

RECENTLY PATENTED INVENTIONS.

Railway Appliances.

CAR COUPLING.—James L. Carr, Henryville, Ind. This device has a coupling pin or bar pivoted on a cross bolt or shaft, the pin being formed with two arms, a link-securing arm and a gravity arm. The bearings of the pin or bar give the coupling great strength. An entering link lifts and passes under the pin, which falls by gravity to secure the link, the latter then being held by the gravity arm in horizontal position to properly enter a meeting drawhead. The uncoupling is readily effected by means of a shaft extending to the side of the car.

SPARK DEFLECTOR FOR FREIGHT CARS.—Louis C. Terry, Columbus, Miss. Cars loaded with cotton, hay, and similar articles, especially liable to take fire, are ordinarily protected by having wooden strips or battens nailed behind their doors, such precaution being insisted upon by the insurance companies. This invention provides a device for the purpose which may be readily opened or closed, and which will be automatically held in either of the two positions in which it may be placed. It consists of a narrow oblong door carried on a rock shaft, and adapted to cover the opening between the sliding door and the side of the car. The door may be folded back in a recess entirely out of the way.

RAILWAY TICKET.—Richard McCoy, Creston, Iowa. This invention provides a novel ruled and numbered ticket, for use instead of what are known as mileage books, from which portions are cut or torn off by the conductor corresponding with the draughts made upon the ticket during successive trips, till the whole ticket has been used up. By this improvement the counting or work of the conductor is greatly facilitated in determining the tearing of the ticket at the proper place. The ticket may be of any desired length to take in any maximum number of miles.

Electrical.

ELECTROPLATING VESSELS' HULLS.—Alexander D. Buchanan, Long Island City, N. Y. This invention covers a process and apparatus for making a metallic deposition upon the entire hull of a vessel, as a protection thereto. The process consists in docking the vessel, incasing its hull in a flexible envelope which is filled with a metallic solution, after which electric connections are made between the solution and the hull of the vessel. The envelope is preferably made of canvas with a wire warp, and outer and inner insulating coating, and is made of a size to inclose large vessels, or be raised up around smaller ones, so as to leave only a small space between the envelope and the hull.

Mechanical Appliances.

WHEEL WRENCH AND BOLT CLIPPER.—Marshall Martin, Walla Walla, Washington. This machine is adapted to carry a vehicle wheel for rapidly securing the bolts to the wheel tires and felloes and also to clip the bolts. It consists of a bench or frame on which is held to slide a wheel-carrying saddle, there being a swinging wheel wrench pivoted in the front end of the bench, and a bolt clipper arranged between the wheel wrench and the saddle. The wheel wrench is substantially like that forming the subject of a former patent granted to the same inventor. The bolts are all turned home first, and are all cut off afterward, the bench bolts for holding the wheel permitting its easy revolution in order to bring the necessary parts into the correct position for work.

WRENCH.—William H. Haire, Morristown, Tenn. This is a simple, durable and inexpensive tool, consisting essentially of two pieces. A sleeve is held to slide on the shank, its upper end having a horizontal lip constituting the inner or movable jaw of the wrench, while in the bore of the sleeve is a tooth adapted to engage the toothed surface of the shank which constitutes the handle. In a recess in the back of the sleeve is a recess in which is a spring connected with a bolt or block, at all times held in engagement with the shank. The adjustment of the jaws is quickly made by pressing the extension of the sleeve to an engagement with the shank, and the operator may, with the same hand with which the wrench is grasped, run the sleeve upward or downward on the shank to adjust the inner jaw to an engagement with nuts, bolts, etc.

PLUMBERS' TACK.—William H. Evory, Brooklyn, N. Y. This device consists of a two part clamp, the parts shaped to fit a pipe and having a spring connection with each other, the parts having base wings adapted to be secured to a support. The improvement affords a simple and efficient tack, quickly and easily secured to a pipe, which may thereby be conveniently secured to an adjacent wall, and will hold the pipe securely in place.

