

New Inventions.

Machine for Planting Potatoes.

The annexed engravings are views of a machine for planting potatoes, for which a patent of the United States was granted to Alexander Anderson, on the 2nd of January last.

Figure 1 is a vertical longitudinal section through the middle of the machine, and figure 2 is a perspective view. Similar letters refer to like parts.

This invention consists in the employment or use of an endless apron, placed underneath, or at the bottom of a hopper, and provided with a series of apertures, which will be hereafter fully described, said apertures receiving the potatoes of a suitable size for seed, and conveying them to the discharge spout, through which they fall into the furrow at equal distances apart, said apertures also conveying potatoes that are too large for seed, to a knife at the bottom of the hopper, by which they are cut of a suitable size for planting. The apertures in the underside of the apron receive the teeth of a wheel by which motion is communicated to the apron.

A represents a rectangular frame supported upon two wheels, B B; and C C are two cheek pieces, between which an endless apron, D, is placed, said apron passing around rollers, a a, at the front and back ends of the cheek pieces. The front parts of the cheek pieces rest upon a rod, b, which passes transversely through the frame, A, and cheek pieces, about midway between their upper and lower surfaces, said rod also attaching the shafts, E E, to the frame, A. The lower surfaces of the back ends of the cheek pieces rest upon a cross piece, c, of the frame, and the cheek pieces and endless apron have an inclined position; C' is a rod having a screw thread cut on its upper end. This rod fits in a plate, k, on the ends of the cheek pieces, and the rod projects downwards a suitable distance below the cross piece, c. The endless apron, D, is composed of a series of rectangular blocks, d, the lower surfaces of which are attached in any proper manner to a belt, e; the edges of the several blocks being in contact, except when passing around the rollers, a a, between each two of the blocks, a circular aperture, f, is made, one-half of the aperture being in the edge of each block, consequently each block of the apron has a semi-circular recess in two of its edges, and these recesses, when the blocks are attached to the belt, e, form the circular apertures, f. F is a hopper secured to the upper surfaces of the cheek pieces, C C, and directly over the endless apron, D; G is a knife placed at the bottom of the hopper at its upper or elevated end, said knife passing across the hopper, and just above endless apron, D. H is the furrow share, which is formed of a tube having its lower end cut obliquely so as to form a point to enter the ground. The furrow share is secured to a frame, I, the front part of which is secured by eyes, g g, which pass through the ends of the frame, I, and into a cross piece, h, of the frame, A. The back part of the frame, I, is attached by a chain, I, to a roller, J, on the back part of the frame. K is the covering share which is attached by a hinge or joint to the back end of the frame, I; a chain, j, connects the covering share with the roller, I; L is a discharge spout, the upper end of which is placed directly under the elevated and discharge end of the endless apron, D. The spout, L, conveys the potatoes into the tube of the furrow share; M is a ratchet on one end of the roller, J, and N is a pawl attached to the frame, said pawl catching into the teeth of the ratchet; O is a toothed wheel on the axle, P, of the wheels, B B. The teeth of this wheel fit in the apertures, f, in the endless apron, D.

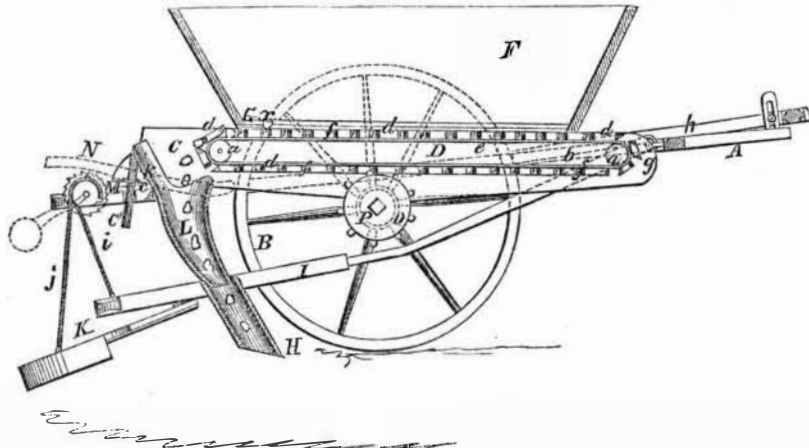
OPERATION.—The hopper, F, is filled with potatoes, and as the machine is drawn along, motion is given the endless apron, D, by means of the toothed wheel, O, gearing in the apertures, f, in the underside of the endless apron. Potatoes of a suitable size for planting will fall into the apertures, f, and

