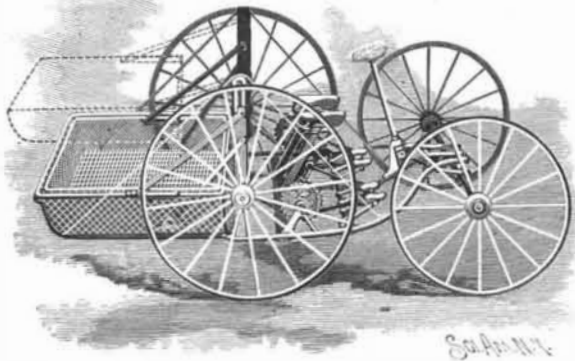


A FOOT PROPELLED VEHICLE.

This vehicle has, behind its rear axle, a compartment for carrying packages, adapting it for the use of tradesmen and others in delivering goods, the central portion of the vehicle being free for the riders and the propelling mechanism. The improvement has been patented by Mr. John W. Cleary, of No. 111 Montague



CLEARY'S FOOT PROPELLED VEHICLE.

Street, Brooklyn, N. Y. The front axle has a common form of fifth wheel, and is connected by chains with a nearly vertical steering shaft at the top of which is a handwheel. The rear axle is revolved by sprocket chains from a crank shaft journaled in the frame of the vehicle, the cranks on the shaft being connected by pitmen with pedals or foot levers, the vehicle having two seats and four pedals, so that two people may ride and assist in its propulsion. The package carrier consists of two or more parts, the smaller ones when not in use to be nested in the larger one, which rests on the bed of the vehicle, while the movable part of the carrier is supported by two pairs of pivoted arms extending from posts projecting upward from the rear axle. The receptacles of the carrier are preferably of skeleton construction, and have pivotal connection with the arms, and the posts are vertically slotted, to permit the upward movement of the upper pair of arms when the upper compartment of the carrier is

subject of a patent recently issued to Mr. Henry B. McKee, of No. 695 Willoughby Avenue, Brooklyn, N. Y. Near the lower edge of the tail board are forwardly extending hooks, which may be formed on a single rod, and these hooks engage notches in catch wheels on opposite sides of the cart, the wheels also having pins on which are pivoted the outer ends of extensible rods, whose other ends are each pivoted to an arm on a stationary portion of the cart. The extensible rods normally push on the catch wheels to hold the tail board in closed position, as shown in full lines in Fig. 1, but when the body of the cart is tipped down at the rear, as shown in dotted lines, the catch wheels are turned and the tail board is swung outward. The side rods are made in two sections by means of a yoke in which one section slides against the tension of a spring, to provide against strain or breakage, should the body swing beyond the normal point in dumping. Fig. 2 is a side view of the catch wheel and hook, and Fig. 3 shows the fastening device at the front end of the cart, where a depending hook engages a notch in the catch wheel, and teeth on the wheel are engaged by a pawl on the cart frame, to hold the body of the vehicle in normal position. On this wheel also is a handle, by which the wheel may be turned to bring the hook and pawl in engagement therewith. The device works entirely without friction, and it is not possible for it to catch or bind so that force will need to be used to facilitate its working.

To Walk Properly.

Lippincott's Magazine says: Stride out to your full measure, but don't try to go beyond it; and try not to fall short of it as you go on. Keep the knees as straight as you can conveniently, and this will oblige you to rise on the ball of the foot behind at each step. The calf of the leg is a valuable element in walking, and yet many walkers, by throwing their weight upon the knees and the muscles of the front of the upper leg, lose the push and spring of the calf altogether. Such men habitually stand with knees bent, like a "sprung" horse, and only straighten the knees by an effort. The arms should swing freely, the head should be up and the chest expanded; breathe deep and breathe slow. Few people walk right; yet it is an easy thing to learn, and when it is learned you can walk farther, faster and more enjoyingly than if you do it wrong.

COLLARS FOR USE ON SHAFTING.

The solid and split collars shown in the illustration are chambered to avoid unnecessary weight on the shaft, while preserving the full bearing surfaces at each end. They are made by the Gouverneur Machine Company, of Gouverneur, N. Y. Owing to their hinge joint, the split collars may be put upon the shaft in a space equal to their length, and when in place the set screw that holds the collar together also secures it in position on the shaft. No bolts are used and set screw heads do not project above the surface.

