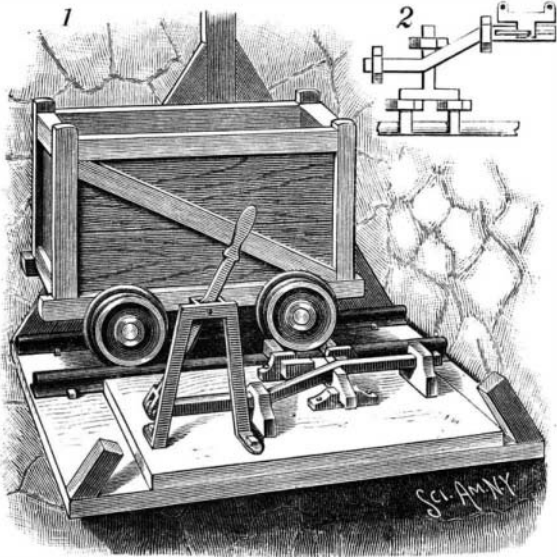


AN IMPROVED CAR STOP.

A simple device for restraining mining or other cars from movement on the tracks of hoisting carriages in mining shafts, etc., is illustrated herewith, and has been patented by Mr. William Walker, of Jermyn, Pa. On a base plate adjoining the car rail are guides, in which are mounted to slide across the rail the rigid arms of a forked chock block, adapted to catch both sides of the car wheel, the chock block being pro-



WALKER'S CAR STOP.

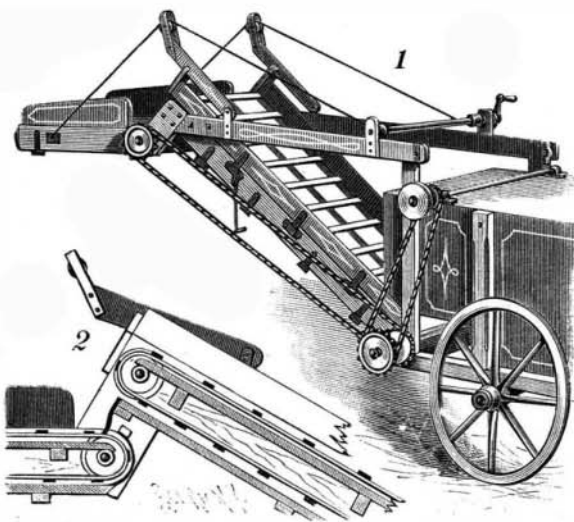
jected and retracted by means of an upright handle lever pivotally connected with a cam bar, arranged at right angles to the direction of motion of the chock block.

Additional Water Supply Required for New York.

Mr. Church, chief engineer of the Croton aqueduct, in a recent report to the commissioners, fixes the probable date of the completion of the new aqueduct to its connection with the old aqueduct mains in Tenth Avenue, near 135th Street, at July 1, 1889, and to the Central Park reservoir at December 31, 1889. For the maximum supply he gives the approximate figure of 318,000,000 gallons. In 1890 Mr. Church estimates that the city will have a population of 1,665,875; and, according to the tables of statistics which he presents, he demonstrates that the consumption will exhaust the storage of that year, and the daily supply will be short 79,600,000 gallons.

IMPROVED STRAW CARRIER FOR THRASHING MACHINES.

A machine whereby straw, chaff, etc., may be delivered, without spilling, to the stacker from the separator, is illustrated herewith, and has been patented by Mr. Peter Enzenauer, of Red Bud, Ill. The carrier is made in two hinged sections, the lower or main one being attached to standards forming a rear portion of the separator, and held at an inclination by side braces, while the upper section, when the carrier is not in use, may be folded under and held in folded position by hooks. The carrier has parallel side pieces, with a rigidly attached bottom, an upper floor being secured to the side pieces to afford a space above the bottom, and a curved metal plate inclosing the lower end of the



ENZENAUER'S STRAW CARRIER FOR THRASHING MACHINES

body, at each end of which a shaft is journaled, carrying an endless belt. The straw or chaff carried by the belt over the upper floor section, and not falling into the short section, drops into the space between the bottom and the upper floor of the carrier, and is carried by the lower section of the belt to the floor or table, to pass upward with the main body of the material, there being an apron to prevent any of the material carried upward by the belt of the main section dropping into the space between the upper floor of the short section and the end plate.