will pass under the knife, G, and be thrown into the discharge spout, L, as the blocks, d, pass around the roller, a, at the upper or elevated end of the apron, the apertures being widened as the blocks pass around the roller in consequence of the

edges of the blocks being forced apart. Potatoes that are too large for planting will project upward above the surfaces of the blocks, d, and will be cut by the knife, G; the top portion that is cut off will, if small enough, enter one of the apertures, f, and be

POTATO PLANTING MACHINE.

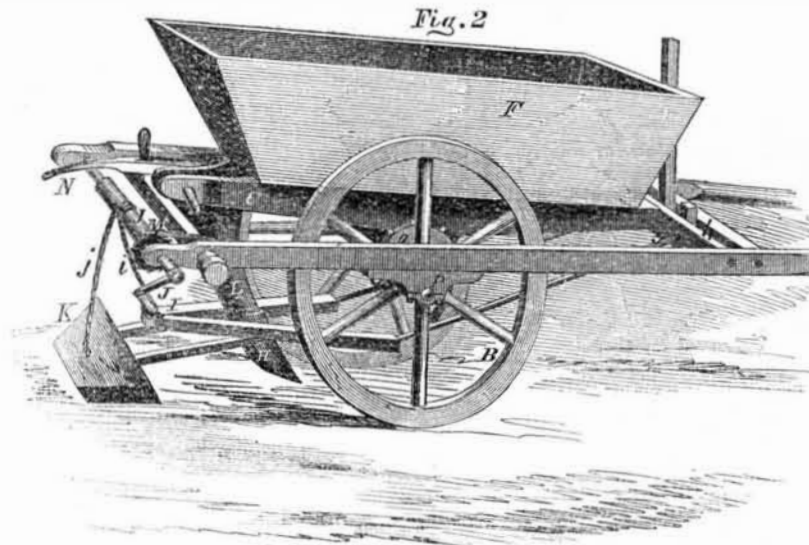
Fig. 1



discharged into the spout, L. If not made small enough at one cutting, it will be again cut when brought to the knife, the pieces of the potato remaining in the apertures are of course discharged as the blocks pass around the roller, a. The potatoes drop into a furrow made by the share, H, and they will be dropped at equal distances apart, the distance between the potatoes being regulated by the size of the wheel, O. The larger the

wheel, O, the nearer the potatoes will be planted, and one or more extra wheels of different sizes may be placed in the shaft, P, and put in gear with the apron, as occasion may require. The furrow and covering shares, H K, are raised from the ground by turning the roller, J. As the chain, i j, are wound around the roller, J, the frame, I, is raised and will act against the lower end of the rod, C', and raise the cheek pieces, C C, and end-

Fig. 2



less apron, D, and the endless apron will be thrown out of gear with the wheel, O. The roller, J, being prevented from moving casually by means of the pawl, N, and ratchet, M. Thus by this machine the potatoes will be cut the required size, and planted at equal distances apart in the furrow. There is no

uncertainty attending the operation. The machine is simple, not liable to get out of repair, and is economical to manufacture.

More information may be obtained by letter addressed to Salem Eckarett, assignee, Unionville Post Office, Markham, Canada West.

IMPROVED RATCHET WRENCH.

Fig. 1

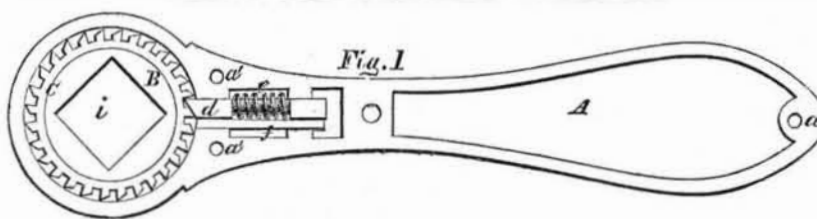


Fig. 2

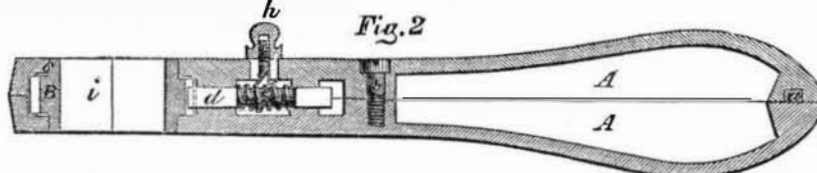


Figure 1 represents an interior view, (one-half being removed) and figure 2 a section of an improvement in ratchet wrenches, for which a patent was granted to Charles G. Everitt, of the city of Brooklyn, N. Y., on the 9th of January last. Similar letters refer to like parts.

