in the Kjeldahl flask after digestion. In practice, the adjustment is so made that the apparatus delivers each time about 80 cubic centimeters of strong sodium hydroxide solution.

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NOTE.

Glass-cutting by Means of an Electric Wire.—While it is often necessary, in laboratory practice, to cut bottles and other glassware for the construction of special apparatus, the methods commonly used are somewhat tedious, besides requiring considerable manipulative skill for good results. The following simple device, however, will be found to combine rapidity with precision, even in the hands of an inexperienced operator. For some time the writer has been using it successfully, and, not knowing of its ever having been used before, publishes it with the idea that it might possibly be of interest to other experimenters.

The method consists in passing a current through a thin resistance-wire which has previously been wound about the glass vessel and carefully adjusted. For this purpose the 110-volt lighting circuit may be used, and, aside from the resistance-wire just mentioned, the only apparatus required is a couple of pieces of No. 18 insulated copper wire, a pair of ringstands or other heavy objects, and a suitable rheostat. The vessel must be perfectly dry, and should have a scratch about 1/4 inch long made upon its surface, either on the emery-wheel or with a file, in order to provide a starting point for the crack. After joining the ends of the resistance-wire to the copper leads, fixing the latter to the ringstands at the desired height, and connecting the rheostat in series, the resistance-wire is fastened in a single loop around the glass vessel, so as to pass directly over the file-mark, and drawn taut by means of the ringstands. A particle of asbestos paper is then inserted between the crossed ends of the loop, to prevent contact, and enough current is turned on to heat the wire to dull redness. In a few seconds a crack forms at the file-mark and spreads rapidly around the vessel—frequently the crack starts and snaps across all at once; in either case, it will be found to have followed the path of the resistance-wire perfectly, so that the trueness of the fracture depends entirely on the smoothness and alignment of the wire.

Apart from the illustration just given, which merely describes the cutting of a bottle in two, the method may equally well be applied to more intricate cases, where the fracture is to be a curve or a spiral.

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