

Improved Self-regulating Wind-power.

We published, quite recently, a letter from a correspondent at the West, calling for the introduction of a windmill, or a power of any kind receiving its motion from or through the agency of the wind. We respond to this request by placing before the public the accompanying engraving, which illustrates a very neatly-constructed and well-designed portable windmill, which will be found extremely useful in many places. It can be adapted to plowing, thrashing grain, grinding, or driving any kind of machinery whatsoever.

Annexed is the inventor's description of his machine:—

The hub, C, is keyed on the shaft, D, and has eight arms which carry a similar number of fans; these fans are loose on the arms, and have a small rod on their inner ends running through slots in the hub, C. The hub, C, is keyed on a small shaft running through shaft D, with a friction pulley, E, on the other end. The fans, B, on the regulator hub, C, always stand edgewise to the wind and facing the way the wheel revolves; between the hub K and the hub C is a spring which holds the hub, C, in the right position; said hub, by its connection with the rods to the fans, A, hold them in the right position to take the wind. If the spring holds the hub, C, to run 50 or more revolutions, and yields at that rate by the air reacting on the fans, B, the check-hub, C, and the spring turn the fans, A, edgewise to the wind, more or less, according to the speed at which it revolves. In order to stop the wheel it is necessary to draw on the lever, F; this act raises the brake, G, against the pulley, E; this pulley being on the same shaft with the hub, C, checks the hub and turns the fans, A, edgewise to the wind. When the whole is to be started, release the lever, F, and the spring compels the hub, C, to take the proper position; the wheel will then begin to work. Power can be taken from the wheel by the shaft running down through the column, H; this shaft is connected by gearing at the top in such a manner that it is always in gear, and allows the wheel to turn facing to the wind in the column, H. On the loose end of the said shaft there is a pinion meshing into the bevel wheels, I. This pinion is shifted from one wheel to the other by a lever, J, which enables the motion of the wheel to be changed ahead or back. Application for a patent is now pending. For further information address Jonathan Troop, at Erie, Pa.

RICHARDSON'S CREAM PUMP.

Butter-making has almost attained to the dignity of a fine art, so many and so varied are the churns, workers, presses, and other tools and utensils employed in its manufacture. Certainly the public cannot complain of any extra care that is bestowed upon the process of butter-making, for too often much of it comes to market in an unsaleable condition. It is often composed of too much hairs and dirt to be desirable, and, either half-worked or over-worked, is not by any means what butter should be. One great cause of its becoming unpalatable, when kept for a short time, is the pieces of unchurned, hardened cream that are worked up in it. These substances escape the general separating that takes place among the fresher quantities of the fluid and pass over into the butter when it is gathered and made ready for the market. It is very difficult, and indeed impossible, to remove these curds at this stage of butter-making, as they cannot be detected by the eye; their

presence in the manufactured article induces a chemical change which is highly injurious to the quality and to the market value. The cream pump herewith illustrated is intended to prevent this difficulty, and the object of it is to break up the hardened or dried cream-curds so that they may be easily separated in the churn by the dasher. The machine is very sim-

The operation of this apparatus is as follows:—When the cream is poured in, it is drawn down into the tube by the action of the bucket, and forced through the strainer at the bottom into the churn below. In the passage all the curds are completely separated, and the whole fluid is homogeneous or of the same consistence throughout, thus preventing any of the evils mentioned previously in this article. Farmers will find this a useful addition to their dairies, as it is recommended by a large number of butter-makers in this State who have used it and know whereof they affirm.

This cream pump was patented on Sept. 23, 1862, by M. A. Richardson, of Sherman, N. Y. For further information apply to Richardson & Keeler, Sherman, N. Y.

CITY RAILS AND CARS.

Under this title a small treatise has been sent to us by the author, who signs himself "Onward," and who advocates the laying-out of New York city with improved rail-tracks, and the entire abolition of horse-omnibuses from the streets. For Broadway, the most central street, he proposes a railway on which the cars shall be driven by steam power, but not with dummies or high pressure locomotives. On