NUT LOCK.—Charles O. Vinyard, Navajo Springs, Arizona Ter. This nut lock is designed to lock a series of adjacent bolts in place, preventing the nuts from loosening after being screwed up. It consists of a locking plate provided with openings engaging the nuts to be locked, a nut screwing on one of the bolts having an integral spring arm adapted to engage one of a series of rigid teeth or projections formed on the locking plate. The several parts can be readily unfastened when desired by the bending of the spring arm. The invention is an improvement on a former patented invention of the same inventor.

Agricultural.

CULTIVATOR.—Leonard J. M. Nehf and George W. Mitchell, Sutton, Neb. This invention relates more particularly to an improved adjusting device whereby the shovels can be adjusted to suit the growth and condition of the plants to be cultivated. The main beam is slotted at its rear end, and a semi-circular frame having a series of perforations is arranged in the slot; the forward cross beam has a series of horizontal perforations, the rear slotted cross beams having vertical perforations, and the central beam having a reduced forward end, and in connection therewith are provided locking and pivotal bolts, the construction being very simple and inexpensive, and very convenient in operation.

COTTON HARVESTER.—William Hodge, Memphis, Tenn. This is a machine to be drawn over the field, when the plants are guided into a receiving box where picker disks are revolved to pick the cotton from the pod, leaving the plant standing as the machine moves forward. The cotton is carried inward and taken by brush disks from the picker disks, being deposited upon conveyer belts, and taken by elevator belts, twigs, stems, etc., being removed by a stripping brush. A brush roll removes the cotton from the elevator belt into a chute, which conducts it to a sack held on the platform.

ELEVATOR FOR SELF BINDERS.—John J. Jones, Pittsfield, Ill. This invention provides an improved form of elevator belt, at intervals along the length of which transverse tubular longitudinally slotted slats hold folded portions of the belt, rods holding such portions of the belt within the slats, while the tubular slats near each end of the belt have slotted edges with oppositely projecting ears, there being adjusting straps along the under surface of the belt, and rivets passed through the ears, the belt, and the straps. The slats are thus attached to the endless apron in such a way as to prevent the grain from catching between the apron and the slats.

WEED TURNER.—John J. Miller, Bartow, Fla. This is a device adapted for attachment to plow beams, and capable of being conveniently and expeditiously adjusted to or from the mould board of the plow to regulate the amount of sod to be turned under, the construction being such that the device will yield and automatically return to its normal position when engaging with and passing a stump or other fixed obstruction. A narrow edge of the blade only is presented to the front of the beam and to obstructions, thus insuring a minimum of pressure thereon.

PLOW.—William H. Myers, Oregon, Wis. This improvement relates especially to the construction of plow shares, providing a means whereby the mould board is fitted with a removable and adjustable plate constituting the lower cutting edge, and whereby also the point may be removed and sharpened or adjusted as it becomes worn, there being a removable share upon the forward edge of the mould board. The invention likewise provides for the simple, durable, and inexpensive construction of the mould board, its attachments, and the point and landside.

Miscellaneous.

MECHANICAL CALCULATOR.—Theodore Mader, Corpus Christi, Texas. This is an improvement in calculators having a fixed right angular arm inscribed with a scale, a movable arm pivoted to one end of the fixed arm, and a third scale-bearing arm or bar arranged at a right angle to and sliding on one limb of the fixed arm, the calculations being made by adjusting the pivoted and the sliding arm. According to this invention the sliding bar is held at an angle of about sixty degrees instead of ninety degrees, there being also various other differences of construction and arrangement, and a difference in the scales, whereby the instrument is adapted for the use of surveyors and civil engineers, being designed to solve geometric problems as well as all proportions relating to ordinary business, etc.

COPY HOLDER.—Hans A. Isberg, Long Island City, N. Y. The frame of this copy holder has a guideway in one edge, and a rope is mounted on three pulleys to travel in the guideway, while the line or indicating bar is attached to a slide which is in turn secured to the rope. The improved device is designed for the use of typewriters, typewriter operators, typesetters, etc., the construction being simple and durable, and the indicating or line bar may be moved any desired distance or equidistant spaces as desired.

