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NEW SERIES

Improved Store Truck.

One of the most convenient implements in use is the store truck, which is a small two-wheeled wheelbarrow used for moving heavy bales and cases of merchandise across the floor in warehouses. It is an indispensable article in all wholesale establishments, and had it been patented by the original inventor he could have hardly failed to make a fortune by it. One of the members of a leading New York firm has recently invented an improvement in the store truck which has been patented by the firm, and which in the hands of competent business men will probably yield a handsome sum to the patentees.

The manner of loading the store truck is plainly shown in the annexed engraving, Fig. 1. The thin iron plate upon the lower end of the truck is pressed under the edge of the bale or box, and then the bale is tipped forward upon the truck. Heretofore, two men have generally been required to load a heavy bale or case, one to hold the truck firmly from running back on the smooth floor and the other to tip the bale over. The improvement here illustrated consists in a simple device for readily locking the wheels so that the truck will not run backward; thus enabling one man to load it with perfect ease.

The locking device is shown in Fig. 1 and on a large scale in Fig. 2. A metal bar, *a*, is secured by loops to the lower side of the shafts of the truck, in such position that it may be conveniently pressed by the foot of the operator downward between the teeth of the spur wheels, which are rigidly secured to the inner sides of the

spring, *c*, from between the teeth of the spur wheels, thus unlocking the truck wheels.

It will be perceived that the position of the bar, *a*, is such that the same pressure of the foot which forces it downward between the teeth of the spur wheels also helps to hold the truck firmly against the lower end of the bale, and braces the body of the operator as he tips the upper end of the bale forward.

This improvement was invented by Alexander

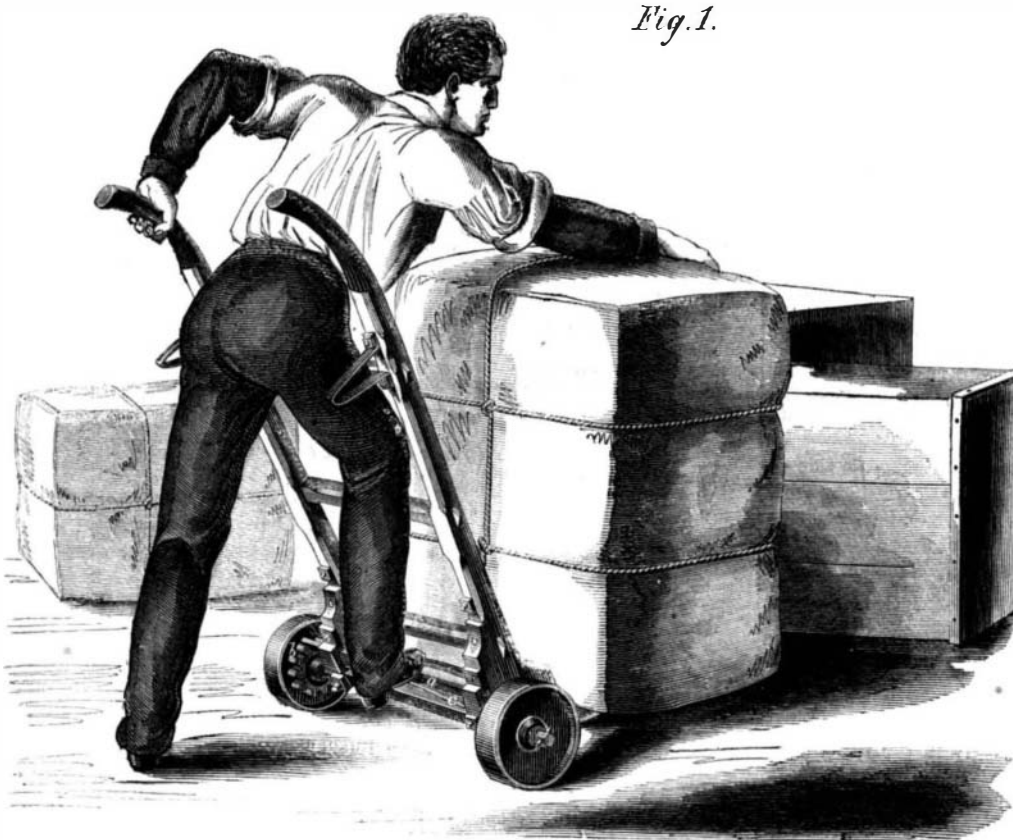
Wilson's Knitting Machine—One of the Best Inventions of the Age.