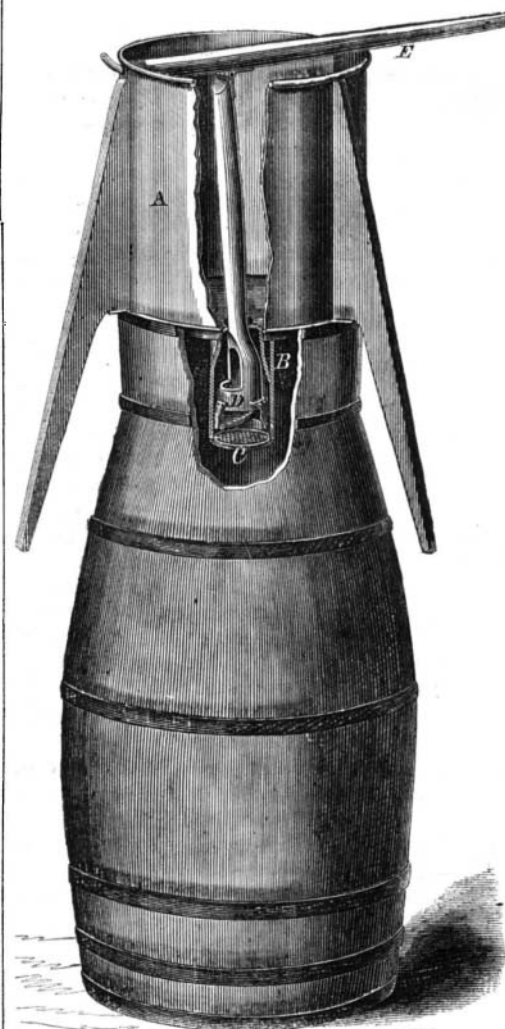
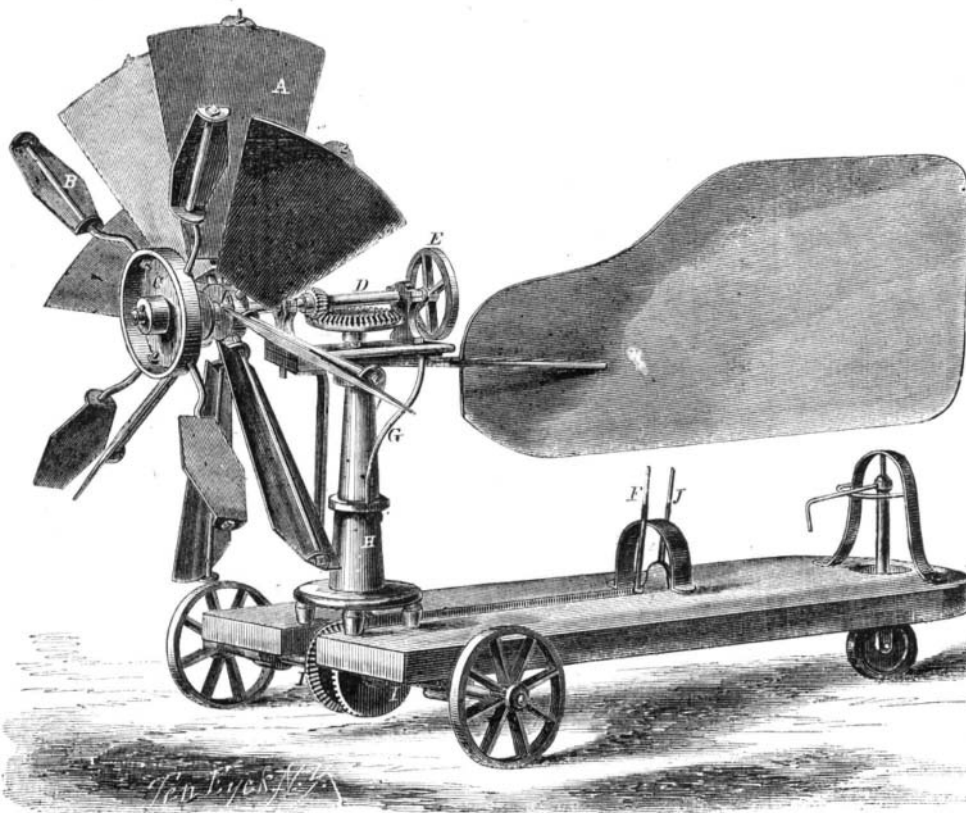
TROOP'S SELF-REGULATING WIND-POWER.

takeple; it consists of a tin case, A, fitted with a tube, B, and strainer, C, one side of the case being removed in order to show the interior. There is a bucket, D, in

this head he says:—"The dummy has its thoughtless advocates; steam directly applied to each car has and is receiving much attention; reserved spring-power has been much talked about; reserved compressed atmospheric air has been named, and lastly manual power has been attempted. My plan is to have any desired number of single cars pass at a suitable speed up and down Broadway without the use of visible power or machinery, and without the clatter of horse or hoof. The arrangement contemplated is nothing else than stationary engines about half a mile distant from each other, located in the basements of houses by the roadside, with vaults extending to the centre of the street, where all the appliances of the steam power can be located and will give constant motion without interruption." This is the plan proposed to operate a street railway in Broadway, with steam power. The details of the method are not given, but it is not an impracticable project. One of the old methods proposed of operating railroad cars with steam was by stationary engines, and for city railways, in some cases, it may be the best mode. It commends itself for one important feature, namely, the free use of the track for passenger cars only.

MODELS OF IRON-CLADS.—Harrison & Loring, of Boston, Harlan & Hallingsworth, of Wilmington, Del., Chas. Secor, of Jersey, Thos. F. Rowland, of Greenpoint, L. I., Geo. Quintard, of New York and other armored ship-builders, have sent to Washington, within the past few days, models of new ocean iron-clad vessels-of-war, plans for which were invited some time since by Secretary Welles. Almost every theory advocated by newspaper-writers is represented in the huge pile of diminutive craft; but the difference of opinion among builders, which deserves most notice, is that relative to broadsides and turrets. The majority are for turrets, yet some able constructors prefer the old-fashioned broadside. The generality of the vessels are from 3,000 to 4,000 tons burden.

MICHIGAN TAR.—The manufacture of tar from the pines of Michigan was begun last fall by a party of Norwegians, who have settled at Grand Traverse, and propose to enter extensively into the business. Another party have since then entered into the same business at Sauble River.



all respects like that of an ordinary pump, in the tube, and operated by the handle, E, one end of which is fitted with a spur entering one side of the case.