

REMARKABLE EVOLUTION OF MODERN BREAD MANUFACTURING

The Introduction of Up-to-date Plants Results in Lower Cost of Manufacturing, Higher Grade of Product and More Systematic Plan of Distribution. Canada Bread Company, Limited, with Output of 1,000,000 Loaves per Week, Will be in a Unique Position.

THE VISITOR to the ancient city of Pompeii, as he wanders round the deserted streets, comes at last to an opening in the ruins where are to be seen several contrivances in stone, the significance of which is to him a mystery. Looking up his guide-book, however, he finds that they were used by the ancients for grinding their corn. Nearby are the old ovens, partly repaired. While examining them, it all at once dawns upon him that the business of baking bread is carried on to-day—or has been carried on until recent times—in almost the same way as it was carried on by the ancients. Only in the grinding of the flour can the casual and uninformed observer see any considerable improvement in the process of producing bread. The ovens are much the same as might be many of those to-day after they have become partly ruined. Within the lifetime of thousands of those who visit Pompeii have they seen bread baked in just such ovens.

The business of baking bread is now, however, being modernized and systematized, much as has been the grinding of flour and the carrying on of thousands of other industrial processes with which we are in daily touch. The days of guesswork are drawing to a close in the matter of baking as in the matter of everything else. In all the principal cities of Canada and the United States, as well as of Europe, are now carried on technical institutes of various kinds, both by night and by day, at which the fundamental principles of cooking are taught—domestic science it is called—and the importance of this latest science cannot well be over-estimated. Students are instructed to act in a scientific manner; guesswork must be eliminated. The materials are weighed and measured out; the heat at which the baking shall be carried on, and the length of the duration of the process, are all accurately determined, and the student is expected to turn out batches of cakes or bread of an almost uniform character. For the student to make a failure is evidence that he or she did not fully understand what was being done.

SUCCESS OF MODERN METHODS.

Domestic science, however, would never have reached the stage of being taught in the colleges had it not been that its importance was recognized in the business field. Visit an up-to-date bake-shop to-day and you will find all the processes being carried out in a scientific manner. Nothing is done haphazard. The process naturally begins with the purchase of flour. In this are many points of importance outside the question of price, although that, as is almost needless to say, is essential in the successful operation of business. In addition to this, however, the buyer must be thoroughly acquainted with the general character of the flour which he requires and which is manufactured by the mill from which he is making his purchases. After the flour enters the establishment, the progressive bake-shop has its own laboratory. This varies in size and completeness of equipment according to the size of the establishment and its financial strength; but it does not vary in importance. The successful baker will never attempt to produce good loaves from poor flour. The proposition of gluten, he well knows, is a most important factor, and one of the first requirements of the laboratory is to insure that no flour is accepted which does not contain the proper percentage of gluten and other chemical constituents.

The haphazard bake-shop, therefore, goes wrong at the very first stage of the game. It contains no laboratory, and consequently there is little or no means of ascertaining whether the material of which the loaf is to be compounded has the qualities for producing the type of bread which would be a credit to the establishment.

In the modern establishment, after it has been ascertained that the quality of the flour is up to grade, the flour is emptied into a receptacle from which it is conveyed to a system of screens and sifters. These extract any foreign matter, such as strings, fluff from the bags, etc.

Have you ever, when eating a slice of bread or toast, bitten into a piece of string? Now, it might possibly be that a piece of string could get into the dough in a modern scientific bake-shop; but there is a strong probability that you have been eating the product of a bake-shop which bears a striking resemblance to the ancient institution referred to above.

UNIFORM RESULTS FROM MACHINE.

After the flour has been thoroughly sifted and brushed, it is weighed out automatically and dumped into the mixers. Along with it is dumped the requisite weight of water, which was previously brought to the proper temperature. The yeast also enters the mixer at this point, and the process of making the dough is begun.

It is hardly necessary to make any attempt to describe the mechanism of this mixer. Suffice it to say that it is kept in a state of scrupulous cleanliness. No dirty, sweaty hands are employed in kneading this dough. Nothing is employed save the clean iron and wood. When the dough reaches the proper consistency it is put into troughs and

wheeled into what is known as the "dough room." This is kept at an even temperature, preferably from 75 to 80 degrees. In the course of a short time the dough passes through certain chemical changes and is emptied into a machine known as the "divider." This machine divides the dough into loaves of the requisite size. It is under the control of the operator, who every now and again tests the weight of the dough with a pair of scales. The weights show almost no variation, and of such a fine gauge is the machine that no hand process could possibly equal it in accuracy. The dough next enters the molding machine, where it is rolled into shapes and passed along on carriers for a certain length of time, being aerated during the process. Next it is placed in pans, and the pans are placed in galvanized iron racks which are wheeled along to the "proving room." This is the last process through which the bread passes previous to being placed in the oven.

