

New Inventions.

Improvement in Making Buckles.

Eli J. Manville, of Waterbury, Conn., has taken measures to secure a patent for making bows for buckles, to be used for suspenders and other purposes. The improvement is not in the buckles, but the machinery for constructing them, which is very ingenious, a complete idea of which could not well be given without engravings to represent the different parts. It has combined movable forming-dies, bending levers, and a fixed die provided with punches for forming apertures in the bows to receive the tongue points of the buckles. This improvement has been assigned to the New England Buckle Company.

Improved Fish Hook.

Henry Sigler, of Houston, Texas, has invented a new improvement in the sockdologer fish hook, for which he has taken measures to secure a patent. The improvement consists in making the top portions of the main hooks elastic, and so attaching them to a vertical guide piece, that they will serve as springs to force themselves together. A common hook is attached to the lower extremity of a regulating slide, some distance above the spring hooks.—The fish in passing to snap the bait, operate delicate toggle levers, which at once operate the spring hooks that strike into the body of the fish. This is an improvement on the Johnson sockdologer hook.

Self-Acting Oil Cup for Steam Engines.

An improvement in self-acting oil cups for steam engines has been made by David Clark, of Philadelphia, who has taken measures to secure a patent. The oil cup has an opening at its bottom in which a double conical stem valve works, which is operated by the steam, to allow a certain quantity of oil to be fed in at regular intervals, by the letting on and shutting off the steam. The steam forces up the valve to close the opening of the oil cup, and when it is shut off, the valve falls by its own gravity; during the time of its descent, the oil for lubrication passes down until the valve rests on its conical seat in the inside of the cup. This cup is for valve chests and steam cylinders.

Improvement in Screw Presses.

An improvement for reducing the friction in screw presses has been made by Duncan E. McMillan, of Jackson, Tenn., who has taken measures to secure a patent for the same. The nature of the improvement consists in the employment, between the end of the screw and the follower, of a series of rollers, furnished with flanges, working in such a manner betwixt the edges of a revolving ring and the tramways between which the rollers run, so as to keep the rollers in place and prevent thrust in the bearings of their journals, thereby saving much wear and consequent expense.

New Self-Acting Press.

Measures have been taken to secure a patent for a self-acting press, by S. R. Holt, of Worthington, Ohio. The nature of the invention consists in constructing the press in such a manner that the weight of the article to be pressed, and also that of a certain portion of the press, are rendered available as the motive power for facilitating operations and increasing the action of the press, whereby the pressing operation is performed gradually in a very efficient manner, and with an economy of labor.

Propelling Vessels in Water.

