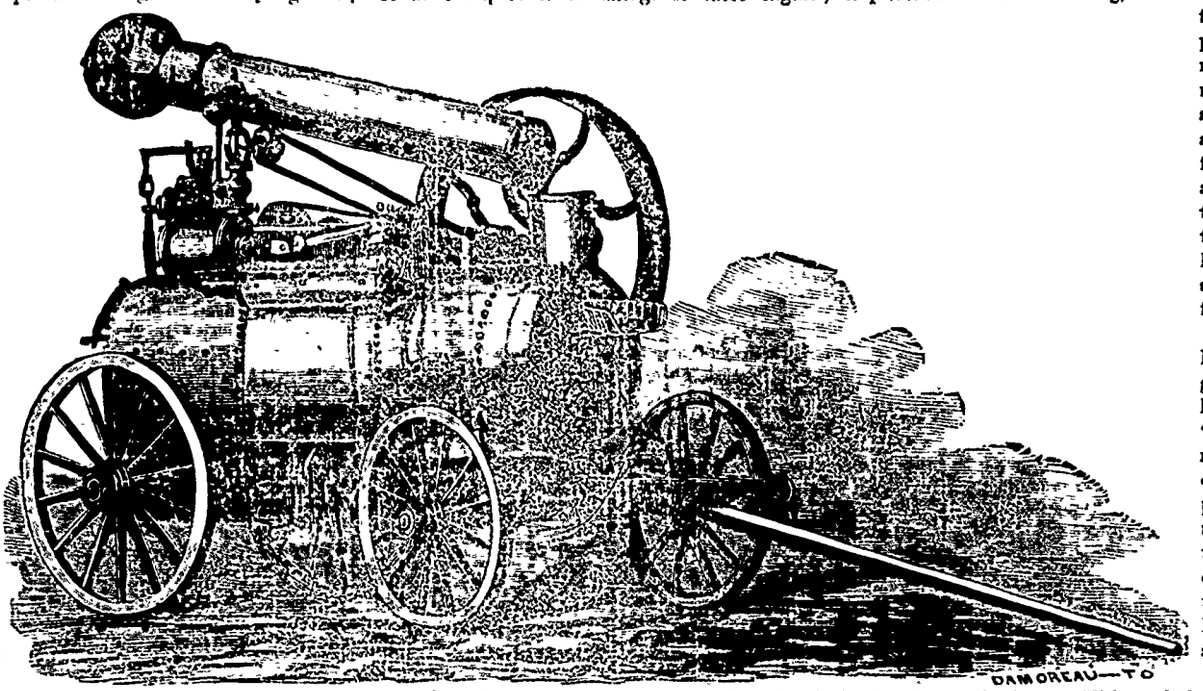
Implements of Husbandry.

Motive Powers—Steam and Horse Powers.

For general motiv epurposes on the farm, of course, there is no other contrivance that will equal for uniformity of operation and general utility a good 6 to 10 horse-power portable steam engine. It can be applied in a great number of ways around the barns and dwelling,—threshing, sawing, feed-chopping, straw-cutting, cleaning—in fact for almost every purpose, whilst its few and simple requirements—wood and water—are as nothing compared with the necessity of gathering in the neighbors' horses, adjusting powers, driving and re-driving the hammering spiles, extracting and re-driving the &c., &c.; all of which and many more inconvenien are so inseparably connected with the process of threshing as done in the ordinary way, viz., by means of the common horse-power



The objection is urged that steam power, in proximity with barns and other wooden buildings, is dangerous on account of fire, but experience has shown that such is not the case, especially in these latter days when preventive appliances are so numerous and complete on and about the engine. But the portable engine is expensive, and this fact, we presume, constitutes the principal reason why so many are without it, rather having recourse to cheaper and less effective methods. True, the outlay is considerable for the ordinary purposes of a 100 acre farm, though even there the engine would soon redeem its price and prove a not profitable investment. Its cost varies, according to power and style, from $300 to $800 and over.

The accompanying cut represents an improved 10 h. p. portable engine fitted up with enlarged fire boxes, Judson's patent governor, and chimney furnished with spark-arrester

The heating apparatus is tubular, which, aided by waste-heat from the boiler, and exhaust steam, heats the water from 175 to 200 degrees, thereby causing a much more rapid generation of steam, with a less consumption of fuel than when cold water is pumped into the boiler.