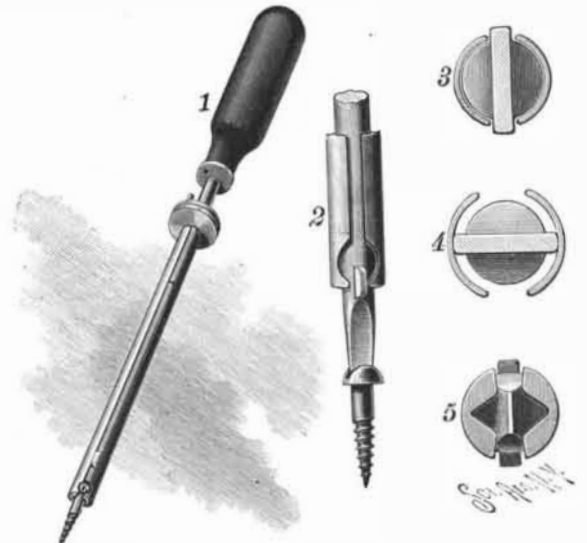
A TOWER TANK—30,000 GALLONS CAPACITY.

The illustration represents a large tank supported by an all iron four column tower, 63 feet high. It is one of a kind largely used in connection with independent water supplies for protection against fire in mills, factories, warehouses and storage yards. The tower costs much less than such as are generally built, considering its durability and strength, being built after a specially patented design of the W. E. Caldwell Company, of Louisville, Ky., for many years large manufacturers of towers, tanks and tubs. The company make all sizes of tanks, from 300 to 100,000 gallons capacity, and furnish full particulars, with plans and specifications, for building foundations and erecting towers. The latter, it is hardly necessary to say, is a matter to which the best of attention should be given, for 20,000 gallons of water weigh more than 85 tons—50,000 gallons weighing over 200 tons—and any defect in the foundation or structure of the tower may prove dangerous as well as costly.

A SCREW HOLDING SCREWDRIVER.

The engraving illustrates a tool designed to temporarily hold a screw and carry it to engagement in the screw hole before screwing it home. It has been recently patented by Mr. Maximilian Keehn, of No. 156 East 112th Street, New York City. In Fig. 1 the tool is represented holding the screw, Fig. 2 showing one end of a sleeve which slides on the shank of the tool, the sleeve having at its inner end a pin engaging a recess in the handle, to prevent the sleeve from turning. The sleeve is split longitudinally, forming pronged ends having recesses for the reception of the screw head, there being also inwardly projecting flanges near the ends of the prongs, as shown in Fig. 5, forming a seat for the head, and also engaging the shank of the screw. Figs. 3 and 4 are transverse sections of the tool and sleeve in engagement with the screw. On the

shank of the tool are also cam lugs and notches engaged by the prongs and flanges of the sleeve when the latter is in rearmost position, as shown in Fig. 2, and a spring tongue in one of the splits prevents accidental displacement of the sleeve. With this improved tool a screw may be placed and driven without the necessity of the operator holding the screw with one hand, which is



KEEHN'S SCREWDRIVER.

sometimes extremely inconvenient, the conditions of actual practice frequently necessitating the employment of pliers or other devices.

Lead Poisoning from Millstones.

A series of cases of lead poisoning in a family have been traced by Dr. H. Strauss, of Giessen, to the material used in stopping the millstones in which the flour for the bread of the household was ground. The stopping contained a very large quantity of sugar of lead. Dr. Strauss states that a more extensive epidemic of lead poisoning at Chartres about thirty years ago was also traced to the use of a stopping for millstones which contained a large quantity of lead.—Brit. Med. Jour.

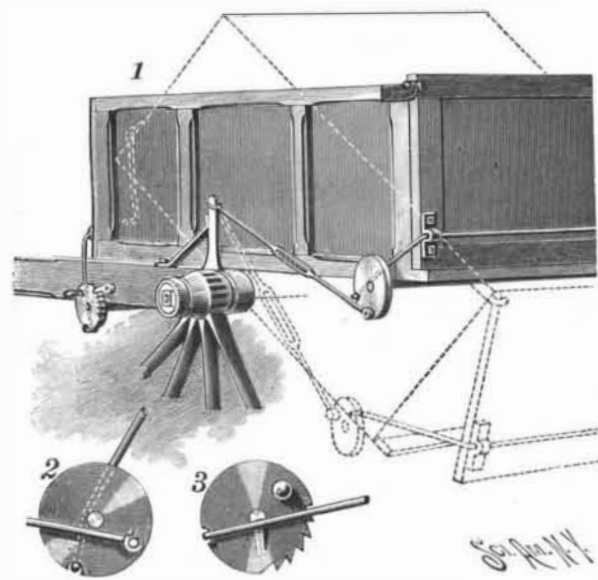


THE "GIANT" SAFETY COLLARS.