MODERN OVENS GIVE GREAT RESULTS.

The modern oven is vastly dissimilar to the ovens heretofore employed. The type of

ized throughout, each man having his particular part to perform. Every care is taken to isolate the product from anything of an unsanitary character, and also to insure its evenness in the matter of quality. For this purpose have been instituted systems by which is preserved a record of the conditions under which each batch of bread passes from the unfinished to the finished stage, in much the same manner as experiments are carried out in a chemical laboratory. Thus, in the case of unevenness in the quality of the product, can be ascertained the conditions to which this was due. Only by following a scientific method such as this can mistakes be eliminated.

MUCH CAPITAL REQUIRED.

Modern processes such as this cannot be instituted without the expenditure of money. The Canada Bread Company will, from the start, be in a position to install machinery of the very latest type, and to erect bake-shops of a sanitary character. In taking over its constituent companies, it came into possession of several modern establishments as well as some which it will be its first

naturally has to pay for this extravagance. The Canada Bread Company will begin by mapping out the work of the delivery wagons in such a manner that each wagon will have its own particular route. It may be of interest to learn that the average number of loaves of bread delivered by each wagon in the employ of one of the most systematic bake-shops in Canada is 4,000. The officers of the Canada Bread Company expect to deliver 4,500. This compares with 1,800 to 2,000 loaves per wagon, per week, delivered by an unsystematic establishment. The expense of delivering is one of the principal items in the cost of bread, and it is safe to say that under a systematic management, such as will be adopted by the Canada Bread Company, the expense of delivering can be reduced to 40 or 50 per cent. of the cost of the average small bake-shop.

NEW COMPANY IN STRONG POSITION.

The larger the centre of population the greater, naturally, the advantages to be derived by the modern bread manufacturer. The Canada Bread Company, Limited, in this respect will be in an exceptional position, its

CANADA BREAD COMPANY, LIMITED



VIEW OF A MODERN CANADIAN BREAD PLANT

Their establishment in the different cities will make the bread industry one of the most important in the country.

oven now employed is partitioned hermetically from the fire, so that it is absolutely impossible for any smoke, cinders, ashes or gases of any nature to enter the bread from the fire. Formerly the fire was built in the oven in which the bread was afterwards baked. These fires had to be withdrawn before the bread could be placed in the oven, so that not only was the baker put to the inconvenience of heating his oven up between each batch of bread, but the oven itself was of a necessity left in a condition which was not conducive to the best results. In the modern oven, one batch may follow the other without any intermission.

From start to finish, the process is carried out in a cleanly and sanitary manner. No hands, either clean or dirty, come into contact with the dough. An attempt is made to maintain the various ingredients and the dough, as well as the atmosphere, at an even temperature. The windows are screened, so as to exclude flies. The baker no longer is employed also as fireman, but carries on only the process of baking. The work is special-

effort to supplement with more modern processes. It is the intention of the company to erect buildings specially planned for the installation of the latest type of machinery, and to open these to the inspection of the public. The street windows of the buildings will be fitted up with plate glass in order that the public may watch as much of the processes of kneading, dividing, molding, etc., as possible, and thus assure themselves of the sanitary condition of the bake-shops. By visiting any of the smaller bakeries the public will then be able to make comparisons for themselves.

Not only will modern methods be adopted in connection with the actual manufacturing of the bread, but in connection with its delivery. The present wasteful system will be entirely abolished. As matters now stand, the various rival bakeries of the different cities constantly duplicate the service of delivery. Wagons from each of a score of bake-shops will be seen delivering bread along the same street. Thus the work is multiplied many times over. The public

plants being located in the three largest cities, Montreal, Toronto, and Winnipeg. It is also the intention to erect new plants and to forthwith increase the output to 1,000,000 loaves. Its financial position is being made especially strong by the \$1,000,000 of cash being placed in its treasury. This, in addition to permitting of the erection of proposed plants, will give the company ample working capital.

Included in the new company are Mr. Cawthra Mulock, of Toronto, and, through him, a strong group of Toronto financial interests, while the heads of four of the different companies included in the Canada Bread Company will be on the first Board of Directors of the new company. These are Mr. Mark Bredin, head of the Bredin Bread Company, of Toronto, who will be general manager; Mr. Geo. Weston, of Geo. Weston, Limited, Toronto, known as the "Model Bakery"; Mr. H. C. Tomlin, of the Toronto Bakery Company, and Mr. W. J. Boyd, of Boyd's Bakery, Winnipeg.