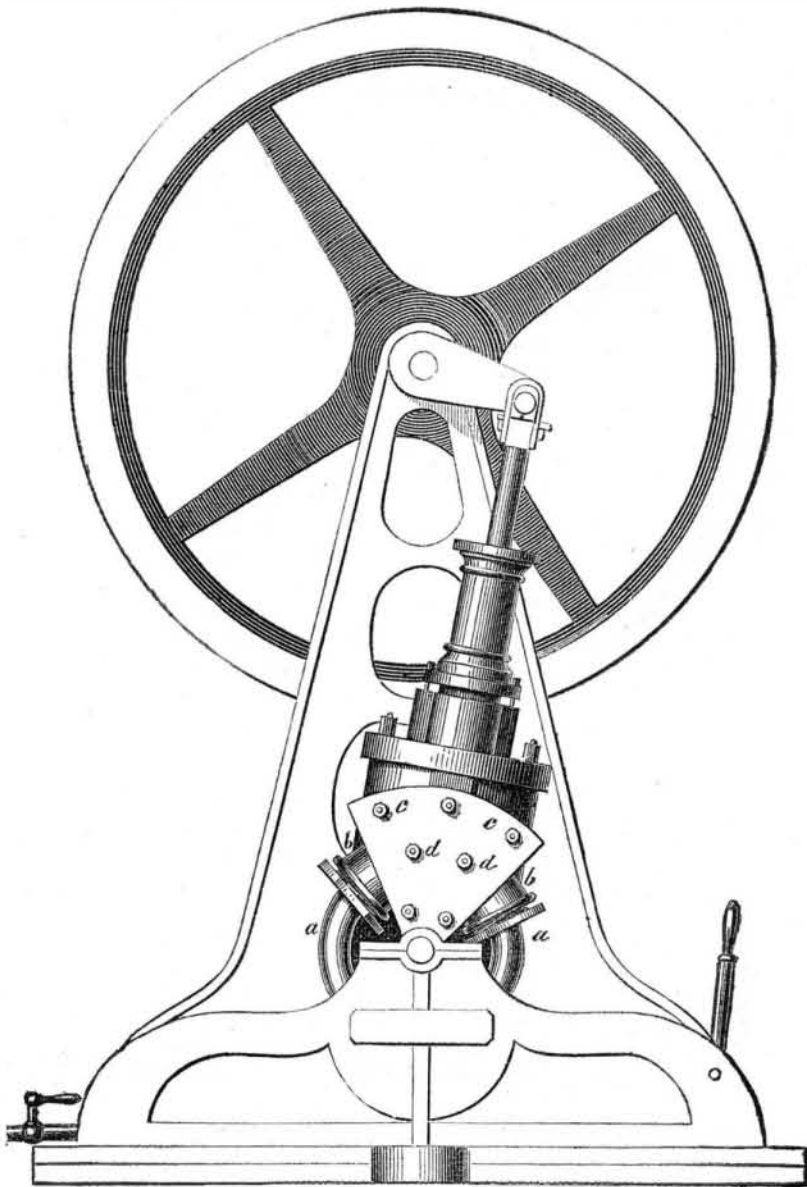
William Lindon, of Brooklyn, N. Y., has taken measures to secure a patent for improvements in vessels propelled by paddle wheels.—The plan is to form the sides of paddle wheel steamers in such a manner that the paddles will revolve in such close contact with the vessel as to prevent the escape of water from the floats at the sides.

Railroad Car Trucks.

D. A. Hopkins, of Elmira, N. Y., has taken measures to secure a patent for an improvement in car trucks. The object of the improvement is to prevent the truck being thrown off the rails when passing over any obstruction; the

truck is also kept firmly on the track in the case of an axle breaking, or the loss of one or two wheels. By the use of guides above the wheels, the truck is prevented from being canted over, when the wheel or wheels are lifted above the rail or rails by an obstruction; the truck, through the attached guides, is made to connect with the car bed, the weight of which is sufficient to prevent the truck being twisted from the track.

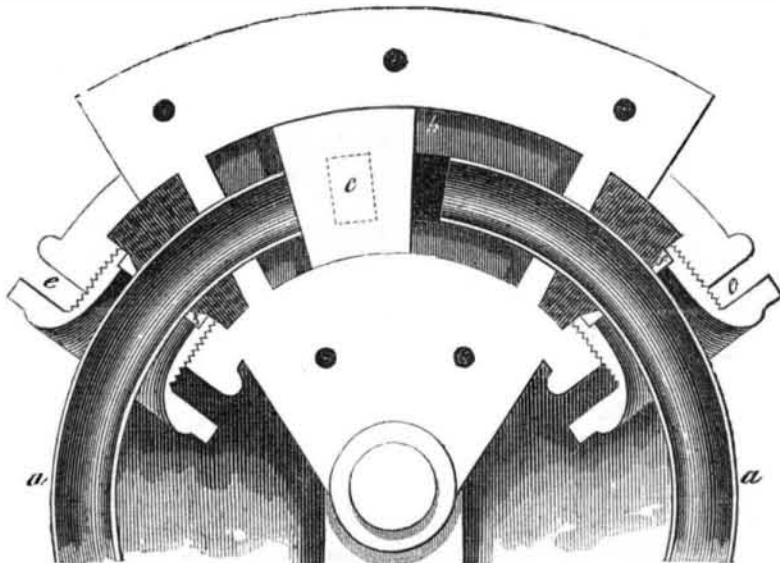
IMPROVEMENT IN OSCILLATING ENGINES.—Fig. 1.



