

THE STORY OF A LOAF OF BREAD.

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Every one has seen and handled a grain of wheat. Each little grain is a store-house filled as full as it can be. In each of these little store-houses is everything that is needed to make our bodies grow. Some parts are useful in making bone, some in forming flesh, and some in forming fat, while others are useful in keeping up the heat of the body, and in giving us power to walk and run. Each grain of wheat contains everything that is necessary for all these different purposes. This is one reason why wheat is worth so much money and why we grow so much of it. The people over in England do not grow enough wheat for their own use; so we grow some for them and send it across the ocean in big shiploads.

While we use a large amount of wheat, we do not like to eat it until it has been ground and made into flour. Long ago, when people first began to grind wheat, they crushed it between any two flat stones that

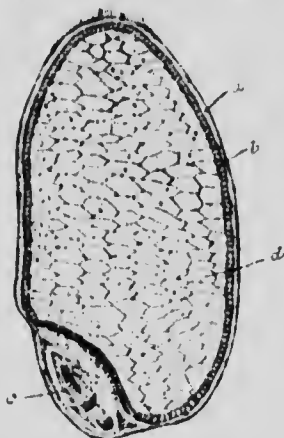


Fig. 24. Longitudinal section of wheat grain. (a) outer coverings; (b) aleurone cells; (c) germ; (d) Endosperm, the part of the wheat from which the flour is made.

happened to be near at hand. A little later they kept two flat stones specially for the purpose, one of which was fixed in the ground while the other was turned on it. Methods of grinding in pioneer days are illustrated in Fig. 30. When treadmills, windmills, and, later, water-wheels came into use, the grinding was done at mills by men who understood how it should be done. But in all these ways of grinding, all the different parts of the wheat were left together in the flour. Later, the millers found a method of sifting out the coarser parts.

The grinding of the grain and the sifting of the flour have gradually been improved, until to-day we have mills covering acres of ground, and making thousands of barrels of flour each day. In these mills, they are able to separate the different parts of the wheat, and can make ever so many different grades of flour.

You naturally ask: What is the difference between their various grades of flour? Are they not all made from the same wheat? Yes, they are; but to understand the difference, we shall have to learn something about the different parts of a wheat grain. If we cut a wheat grain through from end to end, and place it, properly prepared, under a microscope, which is a wonderful instrument that makes things look larger than they really are, we shall see something like that shown in Fig. 24. If we were to cut the wheat crosswise, it would appear as in Fig. 25.

Around the outside of the grain, as you see in the picture, there are several thin coverings. Underneath these, there is a row of cells tightly