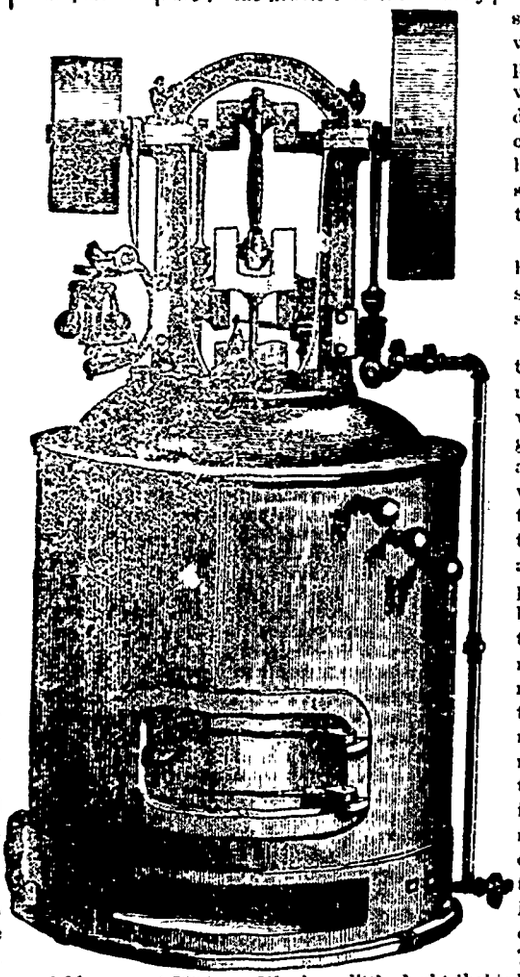
The boiler is likewise furnished with a round bottomed fire box, forming underneath the ash-box as well as up its sides a three inch water space—thus affording a large heating-surface. This arrangement prevents an accumulation of sediment around the fire-box and ensures safety to the barn-yard, as the sparks cannot blow out.

The sediment passes along freely to the bottom of the fire box, and can be expelled by the blow off tap underneath the ash-pit—thus keeping the boiler clean much longer than by the usual system.

Another compact form of the portable engine, manufactured in sizes from 2 to 10 h. p., is represented in our second cut. It combines both engine and boiler in one piece. All its parts are cylindrical, and will consequently sustain the greatest amount of pressure. The circulation of the water within the boiler keeps all sediment in suspension until it is blown off at the surface:—so that the boiler may be kept quite clean by simply blowing it off once a week.

A most important advantage of these engines, apart altogether from their general utility, is the great readiness with which they can be moved from place to place:—the heaviest of them rarely weighing over 4,700 lbs. We have little doubt that as our agriculturists approach nearer and still nearer to perfection they will all yet see and appreciate the advantages of a first-class portable engine. Of horse-powers, the most serviceable in use are built on the principle of Pitt's power, which has undoubtedly proved itself the best article of its kind yet in the market. Others, of course, there are which have done and are still doing good service, and improvements upon this as upon all other agricultural implements are never ending, but still, amongst them all Pitt's power and its modifications remain the standard ones amongst our farmers. They are so familiar that a description of them here might seem superfluous.

Another horse-power generally known as the "Planet," is now also becoming very popular. It is manufactured wholly of iron, and therefore less liable to speedy wear It is illustrated by our third cut. Either of these powers is generally adapted for 8 or 10 horses.



Sometimes cheaper implements are sought after, such as may be used with from, 1 to 4 horses. A very ingenious and useful contrivance for this purpose is manufactured by Samuelson, England, and very much used there. The gear is adapted for driving chaff-cutters, turnip-cutters, bruising mills, cake-breakers, &c. It is also provided with leading bars with universal joint outside the horse-walk, so that the first bar lies flat and forms no obstacle to the progress of the horse.

The American horse-power is another that can be used in this way. Our 4th engraving represents it driven with one horse and driving a drag saw.

A. B. is the large drive-wheel, so constructed that it can be set up or taken down in a few minutes, by a man who has had no previous experience with the power. Cast-iron sockets, that clasp together the exterior ends of the wheel's arms, serve also to receive the heads of wrought-iron rods, which bind all its parts firmly together. Each of these sockets end outwardly in two neatly curved, thick and round headed forks, designed to receive and hold the strong chain which transmits the power of the horses to the jack. Through the beautiful device of a small iron wheel inserted near the bottom of each fork, the chain cannot slip, and is rolled in and out in such a manner as to prevent nearly all wear. There are six spaces between the pairs of arms, each ample for one horse, allowing, altogether, the use of six at a time, if so many horses are ever needed. Great strength in this wheel is combined with exceeding lightness for so large a structure. So well balanced and nicely pivoted is it on its supporting cast-iron centre post, that the slightest breeze will cause it to turn, when disconnected from other machinery. In every view this wheel, though simple in plan, is certainly a mechanical triumph. C. D. is the jack. The chain wheel E on the main shaft, is supplied with nine small, very hard cast-iron, adjustable and removable cogs. F. is a grooved wheel, used to prevent the chain from riding out of the cogs.