London Fogs.

As these lines are being written (says the *Journal of Gas Lighting* of Nov. 6), London lies literally gasping for breath under one of the blackest and most persistent fogs that have ever visited the valley of the Thames. It is a perfect example of that variety of the London fog which has been distinguished of late years from the traditional "pea soup" fogs so clearly described by Dickens in his tales of London life. We still get too many specimens of this type of fog to forget what it is like. It is the thickness of what has to serve for air, which makes the eyes smart and weep, chokes respiration, and blurs the visual aspect of outer objects. Lights are almost powerless to penetrate this mixture of mist and smoke. Scarcely can the wayfarer see one street gas lamp at a time; he certainly cannot see the second. Drivers of vehicles are compelled to lead their horses, and make sure of their course by observations of the curb of the street pavement; and when they have to navigate a wide crossing, they must trust to fate for getting to the corner for which they aim. The usual street noises are either hushed or strangely muffled and changed; but the improved acoustic properties of the thickened atmosphere are witnessed to by the startling distinctness of sounds usually unheard or diminished. All this, be it remarked, is characteristic of an old-fashioned yellow fog, which strangled our forefathers in the streets of London just as it does their successors to-day. The "London particular," however, is no longer confined strictly to the metropolis. The growth of towns in different parts of the country has prepared conditions as favorable to the development of the densest kind of fogs as used to be found in London alone; and consequently, at the present day, Manchester and other places are occasionally plagued with fogs which do not yield in vileness of character to anything that London can show. The other variety of fog, which we have already remarked as distinct from this deadly mixture of antique repute, is not so thick upon the ground, but is much blacker overhead. It does not so acutely affect the eyes or the lungs, and in this respect is more endurable; but no words can adequately describe the gloom where it enthrones itself on the housetops. To look up toward what should be the open sky is like gazing into a coal cellar. Wayfarers flit along the streets like disembodied spirits, and vehicular traffic is carried on as though in a cavern. The general aspect of the streets and shops is much the same as that presented on a murky, wretched night. The window glass seems dirty, and the gas looks bad, yet comfortable, for everybody hastens to light up in order to dispel the unnatural dusk. If a fog of this kind were to happen at night, it would not be very noticeable except for the deadness of the air, which renders breathing unpleasant, although not in the same way as a pungent yellow fog. The influence of the invisible carbonic acid, which is probably present in abnormal proportion in the stagnant air, is sensibly felt by all animate beings. This and the blackness at midday combine to make London in a fog of the kind now under notice a place to be shunned during the continuance of the infliction. Fortunately, these fogs are frequently very local, and the slightest movement of the air clears them away.

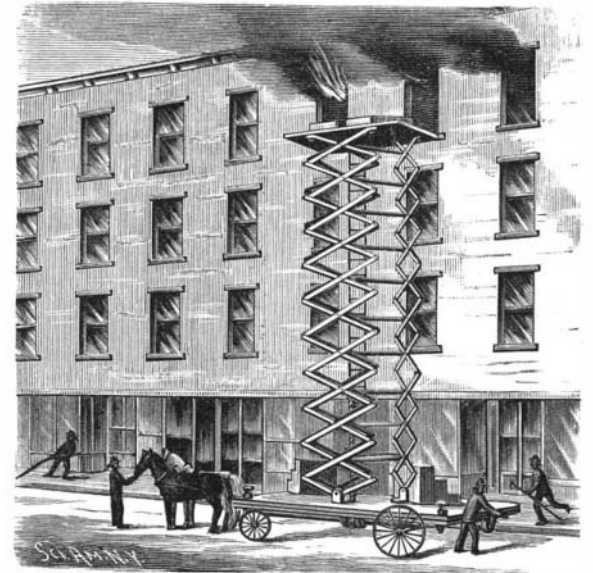
Balls of Earth on Evergreens.