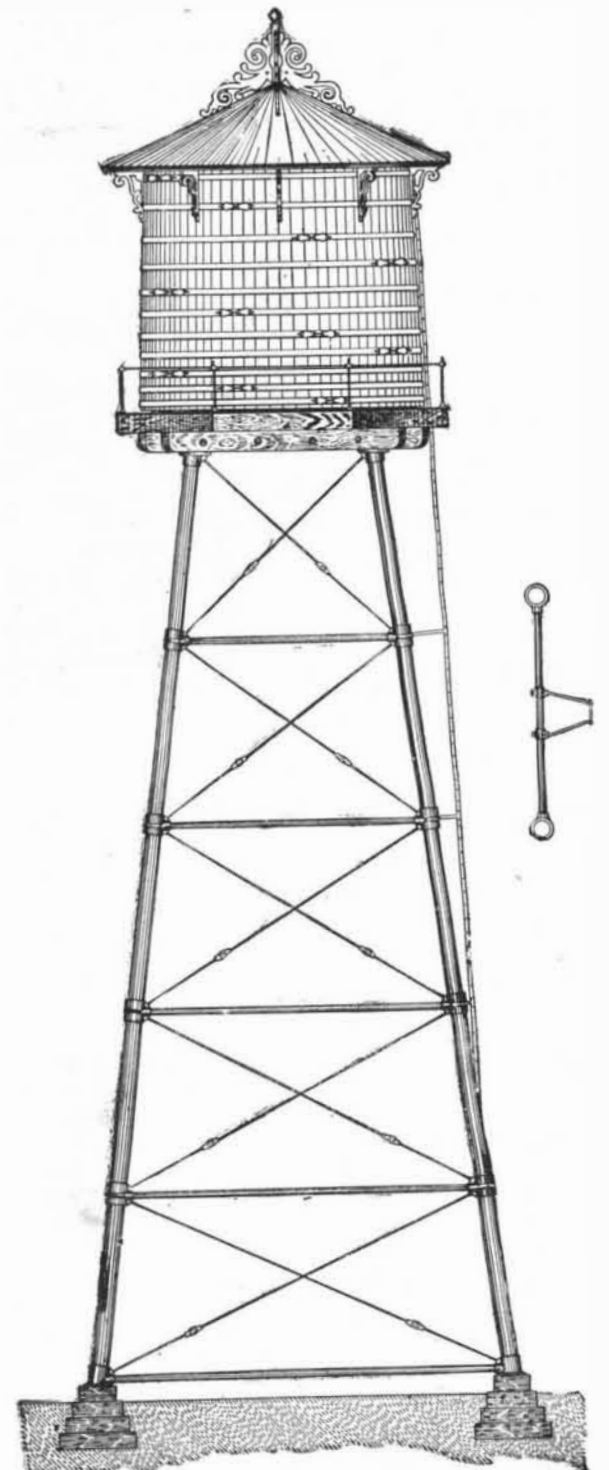
swung upward, as indicated by the dotted lines, the pivot pins at the inner ends of the upper pair of arms then resting in offsets of the slots to support the receptacle in raised position. A leg is also pivoted to the under side of the movable receptacle, the raising of the latter allowing the leg to swing into vertical position to form a support for the raised receptacle. The vehicle may thus be arranged to carry a comparatively large amount of goods, in such manner that they may be easily handled.

A TAIL BOARD CATCH FOR DUMPING VEHICLES.

The device shown in the illustration securely holds closed the tail board of a cart or car until the latter is tipped downward at the rear, when the tail board is automatically released, to permit the discharge of the load. The improvement may also be used upon a dumping car, when the fastening device is employed to lock the sides of the car. The improvement forms the sub-



McKEE'S VEHICLE DUMPING DEVICE.



AN IMPROVED TOWER TANK.