

be effected if all the ammonia returns are passed through it especially with the dry-compression machines.

#### FUEL AND STEAM PLANT.

The ever-increasing cost of fuel makes the latter a point requiring attention. Suction gas is coming more into use where the output warrants it, but in small factories it is doubtful whether there is any saving, provided the boiler is of a good type, well built in, and is properly fired. To make the best use of steam plant, however, the exhaust steam must be used for pasteurizing and heating the water for boiler-feed and washing-up purposes. Some still hold that the boiler-tubes only want cleaning when they are dirty—"dirty" meaning when the soot is beginning to interfere with keeping up steam. The number of times the tubes require cleaning daily depends upon the kind of coal used, but they should certainly be done once. Leaking steam-valves run away with a lot of fuel, and with the renewable seated valves of various makes now obtainable there is no excuse.

#### CHURNING AND MOISTURE-TESTING.

All these losses are small, however, compared with what is possible through neglect in churning. Practically every factory-manager, if asked the moisture-content of his butter, will tell you "about 15 per cent.," but very few average that for the year. The moisture test was first introduced as a safeguard against getting over 16 per cent., and by some it is still looked upon in that light only. It is a fact that there are still factories where butter is packed without a test for moisture being made, and I have tested samples which have contained only 13 per cent. This is a very serious loss to the factory. On the other hand, to get over 16 per cent. and risk prosecution at the hands of the grader, or, worse still, to have the London buyer prosecuted, is more than any factory can afford. There is only one safe course, and that is to test every churning, and aim at 15 per cent. of moisture. To go over that figure is to risk getting a salvy, overworked butter, and frequently exceeding 16 per cent.

There are various methods which can be followed in handling a churn to ensure a fair moisture-content without overworking, and any remarks made here apply to the open-worker pattern of churn. Whatever method is followed, the buttermaker should be able, with a little experience of his conditions, to bring each churning up to the stage where the first test is made with very little variation in