

dissolves it partially and acts upon it chemically by means of a ferment (ptyalin) which changes insoluble starch into soluble sugar. (1)

The inner lining of the stomach contains a great number of glands which give out a thin acid fluid called "gastric juice", when excited by the presence of food. These glands are called the "peptic" glands. The gastric juice contains two important substances—hydrochloric acid and pepsin. The function of this juice is to convert insoluble albuminoids into soluble peptones. These, when dissolved, are able to pass through a membrane, such as the lining wall inside the stomach. Gastric juice has no effect upon starches or fats but it helps to break up fatty tissue, because it dissolves the connective tissue which binds the fat particles together.

After food been acted upon in the stomach it becomes a fluid mass called *chyme*.

From the stomach the food is forced into the small intestine. Here it meets a secretion from the liver called the bile. The bile plays an important part in emulsifying the fats, that is, it reduces them to a very fine condition. In the small intestine there is another juice called the pancreatic juice which comes from the pancreas (or sweetbread).

This juice completes the work begun by other digestive juices and reduces to a digestible form any matter that may have escaped the other juices.

After the food has been acted upon by all these juices it goes by the name of *chyle*. (2) Chyle is the food in a complete state of digestion and it is then in such a form that it can be absorbed by the blood. A great part of this chyle is taken up by small blood vessels which are found in the intestine and then it enters the blood directly. But some of it is taken up by the lacteal vessels and is conveyed by them into a large blood vessel which leads to the heart.

A certain amount of food that is indigestible is not absorbed by the blood and is therefore useless to the sustenance of animal life. This indigestible food is propelled from the small intestine into the large intestine and so on until it is excluded from the body.

COMPTON MODEL FARM

WALTER S. G. BUNBURY

## The Dairy.

### Payment of Milk According to Butter Fat

To the Editor of the JOURNAL OF AGRICULTURE :

DEAR SIR,

There are many factories making butter since Nov. ; the close of the cheese season in this Province ; and more I believe in Ontario also. The time has come when all our makers should be qualified to run the Babcock milk tester, for it has been long enough before the public to prove its merits. With our dairy school at St Hyacinthe, and the 3 schools in Ontario, they are turning out young men who can be relied on to run it with accuracy. The best feature in this machine is its simplicity ; any one with ordinary intelligence, and one good lesson on its working, can run it immediately.

With this explanation about the machine itself I need go no further, only to say when properly handled it always, under ordinary circumstances, gives true result of the butter-fat contained in milk.

Now, it is well known that butter-fat, with a certain quantity of moisture, the salt used, with a very small ingredient called ash, and, in all well made butter, a small, (a very small) quantity of curd, is what constitutes the article properly called butter.

(1) Just as the diastase of malt converts the starch into sugar in the process of *mashing*.—Ed.

(2) *Chyle*, from *chein* (Greek) to pour ; *chyme*, from *chymas* (Greek) juice ; *pancreas* (Greek) all flesh.