CASH CARRIER APPARATUS.—Joseph Starr, New London, Conn. This invention relates to an improvement in the propelling mechanism whereby cash or parcel carriers are taken to any desired point along their track, means being also provided whereby any slack that may occur in the track may be conveniently and expeditiously taken up. An exceedingly simple carrier and latch is adapted to operate upon the car, while an adjustable trip mechanism uniformly and positively releases the car at the proper time, the factors in the propelling mechanism being so arranged that the moment the trip mechanism acts to release the car the latter will have adequate movement imparted to it.

LEDGER, SALES, AND BILLING BOOK.—James E. Depue, Oakland, Cal. This improvement is designed to do away with a multiplicity of books, and lessen the labor of the bookkeeper, one book being made to combine within itself three books. The leaves each have a column or series of ruled ledger blanks or spaces on its inner end, and corresponding perforated separable and ruled account blanks on its outer end, while a series of copying leaves or sheets are bound up in successive order with the leaves. Each of the separated accounts or bills bears its own special number, copied upon the copying sheet when the copy is made, and the bill is ready to detach and present at any moment as may be desired.

STRINGED MUSICAL INSTRUMENT.—Henry Dahlman, Cambridge, Minn. This invention provides improvements in stringed instruments, such as guitars, mandolins, banjos, etc., to enable the performer to enrich the accompaniment by playing on additional bass strings. An additional set of strings is made extend over the sounding board, from an auxiliary head on and facing at an angle to the main or ordinary head, to extension rests or pins on the sounding board. A rod connects the auxiliary head with the body of the instrument, and the auxiliary strings extend in an arc along the rod.

KEY BOARD ATTACHMENT.—Maximilian Brownold, New York City. A locking device for each key is provided by this invention, a mechanism for simultaneously locking the corresponding keys of the several octaves, and a pedal action for simultaneously unlocking all the locking devices for the keys. The improvement relates to pianos, organs, etc., the attachment permitting of playing on the keys called for by the key in which the music is written while the remaining keys are locked and rendered mute. The

instrument may also be used in the usual manner without restriction as to the use of any of the keys.

MUSIC LEAF TURNER.—Martin A. McMartin, Raton, New Mexico. This device consists of a vertically adjustable case adapted to be secured to a support by a clamping device, a revoluble shaft pivoted in the case being provided with operating means, while swinging arms have their inner ends geared to the shaft, and spring leaf holders are adjustably secured in the outer ends of the arms. The device may be quickly and securely fastened to a piano, organ, music rack, or any convenient support, and is adapted to quickly and accurately turn the leaves of sheet music in either direction.

STAMP SAFE.—Harry A. Stevenson, Sag Harbor, N. Y. This device consists of a small case, to be conveniently carried in the pocket, for carrying stamps in roll form upon a roller, a stamp-protecting ribbon or band being reeled in connection with the stamps upon the roller, while there is a spring take up roller for the ribbon arranged in front of the feed roller, and a spring pressure roller over the take up roller, a pawl or stop mechanism controlling the movement of the rollers, and the whole forming an automatic feeder of the stamps.

GUMMING MACHINE.—Hugh Mooney, Jersey City, N. J. The gum fount of this machine is suspended beneath a slotted feed table, and revoluble gum wheels are adapted to deliver gum from the fount through slots in the table, a feeding mechanism carrying the material over the gum wheels, while movable carrying tapes are arranged in the rear of the gum wheels. The machine is of simple construction, and especially adapted for gumming labels or other articles in which the gum is applied in regular lines, and it is so designed that it may be easily adjusted and will work rapidly.

CONVERTIBLE BATH AND WASHTUB.—Nellie F. Hurd, New York City. The main tub has grooved strips secured to its ends, sliding upon vertical posts, the tub having also a central transverse groove, fitted by a removable adjustable partition, with gear mechanism for quickly adjusting the tub for use as a bath tub, and as quickly changing it to form two wash-tubs. Means are also provided for adjusting it vertically to suit the height of a person washing.

