

of a large spinning-wheel. A  $\frac{5}{8}$  inch crank is raised on the shaft at C, upon which is adjusted the upper end of the piston-rod, R.

THE BODY OF THE MILL—A piece of plank, E, is suspended from the cross-girt of a frame, L, by an iron bolt, B, furnished at its lower end with a large head, H, and a washer, and secured by a nut, K, at the upper end, admitting of an easy circular motion of E around the bolt. This motion is coincident with that of the swivel on the piston-rod, S. The rudder, or vane, V, will necessarily throw the wheel, W, at all times, into the wind. The shaft, C, is suspended from the body by two straps of iron, through which it passes.

A breeze which merely agitates the leaves of the trees will set the machinery in operation. And when, in windy weather, a surplus of water is raised, it returns to the well by a waste pipe. A well, suitably located, will furnish water enough for an ordinary garden, and without labour, by the aid of this mill and pump.

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STEAM CULTURE.—A writer, evidently of high scientific attainments as well as practical skill, has written a series of articles for the *Mark Lane Express*, (London, Eng.) on the subject of steam culture. He examines the various machines that have been "tried and found wanting", and those also but partially tested, including Romaine's Canadian Plough. He comes to the following conclusion:—"We would rather leave our readers to draw their own conclusions, than sum up in a single sentence a sweeping verdict against this kind of culture in any form. Cycloidal action we have seen impossible, tricloidal little better, while the extremes on either side are ten degrees worse. In short, the longer we live, the more our ideas harmonize with the straight forward action of our *old friend* THE PLOUGH, with his faithful allies, "drag-harrows," "cultivators," &c. No doubt objections many are brought against them; but these we shall briefly dispose of in a subsequent article, as worse than imaginary. Meantime, let none of our readers suppose that we look upon the plough and our present system of culture as perfect." For the benefit of our non-technical readers, we may explain, that "cycloidal action" is rotary, combined with a forward movement of the rotating cylinder. A carriage wheel is a good example. "Tricloidal", as used by this writer, means a more rapid rotation, viz. *three* revolutions of the cylinder while advancing a distance equal to its circumference. Romaine's plough is, we believe, constructed on this principle. The "plough" consists of a cylinder, armed with hooked teeth, placed behind the engine, and made to rotate rapidly as the machine advances. The writer in the *M. L. Express* very satisfactorily demonstrates the impracticability of all such machines in an *economical* point of view. If impracticable in England, where steam has been profitably applied to many farm operations, such as threshing, &c., what shall we say to steam ploughing in Canada?

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TO MAKE MINCE PIES WITHOUT MEAT.—Prepare your pie-crust and apples in the usual way: when seasoned, and in the pie-pans, fill to the top of the apples with custard prepared the same as for custard pie; then put on the top crust and bake; you will have a good imitation of mince-pie in appearance, but in flavor far preferable, although the taste is similar.