The confectionery industry, like many others, has seen great changes in recent years. Basic formulations have altered little but the processes of manufacture have undergone many developments, particularly in the methods of forming small pieces and bars and their packaging.

It seems appropriate to summarize these changes at the beginning of this section and to discuss each application later with regard to particular formulations.

Certain groups of confectionery require particular methods of shaping so that they can be wrapped and packed in a manner most suitable for sale. Probably the most successful development has been the confectionery bar (also called candy bar). These bars lend themselves to economical methods of production, packaging, and presentation at the point of sale.

Concurrently, the improvement in packaging has been noticeable, with regard to both the material used and the method of sealing. Most candy bars require protective packaging to ensure good shelf life and to guard against damage by insects and extraneous contaminants. These factors are described in separate chapters.

Chocolate manufacture has already been discussed and it should be realized that chocolate and compound coatings are essentially fat based and any moisture present is very small—generally less than 1 percent. The ingredients are not in water solution.

Many confectionery processes utilize the special solubility properties of sugar (sucrose), alone or combined with others "sugars", such as glucose syrup (corn syrup) and invert sugar. There are basically two groups of sugar confectionery products: (1) those in which the sugars are wholly in solution, and (2) those in which the sugars are partly in solution and partly in the form of minute solid sugar crystals suspended in the solution. Other ingredients, such as milk and fats, may modify these products.
Group 1 includes hard-boiled sweets (hard candy), hard and soft caramels and toffees, and most jellies. Group 2 consists of such products as fondants, fudge, grained marshmallows, and grained nougats.

SUMMARY OF CONFECTIONERY PROCESSES

From the foregoing description, it can be seen that a variety of textures is obtained as a result of the various processes and formulations and each requires a particular method of forming into pieces or bars. These methods are summarized below but specific applications are described in other parts of the book.

Rolling and Cutting

This is probably the oldest method of producing bars and pieces, mostly from plastic products like caramel, fudge, nougat, and various pastes. The confection, in the right plastic condition, because of either its moisture, its fat content, or its temperature, is first fed through rollers to produce a slab of the required thickness. This slab is then fed to knife cutters to produce wide strips that are subsequently cut into narrow bars or small units. In a modern development of this principle, the hot product is fed to “iced” rollers, enabling the production of multiple-layered slabs. The slabs are continuously cut into strips that pass over a spreader and are then cut into bars or small pieces. An example of this process is the Sollich Conbar system (Fig. 19.1).

Casting or Depositing

This method is applied to hard candy, fondants, jellies, some caramels and fudge, marshmallows, and other products that can be obtained in a liquid state.

Hard Candy

Certain types may be deposited as liquid at around 150°C (302°F) into metal molds the surfaces of which are coated with a “release agent.”