brush is fixed with a screw (12) to the support. The motor-driven spiral is connected by a strap (13) (which is running over pulleys) with the brush and thus both are driven simultaneously. The plan of the safetyclutch is simple as can be seen from figure. The shaft of the safetyclutch is connected to the gear. The whole assembly is mounted on the wall at an angle so that the ejected medium is collected in a vessel placed below without being hit by the water stream coming out of the spiral.