It is more essential to retain balls, or rather cakes, of earth on the roots of evergreen trees in removing them than for deciduous trees, because the roots of the latter will bear longer exposure to the air. Where the distance for removal is short, or from one part of the grounds to another, there is no difficulty in carrying large masses of earth on the roots, and in preventing any failure in the operation. Evergreen trees may be carried several miles in a spring wagon, or on a sled in winter, if there is enough earth adhering to the roots to hold them upright during the transit. There will be no difficulty for trees six or seven feet high, but more care and labor are required for those much larger. We have conveyed twelve-foot trees of the white pine several miles without any loss. They were taken from the borders of a wooded swamp, the rich muck in which they grew resting on hardpan eight inches below, and allowing the muck, which held all the roots, to be lifted easily with the tree. This is the best condition of soil for taking up masses of earth with the roots, and has always been attended with moderate labor and entire success with arbor vitae, hemlock, and other evergreens. When the trees stand on a gravelly soil alone, the difficulty of taking them up is much greater.

These remarks do not apply to small nursery trees two or three feet high, which have been prepared for removal by previous transplanting, or to larger evergreens which have been several times transplanted, and on which the balls of earth are of less importance. When this previous preparation has not been given, it is a good plan in late autumn to fit them for a second or third year's removal by digging a trench around them at a proper distance and deep enough to cut off all the horizontal roots, and then filling it again. Every root thus cut sends out a number of fibers, which are of more value to the tree in removal than a single long root.—*The Cultivator.*

AN IMPROVED FIRE ESCAPE.

A portable fire escape, constructed with three systems of lazy tongs connected together and arranged to be elevated and lowered by a screw mounted in the platform of a truck, is illustrated herewith, and has been patented by Mr. Louis P. Santy, of Clements, Kansas. The platform on which the tongs are mounted has screws at its corners, whereby the escape may be held upright or tipped against the walls of a building. The



SANTY'S FIRE ESCAPE.

tongs are united by a series of triangles, a set of lazy tongs being arranged at each corner of the triangle, each set bracing the others. A screw for elevating the system is mounted in the center of the platform, a triangular plate being attached at its corners to the lowermost set of lazy tongs, and having at its center an internally screw-threaded boss in which the screw works, being operated by beveled gears and crank shafts extending to the ends of the truck. By turning the cranks the three sets of lazy tongs will be rapidly elevated, and by reversing the motion are rapidly lowered. At the top of the lazy tongs is a platform or cage on which persons may step from the window of a building, and be lowered to the ground by turning the cranks, or they may descend by a rope ladder suspended from an aperture in the center of the cage.

A SIMPLE CHURN DASH.

An improvement readily applicable to almost any form of churn, and by which it is designed to make fine flake butter quickly and with little labor, is illustrated herewith, and has been patented by Mr. Lambert Snyder, of Midland Park, N. J. It consists of a dash loosely hung upon a bracket in the lid of the churn, a double conical frame being hung upon the stem of the dash, the apex of one cone being at the lower end of the frame, while that of the other cone is above, and designed to come near the surface of the milk. The vertical pieces of the frame have each a longitudinal slot, which, with the cross bars and pins, are designed to cut and break the cream as the dash is rotated. The upper end of the dash spindle has a grooved pulley, through which



SNYDER'S CHURN.

the dash is reciprocated by means of a bow, the cord of which is easily sprung into the groove of the pulley to make one complete turn thereon, and requiring but little tension. The device is so simple that it is not likely to get out of order, can be readily cleaned, and is easily operated. As the dash rotates in opposite directions, with each stroke of the bow, the frames draw the cream from the top and bottom toward the center, where it is broken by the rods and cut in its passage through the slots in the frames. The device is cheap of construction, easy of manipulation, and efficient and rapid in action.