

NEW PROCESS FLOUR.

(BOSTON HERALD, JAN. 17.)

Five or six years ago there appeared in the market, for the first time in this country, a flour called "new process." Although it was very fine and white, breadmakers did not succeed with it, and it failed of the popularity expected. Finally it disappeared almost entirely from the market for a season, then re-appeared, and to-day it is the flour which leads among grocers, and is very popular with housekeepers. This popularity is the growth of a season or two, but it begins to look as though it had come to stay, at least until the present mania for fine flour has passed away. While it is hardly possible that the intrinsic value of the new process flour is any greater than that which is ground in the old-fashioned mill, it is very white and fine, and more thoroughly separated from the objectionable parts of the grain. In the term objectionable the bran or hull of the wheat is not meant, but it has long been known to flour makers that the centre of the kernel of wheat, or germ, is of a waxy, albuminous nature, which tends to make the flour black and heavy rather than white and fluffy, like the starchy portion of the kernel between the germ and the hull. Millers have long made it a study, since the American people have gone dyspeptically crazy over the fine flour, to know how to grind wheat so as to leave as little of the inside or waxy portion of the grain in the flour as possible, and yet to save all of the starch portion, which alone makes the flour white and light. It is just here that the success of the Hungarian or new process has been achieved. Wheat ground by the old process, between two millstones, the upper revolving upon the lower, is, of course, separated into atoms, and the flour must necessarily contain some of the bran or woody part, and nearly all of the germ or waxy part. But, by recent improvements in mills, a maximum, nearly, of fine flour was reached, and only a minimum of the bran and germ remained. The small mills, or, as they were locally termed, "coffee grinders," came nearer to this desired quality in the flour they made than any form of grinding the country had known till the advent of the new process. Those small millstones are run very swiftly, and are found to grind off first the hull of the wheat, then the white, starchy portion which makes the fine flour so much sought for, and lastly, they were believed to roll up and keep together the albuminous portions of the grain, so that it was removed from the fine flour in bolting. But a serious objection to this swift grinding was found to exist. The tremendous friction produced heat, and the heat often injured the flour.

The Hungarian, or steel roller process, works upon a principle entirely new in wheat grinding. In fact, the wheat is not ground at all. It is simply crushed between revolving rollers. Wheat, by the new process, is not ground, but cracked and mashed. The rollers are about thirty-two inches long and eight inches in diameter. It takes from five to ten sets of rollers to constitute a mill. The first are made of steel and corrugated, while toward the last sets, they are very accurately made and finely polished, running very closely together, till down to the last set, where they are made of porcelain and so finely polished and run so closely as to absolutely crush every grain to the finest powder or flatten it out to the thinnest film.

The wheat passes through each set of rollers and is bolted for each set. Passing the first or corrugated set of rollers the wheat is simply cracked into three or four pieces, and a great deal of the starchy portion of the kernel comes out in a fine powder or dust. But it does not go off in dust. It passes through the bolting-cloth and makes the high-priced new process flour, while the coarser, uncrushed portion of the wheat passes on over the bolt and through the next set of rollers, which crack it into from eight to ten pieces, and more starchy matter falls out. This starchy portion passes through the bolt and makes the second grade of flour. Thus the wheat passes on, being broken finer by each set of rollers, and the starchy portion being separated by the bolt, till after passing through the last set but little is left except the hulls or bran, and the waxy germs, which have not fallen into powder but have flattened out very thin like wax. In the words of a Minneapolis miller: "After the wheat passes each set of rollers it is bolted or sifted through coarse cloth. This cloth lets the disintegrated particles of wheat through and passes off the bulky and large pieces, which are run through another and coarser set of rollers and cracked again. The last rollers have little else but wheat hulls and the waxy germs of the wheat, which do not crack up but smash down like a piece of wax. The germ of a kernel of wheat is not good food. It makes flour black. By the old millstone process this waxy germ was ground up with the starchy portion, and bolted through with the flour. By the new system of cracking the kernel instead of grinding it, this germ

is not ground but flattened out, and sifted or bolted out, while the starchy portions of the wheat are crushed into powdered flour."

