

A large Scythe Factory.

The Scythe Manufacturing establishment of Reuben B. Dunn, Esq., of North Wane, in Maine, is the largest of the kind in the world. The establishment consists, besides warehouses, furnishing shops, &c., of three principal buildings for manufacturing, two of which are one hundred and forty-four feet each in length. In these, and in departments connected with the establishment, are employed about one hundred men, many of whom have families settled at the place. A flourishing village has grown up within a few years, and is rapidly increasing. Twelve thousand dozen scythes are annually manufactured, to produce which are required 450,000 lbs. of iron, 756,000 lbs. of steel; 1,200 tons of hard coal, 10,000 bushels of charcoal, 100 tons of grindstones, and half a ton of borax. This last article is used in the process of welding.

Mr. Dunn is erecting additional works in the vicinity, which will be soon completed, when he will be enabled to turn out 17,000 dozen scythes annually. This establishment is now more than double the extent of any other similar one in the world; none even in England being found to compete with it.—[New York Farmer and Mechanic.

New Steam or Hydraulic Wheels.

At the meeting of the Royal Cornwall Polytechnic Society an invention, by Mr. James Sims, of Redruth, was explained, the object of which was to carry out simplicity and portability to a greater extent than had hitherto been effected in such engines. It was intended to be worked either by steam or water power. As a steam-wheel or rotary engine, he conceived it surpassed all former attempts at this principle, as the motive power is in the piston and cylinder of the ordinary construction of Boulton and Watt's engines, and the expansive principle of cutting off the steam is carried to a greater extent than in those engines, the motion of the piston being independent of the motion of the wheel, and almost instantaneous. In all the rotary or steam-wheels hitherto before the public, he was not aware that any of the inventors had availed themselves of the benefit of working with the ordinary cylinder and piston; they have, therefore, failed to carry out the expansive principle, and also to prevent the leakage of steam. In some, packing has been attempted, but here the friction is so great, and the wear so rapid, that not one on this plan has succeeded well. In this engine, on the revolution of the wheel, when the cylinder comes to a perpendicular position, the steam is admitted underneath the piston, at the same time that it escapes from the top side, thereby shifting the weight to the top of the wheel, and causing it to revolve by

its preponderance, the power of the engine being the amount, of weight moved a certain number of feet in a given time. Regularity of motion being essential, it might be accomplished by a good governor. The blow against the buffers is in proportion to the extra quantity of steam admitted, and is on the same principle as the ordinary reciprocating or pump engine. As an hydraulic engine, it is well adapted to situations where a good height of water can be admitted, but not sufficient for the ordinary water-wheels. The water might be conveyed in pipes, when a very small steam could be made available to an extent in proportion to its height and quantity. It would be admitted into the cylinder the same as steam, thereby shifting the weights, and making a very effective and economical water-wheel, as every pound of water would be used. The velocity of the wheel would be much superior to the ordinary water-wheel, being in proportion to the height and consequent pressure, and the quantity of water to be obtained. So, also, its velocity as a steam-wheel would depend on the pressure of steam, admitting the shifting of weights, however quick the passing of the aperture for the admission of the steam. The engine was at present in its infancy, and although it worked well there was, no doubt, room for further improvement. The principle being good, as regards the application of steam and water power, and its economy and portability being conspicuous, it should not be lost sight of; he should, therefore, proceed with his experiments, and hoped at the next meeting to report more fully of its advantages. Its application may be general, and he thought more advantageously than almost any other engine, as, in the absence of the crank, each end of the shaft is at liberty for any attachment. The small amount of friction consequent on its simplicity is seen at once, as is also the small amount of liability to derangement.

Screw Propulsion.

We learn from the London Mining Journal that at the late meeting of the Liverpool Polytechnic Society, Mr. Grantam read an interesting paper, on the subject of the screw propeller; and being a subject to which he has devoted much of his time, and has had considerable experience, he was listened to with marked attention. Mr. G. illustrated his remarks by exhibiting several beautiful models and drawings, and stated that his object was rather to make a few additional remarks to what he had some years before stated, than to go through the whole subject from its origin; he also wished rather to confine his observations to the screw as an auxiliary power to be employed in connection with sails, than as an independent power. He observed that the question of screw