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## EPITAPH TO A MILLER.

HERE a miller lies,  
At never lysed before  
(Ye honeste and ye wyse—  
Wot ye, tis he heere lies.)  
Hys dusty raimente hath he doffed.  
Yt worn it threes and yere,  
No more within ye floury life  
He heaves, now yonne, now heere  
Ye bagges of gryst so whyte.  
No more ye lumpkin he doth flout,  
Yt curseth hym with name and might,  
(Kynde saintes confesse ye eville lout!)  
For yt hys gryste he lighte.  
No more he picks ye stubborne stone,  
Yt steadily goes rounde.  
Ye mill it standeth heere alone;  
Ye miller's gryst is ground.

## SHADOWS PURSUED BY MILLERS.

IN the Miller, of London, Eng., Mr. W. T. Bates, whose writings are familiar to practical millers of both England and America, has an interesting paper under the above caption. He says: I am seriously of opinion there is a great deal of shadow-catching in the frequent changes of system that take place in many mills. Men of large experience know that this kind of thing requires great calculation, and that the possible effect of changing only one spout may be the thorough disorganization of that part of the system. Further changes often make confusion worse confounded, and reduce the system to chaos. This may happen with a man who knows his business fairly well, and he will have a difficulty in getting things again into equilibrium, but in the end his object—an improvement—will be gained. In the case of the tyro it is far worse, for he only flounders deeper and deeper in the mire with his successive changes. But then, to suggest that any man who has tended rolls, and especially if he has struggled successfully through one of the examinations, is anything less than an expert is to add insult to injury. I am not altogether unfamiliar with the works of some of these tyro experts. On getting charge of a decent mill he immediately sets to work to alter the system, and after having jumbled it up with scores of returns and other faulty details will, if asked whose system it is, coolly inform you that — built it, but the "system" is his own! Of course it is not to be expected that — having built several hundred mills should know so much about it as a youth who has actually worked in only one mill and probably seen no other. Some I have known had an excellent (?) method of making all flour, for when the offals happened to be rather good they turned them into the second break scalper! This is all very good for the tyro expert, but I have seen more than one diagram arranged by a professional expert in which there was no outlet for any offals except bran, and more than that, those mills were started to work in that form. Referring to the difficulty of keeping everything in a roller mill up to its proper standard, and the necessity I feel for constant watchfulness, I once asked a well-known mill builder how they got on with men of perhaps less experience and possibly less perspicacity? His answer was: "They don't get on at all, they are constantly sending to us to come and put them to rights."

I am afraid the shadows, of varying intensity, arising from circumstances similar to the above will visibly darken the flour, and also cast themselves over the miller's books, and not unlikely shade his brow, for these are shadows that allow themselves to be trapped.

In the early days of roller milling one shadow was persistently followed even by the best millers and engineers—and a real phantom it was too—that was a method of splitting every grain of wheat exactly in the crease so as to eliminate the "crease dirt." Many devices, more or less ingenious, were brought out to accomplish this result, as the successful performance of this oper-

ation was thought to be the very essence of milling. Even now we often hear similar opinions expressed by those generally who know least about it. Not a few stone millers, too, flatter themselves that if they only get a first break and a bran roll they can compete successfully with rollers. Poor fallacy! and reminds one of the Ashantees, who, when they saw the British soldiers stretching a telegraph wire from tree to tree, also put up a bit of cordage in a similar manner, thinking, doubtless, it was some "fetish." Stone millers had better keep their money in their pockets for all the good these machines will do them. Those who know most about roller milling have given up the pursuit of this shadow, having come to the conclusion that perfection lies least of all in these two operations, and essentially on those that go between, that is, the second and third breaks, for it is not in splitting the wheat and clearing the bran, but in making good semolina, that the secret lies, and it is for this reason that stones can in no possible manner compete with rollers; for first break and bran rolls will not improve the flour, although they may slightly assist in improving the working of the mill. I would strongly advise stone millers to give up all these futile attempts to put themselves on a level with roller millers. Better by far to take care of their money until they are in a position to change altogether; and those who advise otherwise are assuredly not their best friends, for they only assist in prolonging their misery.

A very dark shadow, and one that will tantalizingly lure us into endless trouble, is the attempt to make good flour out of bad wheat, especially damaged wheat. I say "tantalizing," because it is so deceptive. We may today appear to be very successful and to-morrow flounder in the mire. The reason, of course, is that any wheat which is unsound must be unreliable. If it belongs to a good variety its inherent quality may overcome its outward apparent defects and give fairly good results; but if it should belong to any of the doubtful kinds, which, when sound, make only a medium quality of flour, we may look out for squalls when the salesman returns from his rounds. Milling this sort of wheat may enable the miller to produce flour at a low cost, but it is questionable if, in the long run, he will be any better off for it.