The same miller also gives the proportions of the different grades of flour obtained from 100 lbs. of Minnesota wheat by the new process:

60 lbs. best flour, worth per bbl.	\$7 50
30 lbs. second-rate flour, worth per bbl.	5 10
4 lbs. poor flour, worth per bbl.	2 50
6 lbs. bran, worth per ton	9 00

This new milling process is completely revolutionizing the business of flour-making. When first tried in this country it met all the prejudice of millers who had been educated to the millstone, and, the new process having generally been first tried in the southwestern regions, where the wheat grown is white and starchy, the value of the rollers above the millstones did not appear so plainly. But when, about four years ago, the rollers came to be tried upon the hard, flinty red Minnesota wheat their value began to appear in its true light. The Minneapolis millers, especially, are tearing out their millstones and putting in rollers. They believe that the day of the millstone is done. It is said that mill machinery of the old style can be had almost for the removing in the flouring cities of the West. The Minnesota millers find that their wheat produces as fine and as white flour as the grains of Missouri and Southern Illinois, though they believe that under the old millstone rule that their wheat was doomed to make darker and heavier flour. They were aware that, in sweet, albuminous parts, their grain was fully equal to the Southern white wheats, but they needed the Hungarian rollers to separate the waxy germs and thus raise the grade of their flour.

But the public has really gained but little from this new milling process. The flour which formerly came from Minnesota and Wisconsin really contained more sugar and albumen and less starch than any other. The Minneapolis millers had often proved this to Eastern buyers by making dough of their flour and gradually washing it till the starch was washed away and the sugar and weighty parts remained; but, no matter, the flour was not white and light enough for the trade. A correspondent of the *Chicago Tribune* says: "A great future awaits the Minneapolis mills. The unexplored wheat-fields beyond Manitoba and along the Peace and Saskatchewan Rivers must empty into the Minneapolis mills. These mills are especially adapted to grinding hard Northern wheat, while other mills, fixed for soft Southern wheat, cannot make the same fine flour from the hard wheat. The time will come when Minneapolis will grind 50,000,000 bushels of hard wheat annually and ship it abroad in the shape of manufactured flour." Or, in other words, the discovery has been made which will reduce even this hard, sweet, Northwestern wheat into the lightest starchy flour. But the people demand it, and the will of the people must be obeyed, even to the extent of spoiling wheat in grinding.

There is one chance left yet for those who have become alive to the need of a reform in the process of making wheat into good bread. These new process rollers are well adapted to making an excellent quality of unbolted meal or Graham flour, and, if the public will demand and pay for it, such a flour will be forthcoming. What is Graham flour made of at the present day, such as is found in the market? For the benefit of poor dyspeptics—made so by eating fine, starchy flour—the answer of the Minneapolis mills, mentioned above, must be given: "The Graham flour in your market to-day, offered at less than \$6 or \$7 per barrel, is mostly made of poor wheat, loaded with bran. It is a common expression with us that some of those Eastern weak stomachs want bran, and we'll give them enough of bran. We are makers of fine flour, but that which won't make fine flour we put into Graham for sick folks."

The second-rate flour which comes from the new grinding process is quite a favorite with the bakers, if we may judge from the testimony of a Minneapolis salesman or mill agent who sells it to them. In fact, it is called the "baker's brand." The bakers generally use second-rate flour. By superior knowledge and skilled manipulating with proper mixings and the addition of marble dust and white earth, if the flour is too dark, they are able to make whiter and lighter bread than the ordinary house-cake can of the highest grade of flour. It is this whiteness and lightness that we are all after, and the bakers try to please us. The bakers know that a flour which they can buy for \$6 will make lighter and more beautiful bread, under their hands, than can be made in our homes from a flour costing \$9, and hence they are able to put the difference into their own profits. The bad or last grade of flour which is made by the rollers, is shipped to Rotterdam and Germany and Holland, where it is mixed with rye and sold to the poor. The best, as we all know, is largely