INHALER AND RESPIRATOR.—John A. Perou, Perria, Cal. This is an improvement in devices worn to prevent direct breathing through the mouth, the appliance having exterior guards to prevent its accidentally entering the mouth or throat of the wearer. It consists of an elongated thin plate having its edges shaped to conform with the channel between the lips and gums and teeth of the wearer, and provided with two pairs of guard limbs that project outwardly and are then bent oppositely in pairs to lie upon the exterior of the lips when in service.

TREE PROTECTOR.—Thomas W. Evans, Leocompton, Kansas. This improved protector for trees and shrubbery consists of a sheet metal body having overlapping edges with registering holes entered by a spring latch, there being lugs on the body near one edge adapted to overlap the adjacent edge, and a series of teeth on the top edge of the body. The cylindrical body thus formed has perforations which admit air freely.

POLICE NIPPERS.—Samuel A. French, New York City. This device has two separable handle sections provided on their inner adjacent faces with an undercut or dovetail interlocking rib and groove extending longitudinally of the shank portions of the handle and tapering toward their inner ends. A chain connects the two sections, and the device is designed to be quickly placed upon the wrist and securely locked.

AUTOMATIC BRAKE.—Giles Bowler, Layton, Utah Ter. According to this improvement springs normally maintain the brake shoes of the beam in engagement with the wheels of the vehicle, cross levers pivoted to the brake beam being connected by a chain to a sliding draught tree, and thence with the draught bar. When the vehicle is drawn forward the brakes are disengaged and remain so until the vehicle is stopped. An operating means is also provided to act somewhat as an equalizer, and when desired the brake may be held permanently out of engagement with the wheels.

PROTECTOR FOR HORSES' HOOF.—Theodore P. Skellenger, Morristown, N. J. This is an improved packing slipper comprising a foot plate adapted to carry a pad, a skeleton wing to one side of the plate conforming in contour to one outer side contour of a hoof, while a second similar wing has a hinged connection with the opposite side of the plate, there being an adjustable connection between the two wings. The device is designed to prevent snow from bailing under the foot, and affords facility for applying a salve or ointment when it is desired to treat the bottom of the foot.

HEARSE ATTACHMENT.—Thomas J. Weir, Cincinnati, Ohio. This invention provides means for the automatic coiling of the truck strap for a hearse, so that the strap will be held under tension wherever the truck may be located in the hearse. The improvement is especially designed for application to hearses having a longitudinally movable truck on which the foot portion of the casket is placed when deposited in the vehicle, a strap connected to the truck and extending to the rear end of the hearse furnishing means to control the truck.

STONING KNIFE.—Frank H. Disbrow, Glendora, Cal. This is a flat reversible knife having its opposite ends sharpened and provided with rounding notches, the knife being held in a holder secured in a box to be attached to any suitable support. The knife is not held in the hand, leaving both hands of the operator free, and the knife is of a form especially designed to facilitate the stoning of fruit, etc.

GAME APPARATUS.—Myra E. Favor, Brooklyn, N. Y. In this apparatus a canvas body is supported upon posts in an inclined position, the canvas having openings and pockets toward which balls are thrown, the different pockets representing different numbers and values in a game. The game

is very simple, and may be played indoors or upon a lawn.

NOTE.—Copies of any of the above patents will be furnished by Munn & Co., for 25 cents each. Please send name of the patentee, title of invention and date of this paper.

NEW BOOKS AND PUBLICATIONS.

ACADEMIC ALGEBRA FOR THE USE OF COMMON AND HIGH SCHOOLS AND ACADEMIES, WITH NUMEROUS EXAMPLES. By Edward A. Bowser, LL.D. 12mo. Pp. 252. Half leather. Boston: D. C. Heath & Co. Price \$1.25.

Dr. Bowser is well known as a writer of a valuable series of mathematical text books which are largely used in the best institutions of learning. The chief merit of the present work lies in the remarkably clear manner in which the principles are explained and illustrated. The examples and problems are numerous and well selected and provided with answers. The whole work is inviting to the student, and the aim of it seems to be to render the study of algebra attractive without any loss of scientific method. Complicated examples are excluded because they consume both time and energy which may be spent more profitably on other branches of mathematics.