This leads me to the consideration of another shadow pursued, more or less, by many millers—that is, underselling. If "quality is the true test of cheapness," I am sure that flour made from faulty wheat, however low in price it may be offered, is not cheap, and will benefit neither miller nor baker. I am perfectly certain that success is wooed and won, not by selling an inferior article, or at a lower price than others, but by giving a sound, reliable article for a fair price—in fact, in giving one's customers a little more than money's worth in quality. By this I do not mean to say we should sell our goods at cost price, or without profit, but rather that a good article will command a good price, sell freely, and leave a fair margin for profit, besides building up a good connection, all of which can be done by a judicious selection of good wheat. This being the case, where is the necessity for producing a low-class article, or rendering one's own and other people's trade unprofitable by low prices? It is unquestionably true that the most successful millers are those who have made and maintained a good name for their flour rather than for the lowness of their prices.

A shadow which is very alluring and illusive is the almost general one of making the mill work above its capacity. I admit it requires some skill to do this with even a semblance of success, and it often happens that one man is unable to do more than seventy-five per cent. of what another can with the same mill, and not so good work either; but, as a rule, when machines are worked above their capacity there is little satisfaction to any one

concerned. I consider mill builders are often in fault for overstating the capacity of machines. It would be far better to state a medium rather than maximum, but unfortunately it is seldom done, and yet it benefits nobody. The fault, however, which I now speak of—overfeeding—is the miller's entirely. As an excuse he argues that if he can increase his output he can thereby reduce his average per sack expenses, and thus, by selling at a lower price, do a larger business, which means, in other words, to give the baker the benefit of his increased output; so that really the only advantage to the miller is the employment of a larger capital for somebody else's benefit! But this is not all, for things do not always work out according to one's anticipations. It is possible to force the extra quantity through the mill, and to give the baker the benefit, but the whole thing may be done at the expense of quality and quantity, and result in a loss; for there will almost certainly be a reduced percentage of flour, and (unless exceedingly clever) deteriorated quality. Increased feed requires heavier pressure on all rolls, and almost certainly coarser silk in some situations. Now whenever we put heavy pressure on rolls we begin to get heat, the bearings get hot and the belts slip. Heat and slipping belts lead to chokes, and chokes to waste, this in itself is a source of loss, but the variation in quality, under these conditions, is a far more serious matter. There is no doubt that everything will do the best work when worked at its normal capacity, and this applies to rolls, purifiers and silks, but more especially to the former, for heavy pressure is fatal to good semolina and granular flour.

There are many shadows of different intensity which attract the milling enthusiast in the pursuit of his ideal. I remember that I once thought I was on the trail of a good thing when I divided the chop on every break up to the fifth. I argued to myself that the smaller particles of second or third break chop required closer contact with the rolls than the larger, and that to do the finer properly (when mixed) the larger would be overdone. But I quickly discovered that there was absolutely nothing in it, that it was only a shadow, or alluring will-o'-wisp, and that more harm than good was caused in its pursuit by the excessive handling of the products. Moreover, I satisfied myself that anything of the same thickness would be acted upon alike, especially on finely grooved rolls. It is scarcely necessary to state this, perhaps, but it is a fact that very fine middlings, when mixed with bran and passed through bran rolls, are turned to flour in the operation. This being the case, it is, I think, the best and most expeditious method of working off all coarse tailings through the bran rolls and bran duster rather than, as is often done, through smooth rolls and silks, as the offals are far cleaner and better finished. It may be argued that there is greater danger of discoloring the flour thus, but I do not think so. Besides, I find that lively stuff of this kind helps the otherwise soft bran product to dress, and in any case it is nearest in quality to the bran flour. Of course, if the latter is to be drawn off as a separate product, it might then be advisable to keep it distinct. If the tailings are fairly hard and good it is best to treat them first on the fourth, or last but one, break, and keep the product, which will be fair middlings, for separate treatment.

## THE MYSTERY.

A WRITER in an engineer's paper properly says that when old grate bars, scrap iron and similar weights are hung on the safety-valve lever (to prevent the valve working at the proper time), there is always a deep mystery connected with it—and that mystery is, what prevents an explosion?

Pressure of other matter has crowded out this month our usual "Character Sketch" and portrait.