

## ENGINEERING INVENTIONS.

A bridge plate for railway joints, etc., has been patented by Mr. Thomas J. Bush, of Lexington, Ky. It is made with curved strengthening flanges and flat surfaces, in combination with clamp plates and interlocking bolts, making an elastic truss calculated to adapt itself to the wave of deflection as the wave passes through the joint of the track.

A car axle box has been patented by Mr. Charles E. Candee, of New York City. It is a reversible internally chilled axle box cast in one piece, and so made that its interior walls present upper and lower chilled bearing surfaces integral with the shell of the box, the invention relating more particularly to roller-bearing axle boxes for railroad car wheel axles.

A car axle has been patented by Mr. John Pettinger, of Santa Barbara, Cal. Combined with a tubular spindle are sleeves carrying the wheels and journals, a dust cap, and other novel features, the invention relating to that class of axles which permit the independent turning of the wheels, and combining lightness with durability and simplicity of parts.

A car brake has been patented by Mr. Robert H. Dement, of Hudson, Ill. The invention consists of a crank disk secured to the lower end of a brake staff and connected with the brake lever rod, a spring pressing against the lower end of the brake staff, and a stop pin being secured to the crank disk to limit its motion, whereby the brake staff is given only one half of a revolution and is then automatically held in place.

A propelling and steering apparatus for vessels has been patented by Mr. Carl C. L. Lucht, of Colberg, Prussia, Germany. The invention relates to that class of devices in which pairs of hinged wings are used, which automatically separate when moved in one direction and swing together when moved in the opposite direction, whereby the course of the vessel can be regulated from the upper deck, and its direction reversed without reversing the engine.

## AGRICULTURAL INVENTIONS.

A combined planter and fertilizer distributor has been patented by Mr. Charles T. Waters, of Butler, Ga. The invention covers a novel construction and combination of parts in a machine that is intended to plant cotton seed, seed corn, peas, etc., and to drop or distribute fertilizers.

A planter and roller has been patented by Messrs. William H. Littell and John R. Scofield, of Charles City, Iowa. It is so made that the weight of the driver, when the dropper is off, will elevate the flukes clear from the ground, the machine being easily turned at the end of a row, while the roller can be readily detached and used separately.

A grass killer has been patented by Mr. Jordan P. Mathis, of Bently, Miss. It consists of a blade to be used with a plow stock or in a similar way, the blade being formed of a plate curved from edge to edge and cut out in the center to form side plates, and also having rear diverging blades, the side blades straddling the row of plants and cutting the grass close to and upon both sides, and the device being very cheap, simple, and effective.

## MISCELLANEOUS INVENTIONS.

A sign has been patented by Mr. William B. Atkinson, of Franklin, Ky. It is more especially designed for jewelry or watchmakers' establishments, and consists of a case with dials whose hands are moved by an inclosed wind wheel.

A drag saw has been patented by Mr. Phillip Thurman, of New Florence, Mo. It is made with a vertically slotted standard in which the saw works, being held down within the cut by the action of springs, the device being held in position for its work by a dog.

A wind vane motor for clocks has been patented by Mr. Adrian Hitt, of Rushville, Ind. It consists of an upright shaft carrying a wind vane, and in gear wheels and shafts by which the power is transmitted to wind the mechanism of a time piece and also to indicate on a dial the direction of the wind.

An ox bow has been patented by Mr. Luman Rundell, of New Baltimore, N. Y. It is formed of wooden arms and a tubular metallic middle section, having an outwardly bowed lower central portion, so that it will not bear upon the windpipe or the veins or arteries of the neck.

A Venetian blind has been patented by Mr. Frank A. Howson, of Brooklyn, N. Y. The plates are so formed as to provide for the rolling or sliding of the blinds into properly arranged housings located at either the top or the bottom of the window in connection with which the blinds are arranged.

A vinaigrette, or perfume holder, has been patented by Mr. Charles E. F. Lewis, of Brooklyn, N. Y. This invention covers a novel design of such article, in which means are provided whereby the stopper will be held in connection with the article when removed, and in convenient position for replacement.

A combined tenoning and mortising machine has been patented by Mr. Joseph Du Frances, of North Topeka, Kansas. The invention covers a novel construction, combination, and arrangement of parts in a foot power machine, which also has a special feed mechanism and means for holding and placing the cutters.

A tool handle has been patented by Mr. William Mills, of Middletown, N. Y. Combined with such handles as those of shovels, having a central grip supported by side arms, this invention provides for splitting them longitudinally and inserting a strengthening plate, clamped therein by rivets or otherwise.

A tool grinder has been patented by Mr. Norman C. Stiles, of Middletown, Conn. Com-

bined with a grinding wheel stand having a hood is an apron mounted to slide on the hood, a perforated U-shaped tube on the lower edge of the apron, with screws for closing the ends of the U-shaped tube, with other novel features.

A chimney holder for lamp burners has been patented by Mr. George E. Oliver, of Magog, Quebec, Canada. The burner has two or more fixed fingers, combined with a movable finger having an inwardly projecting portion, and a lever for engaging the inwardly projecting portion of the finger to lock the latter in position, with other novel features.

A feed rack has been patented by Mr. James R. Logan, of Fargo, Dakota Ter. It is so made that the animal may insert his head and reach far back within the rack, and withdraw his head with some fodder in the mouth, the withdrawal of any other excess of fodder is prevented, thus allowing free feeding, but preventing waste.

An animal trap has been patented by Mr. John Nuding, of Kloeppel, Dakota Ter. The invention relates to spring jaw traps in which the trigger is tripped by the animal attacking the bait on the trigger plate, and it is so made that the trap may be set without the operator touching the trigger or passing his fingers between the jaws.

A finder for photographic cameras has been patented by Mr. John J. Higgins, of New York City. It has a duplex finder, with finder box having horizontal and vertical view apertures and movable mirror, with other novel features, for facilitating the taking of instantaneous pictures of objects in motion, or for finding objects in advance of or at the time of operating the shutter.

A combined envelope and tag has been patented by Messrs. Marcus L. Whitney, of Minneapolis, Minn., and Galen B. Whitney, of Port Jervis, N. Y. It is formed of a blank of paper, with its main body pieces adapted to be folded together and jointed at their edges to form an envelope, another part of the blank being adapted to form a tag, affording a convenient means of sending bills, etc., with the object to which the tag is attached.

SCIENTIFIC AMERICAN  
BUILDING EDITION.

## AUGUST NUMBER.

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## NEW BOOKS AND PUBLICATIONS.

CIVIL AND MECHANICAL ENGINEERING POPULARLY AND SOCIALLY CONSIDERED. J. W. C. Haldane, C.E. & M.E. London, 1887. E. & F. N. Spon. Pp. xv., 442.

The graphic description of the life of a mechanical engineer and of its achievements, with special reference to the building of ocean steamships or "liners," forms the substance of this book. The salient features of the work of a constructing and consulting marine engineer, professional anecdotes, stories of the errors of engineering, are included, and make a most interesting volume. Beginning with the early history of steam navigation, its different phases of development are traced, from the original types of engine—side lever, steeple, etc.—to the introduction of the present compound engine. The slowness with which the last named obtained a hold upon the shipping industry is told, and forms a striking illustration of conservatism in the face of improvement. Though a popular work, and not dealing with the scientific aspect of the case, the author has produced a work that all young engineers will find of value from the knowledge of human nature, as exemplified in the engineering world, that the author displays. Nine very beautiful plates in auto-type illustrate various typical factories, workshops, or ships, etc.

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