

The second essential condition is that the catgut must be strong and pliable. After fulfilling these the ideal method of sterilization should fulfil others; the method should not require too much time, nor be too troublesome, the catgut should not be swollen, it should be so kept as to be easy of transportation and not easily contaminated, and it should be free from poisonous or irritating chemical substances.

The various methods in use depend upon heat, chemical agents, or the combination of the two. Chemical agents are uncertain in their bactericidal properties and investigators are becoming daily more sceptical as to these properties. It has been found that catgut which has been thoroughly dried will stand a high degree of heat without much injury, and it is upon this principle that the Cumol or modified Kronig method adopted by us depends.

The principal features of this method of sterilization consist of drying the catgut in a dry air sterilizer at temperature of  $80^{\circ}$  C. and then transferring it to a vessel containing cumol and heated on a sand bath to  $165^{\circ}$  C. and kept there for one hour.

Cumol, although not explosive, is highly inflammable, and accordingly the heating of it in the ordinary way is dangerous. For the safe manufacture of cumol catgut a special apparatus consisting of a hollow jacketed closed cylinder, with sand within the jacket, and containing a wire cage and high registering thermometer, has been devised. The catgut, cut into desirable lengths, 15 inches, is wound into small coils or rolls, each containing six strands. It is then placed in the wire basket surrounded by a few layers of butter cloth or filter paper, and placed within the sterilizer. Heat by means of a Bunsen burner is slowly applied, and the temperature gradually raised to  $80^{\circ}$  C. and held there for one hour. It is to be remembered that the raising of the temperature *must* be done very slowly. Rapid rise of temperature renders the catgut brittle on boiling, and besides, after reaching the  $80^{\circ}$  C. limit it is apt to go far beyond that and thus wholly destroy the catgut by excessive heat before it is properly dried. From one to two hours should be devoted to reaching the  $80^{\circ}$  C. limit, the heat being turned off for a few minutes from time to time. Should the thermometer show that the temperature was rising above the limit, the top of the sterili-