An improved circular machine for knitting complete stockings without seams is now in operation at Gibbs Building, First street, Williamsburgh, L. I., and several of the same class are in operation at Pitts-
burgh, Mass. It is the invention of James G. Wilson, No. 48 Pine street, this city. It has a small rotating vertical cylinder, about four inches in diameter

upon which the stockings are knit, and which has seventy-two spring-hooked needles secured in grooves. Twenty-five separate threads of worsted yarn are fed at once upon the needles, and twenty-five loops are made during every revolution of the cylinder. When driven at the usual speed of five hundred revolutions per minute it forms twelve thousand five hundred loops in the same space of time, and it knits a stocking in four minutes. It turns the heel and forms the toe, making each stocking the precise shape of the foot. The twenty-five threads are fed to the needles by three series of horizontal feeders, and the yarns pass through eyes to the hooks. These yarn guides and feeders while they supply the threads for new loops also close the hooks of the needles and de-

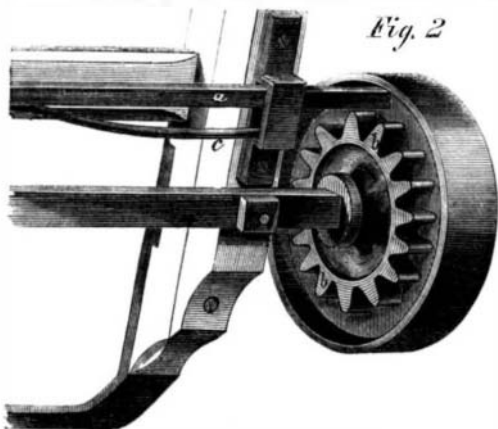
liver the loops which have been previously formed. The needles have an intermittent vertical and also a rotary motion in making and delivering loops. Two reciprocating pressers operate inside of the stocking cylinder, and obviate the use of a weight upon the stocking. One presser has an elastic face by which the loops are kept smoothly in place and also freely delivered. The form of the stocking is secured by a pattern wheel having inclined guides on its rim. As this wheel rotates, in conjunction with the cylinder, the inclined guides operate an arm that stops the cylinder when the attendant shifts the operation converting it into a reciprocating motion in forming the heel and also the toe; but the cylinder revolves when the leg and the middle part of the foot are being formed. When a thread breaks a stop motion throws the machine out of gear, and thus drop stitches in the stocking are prevented. This knitting machine is quite small, compact and simple, and is extensively employed in knitting superior army stockings.

A RAILWAY has been built in New Zealand about 14 miles in length, rising in that distance 2,800 feet.



DOUGLAS'S STORE TRUCK.

Douglas; the patent was issued July 15, 1862, to Douglas & Sherwood, who may be addressed for further information in relation to the matter, at 51 and 53 White street, New York.



truck wheels. The bar, *a*, as soon as it is relieved from the pressure of the foot is forced upward by the

DESTRUCTION OF GRAIN BY INSECTS.—Dr. Walsh, in a lecture lately delivered at Chicago, on destructive insects, said: When it was determined to plague the Egyptians lions and tigers were not sent, but flies, lice and locusts. The great American plague, appearing annually, is the plague of insects. America is known as the land of insects! The annual destruction of wheat in New York by one insect—the wheat midge—is calculated at \$15,000,000. For every dollar's worth of wheat the New York farmer harvests this midge takes a dollar's worth, being one-half of the crop. This midge comes from England, but there it is recorded that in the worst year of the ravages it only destroyed one-twelfth of the crop.

THE Boston Courier states that Mr. Asaph Hall, the able assistant astronomer at the Harvard College Observatory, is about leaving to join the astronomical corps at the National Observatory in Washington.