This invention consists in the employment of a stop, and of properly formed ratchet teeth, to enable the ratchet to be stopped for the purpose of making the wrench operate

both ways, when desired, for the purpose of working a tap back and forth for tapping screw holes, and as expeditiously setting it free when it is desired to enter the tap further.

The head, neck, and tail, or the whole exterior of the wrench is divided longitudinally in two equal parts, A and A'. These parts are cast separate, and fitted together with steady pins, a, in one entering holes, a', in the other, and secured together by screws,

δ. In the head of the wrench there is a cavity to receive the ratchet, B, which contains the eye, i, of the wrench, half of the said cavity being in the part, A, and half in the part, A', and outside of this cavity the head is bored truly, to receive the journals, c c, which are turned on the hub of the ratchet. The pawl, d, which engages with the ratchet, B, is fitted to sliderecilinearly in the neck of the wrench, being made square to prevent its turning; and suitable cavities are provided in A A', to receive the spiral spring, e, which surrounds and acts upon the pawl, to make it engage with the ratchet. Side by side with the pawl, d, is placed a stop, f, which is a flat straight piece of steel or iron of a width equal to the pawl, so as to slide in the same grooves in A A'. To one side of the pawl is attached a screw, g, which passes through a slot in the part, A, and is fitted with a nut, h, outside. By taking hold of this nut, which is formed like a knob, the stop may be slid in or out of gear with the ratchet, and by screwing up the nut it may be fixed in either position. The point of the stop is made square, and the ratchet formed with square-bottomed notches, in order that when the stop is in gear it may hold the ratchet effectively. The handle or tail part of the wrench is made hollow by providing large cavities in A A'. The wrench will work in either direction according as one or other side is uppermost.

More information may be obtained by letter addressed to Mr. Everitt, No. 36 Gold street, New York City.

Railroad Station Directory.

I. S. Richardson, of Boston, patentee of the atmospheric tubular railway, has invented a very simple, neat, and effective method of informing passengers in railway cars of every succeeding station they are to arrive at, and its distance from the past one. It consists of a small neat frame like a clock face, in which there is an endless broad ribbon, on which is printed the names of the stations, and the distance in miles from the past to the next. There is a small window in the frame, like the open space of a hotel annunciator, in which the names of stations successively appear prominent to all the passengers. This directory is hung on the end of the car inside, and when one station is passed, the conductor, as he passes through the train, turns a small handle, which rings a bell, and makes the name of the next station, and its distance, walk forward and look out of its window into the face of all the passengers. The invention is useful, cheap, and practical, and should at once be adopted by all our railroads.

Steam Engine Governor.

The patent granted this week to Wm. H. Elliott, of Plattsburgh, N. Y., for an improvement in governors for steam engines or other motors, embraces the governing of the speed of the motor by the resistance of the machinery, and not like the common governor, by the varying velocity consequent upon the variations in the power and resistance. It can be used in combination with a common governor upon a throttle valve (which controls the supply of steam;) it being made to govern by the resistance of the machinery driven, and the common governor by the velocity of the engine, so that variations in the resistance consequent upon the throwing in or out of gear of any part of the machinery, and variations in the power consequent upon the increase or diminution of pressure of the steam, may be compensated for, independently of one another, and the engine (or a water wheel) may be governed in a more perfect manner than by governors in common use.

Operating Valves of Direct-Acting Steam Engines.

The claims on another page, of the patent granted to Wm. H. Guild, and Wm. F. Garrison, of Brooklyn, N. Y., embraces a simple means whereby the valve is caused, as the stroke of the piston terminates in either direction, to have the necessary movement suddenly imparted to it, to effect the return of the piston, the same means also serving to relieve the valve of all unnecessary pressure and friction upon its seat.