A HISTORY OF THE PEOPLE OF THE UNITED STATES, FROM THE REVOLUTION TO THE CIVIL WAR. By John Bach McMaster. New York: D. Appleton & Co. 1892. Pp. xvii, 584. Volume III. Price \$2.50.

The completion of the third volume of Professor McMaster's important history of the American people is a subject of congratulation. The period its five hundred pages cover extends from the Louisiana purchase at the beginning of the present century down to the first days of the war of 1812 and the surrender of Hull at Detroit. The story of Burr's treason, of the early history of the steamboat, including the achievements of Fulton, Livingston, and Stevens, the first railroad, and many other of the triumphs and trials of early industries are here chronicled. It is out of place for us to indulge in encomiums on a work which has already won for itself a place as an American classic. The period covered by the third volume is full of events of the deepest interest, and is at once interesting and curious reading, in view of the political changes that have ensued since 1812. The author has very positive views of his own and does not hesitate to show them, which gives an aspect of life and interest to the book. His account of the long embargo that preceded the war of 1812 is specially interesting.

SCIENTIFIC AMERICAN BUILDING EDITION.

MARCH NUMBER.—(No. 77.)

TABLE OF CONTENTS.

1. Elegant plate in colors of a residence in the Queen Anne style of architecture, erected for F. S. Andrews, at Seaside Park, Bridgeport, Conn. Perspective view, floor plans, etc. Longstaff & Hurd architects, Bridgeport, Conn. Cost \$7,000 complete.
2. Plate in colors of a cottage at Richmond, Mo. Perspective elevation and floor plans. Cost \$1,500.
3. A residence at Cleveland, O. An admirable design. Floor plans and perspective elevation. Cost about \$6,000.
4. A cottage at Gardner, Me., erected at a cost of \$1,900. Perspective elevation and floor plans.
5. Floor plans and perspective view of a Colonial house at Portland, Me. Cost \$3,800 complete.
6. Design for an ornamental chimney piece.
7. A cottage at Portland, Me. Cost \$3,500 complete. Perspective and floor plans.
8. Floor plans and perspective view of a very attractive Queen Anne cottage erected at Babylon, L. I. Cost complete, \$2,800.
9. View of the proposed Odd Fellows' Temple at Chicago. To be the most imposing structure of its kind in the United States, and the tallest building in the world. Height 556 feet.
10. Sketches of an English cottage.
11. An attractive residence recently erected at Belle Haven Park, Greenwich, Conn., at a cost of \$11,000 complete. Floor plans and perspective elevation.
12. A residence at East Park, McKeesport, Pa. An attractive design. Plans and perspective. Cost about \$4,000.
13. A cottage at Asbury Park, N. J. An excellent design. Cost \$5,300 complete. Floor plans and perspective elevation.
14. Miscellaneous contents: Lawn planting; how to do it and what to avoid, with an illustration.—A suggestion for inventors.—Acoustics.—They bought burning houses.—Timber in damp places.—The taper of chimneys.—Stained cypress.—Low ceilings.—An improved woodworking machine, illustrated.—A fine machine for cabinet shops, illustrated.—Swezey's dumb waiter.—Graphic representation of strains.—An improved door hanger, illustrated.—A new woodworking machine, illustrated.—The baths of Diocletian.—The Stanley plumb and level, illustrated.—The Diamond Match Company.

The Scientific American Architects and Builders Edition is issued monthly, \$2.50 a year. Single copies, 25 cents. Forty large quarto pages, equal to about two hundred ordinary book pages; forming, practically, a large and splendid MAGAZINE OF ARCHITECTURE, richly adorned with elegant plates in colors and with fine engravings, illustrating the most interesting examples of Modern Architectural Construction and allied subjects.

The Fullness, Richness, Cheapness, and Convenience of this work have won for it the LARGEST CIRCULATION of any Architectural publication in the world. Sold by all newdealers.

MUNN & CO., PUBLISHERS,
361 Broadway, New York.