quarter steam fittings, but if the separator be placed so that more than twenty feet of pipe is required to reach to the boiler, use a larger pipe to insure sufficient steam to drive it properly, adding one-quarter of an inch in size of pipe for every twenty feet in distance. Take care to remove all scales and cuttings from pipes before placing them in position.

The exhaust pipe is usually made of galvanized iron, four inches in diameter. It may be conducted through the side of the building, provided it is placed so as to drain well, or it may be put through the roof. The latter method is to be preferred, as the danger of frightening horses is thus done away with. It should be long enough to reach higher than any point of the roof, in order that the draft may not be interfered with. When it is put through the roof, a drain pipe must be connected with the elbow at the lowest point to carry away the condensed steam. This in most cases may be put through the floor or be allowed to run into a pail. Next, put the bowl and spindle in place, being sure to have all bearings cleansed and oiled. Then fill the bowl with water, if it be a separator that has steam turned directly against the bowl. This will keep the bowl cool until sufficient speed has been reached to cause a current of air around the bowl, which will keep it cool thereafter. Apply steam gradually, having the regulating valve set so that it will keep the pressure at from forty-five to fifty pounds on the steam guage. If there is no safety valve, the pressure will have to be regulated by the globe valve.

After speed has been reached in either the turbine or the belt separator, the milk should be turned on full feed, until both the cream and the skim-milk flow freely; then it should be closed off till the cream is the desired thickness.

Milk separates best when fresh or new, and at a temperature of 90 to 100 degrees. But in creameries the usual practice is to bring the night's and morning's milk together to the factory. In such cases, if the temperature has fallen below eighty-five degrees, the milk should be heated to eighty-five or ninety degree or higher, at least eight or ten minutes before going into the separator. This is done by means of a tempering vat, holding about 400 pounds, and attached to the receiving vat, so as to have a regular flow to the separator.

Heating increases the difference in the specific gravity between the serum and the fat of milk, and thus facilitates the separation of the latter. Frozen milk separates better when heated five to eight degrees higher than that which has not been frozen.

After all the milk has been separated, the cream left in the bowl may be forced out by putting in some skim-milk or warm water; about two pailfuls will be needed for this purpose. Shut off the feed tap for a few seconds when about one pailful has gone through; then turn it on again.

Always allow the bowl to stop of its own accord after the power has been taken off—never apply any brake or fricton to it. Wash in tepid water the bowl and all parts that come in contact with the milk or cream, cleaning all foreign substances from the skim-milk tubes, etc. Then scald with steam or boiling water and allow to dry, after which the parts may be put together.

Two thicknesses of quarter-inch rubber packing placed under the outside edge of the base, before bolting the separator down, improves the running of any separator. Four rubber rings, one under each corner, also have a beneficial effect in making the separator run smoothly and quietly.