The annexed engravings are views of an improvement in Oscillating Steam Engines, for which a patent was granted to Morris J. Gardner, of York, Pa., on the 3rd of last August. Figure 1 is a front external view of the improvement; figure 2 is an internal view of the improvement, showing the circular steam tubes by which the steam is introduced into the steam chest, and from thence into the cylinder; also a view of the dissected half of the larger tubes, (constituting at the same time packing boxes)

which pass over the steam tubes as the cylinder oscillates, and also a view of the packing, by which it is secured from leakage. *a a* are the steam tubes; the one on the right hand is the induction, that on the left the eduction tube; *c*, seen in dotted lines, figure 2, is a valve connected with the eduction tube, which, as the cylinder oscillates, alternately opens and closes the steam ports, for the admission of steam into the cylinder, and for the escape of exhausted steam through the eduction tube.—

Figure 2.



The steam chest is circular, and so are the steam tubes; these tubes are stationary on the frame of the engine; *b b* are larger circular tubes attached to the steam chest; they inclose the tubes, *a a*, and are of sufficient size to admit of the necessary packing, and also to glide over and around the steam tubes; *c c* is the external plate covering the steam chest, and is

firmly secured by screws or bolts passing through the steam chest into the body of the cylinder. In the middle of this external plate are two set screws, *d d*, for the purpose of adjusting a steel plate at the back of the valve in the steam chest to keep the valve tight on the steam ports when the motion is reversed. The hollow tubular screw seen in figure 2 is made to

screw into the packing boxes attached to the steam chest; at the inner end of each screw is a projection. There is a self-adjusting ring in the hollow projection of each screw, so that it may readily adjust itself to the packing tubes.

It is bevelled on the inside to press the packing against the tubes. The manner in which the screw is inserted in the packing boxes is seen at *e e*, and the manner in which the adjusting ring compresses the packing and presses it against the tubes, is seen at *f f*, figure 2. One of these screws is inserted at each end of the circular steam chest and packing boxes.—To reverse the motion of the engine, all that is necessary will be to have an ordinary steam chest communicating with the circular steam tubes, and with a slide valve so as to make the eduction the induction tube, and vice versa, and thus change the direction of the steam from the one to the other. The advantage claimed for this improvement is to have the oscillating bearings operate in packing and not in metal surfaces, so as to obviate friction.

The claim is for "the circular steam tubes, the circular steam chest and packing boxes operating as described."

Oscillating steam engines are far more extensively used now than they were a few years ago; their employment, we believe, is also fast extending; any improvement, therefore, in such engines is valuable to the community.

More information may be obtained by letter addressed to Mr. Gardner.

Adulteration of Oil.

Dr. Nichols, of Haverhill, Mass., in a communication to the "Boston Journal," states that being employed by a manufacturer of woolen goods to examine chemically, some specimens of lard oil purchased for manufacturing purposes, he ascertained that it was largely adulterated with *rosin* oil. One specimen contained about twenty per cent. of the *rosin*, which being one-fourth less in price, was certainly a great cheat. Rosin oils are not adapted for woolen goods, consequently the adulteration was positively injurious:—

"When lard or whale oil is adulterated with rosin oil, and used for purposes of illumination, it will result in throwing off large quantities of unconsumed carbon, which falling upon furniture and upon walls of dwellings produce serious mischief. The presence of rosin oil in any of the fatty oils may be detected by the peculiar odor, by the dense black smoke arising from a shred of wicking when ignited in a capsule of the mixture, and by its specific gravity."

He also says that he was employed to examine what is termed "Marsh's Vegetable Oil," which is used for illumination. This he found to contain none of the characteristics of oil:—

"It is a hydro-carbon liquid, composed of alcohol and turpentine—four parts of the former to one of the latter—tinged yellow with some coloring matter. It is a compound eminently explosive and dangerous in its character, like other burning fluids, differing from them only in name. A few drops evaporated in a glass flask, and the vapor mingled with 25 parts of atmospheric air, exploded with a loud report. An ordinary decanting vessel filled with its vapor and air, exploded with a fearful detonation. The specimen experimented with was procured of the manufacturer direct."

This article is extensively advertised and recommended as a safe anti-explosive oil, and thousands are burning it carelessly, thinking it to be such.

Lace Bark Tree.

In the West Indies is found a tree, the inner bark of which resembles lace or net-work. This bark is very beautiful, consisting of layers which may be pulled out into a fine white web, three or four feet wide. It is sometimes used for ladies' dresses.

The Manchester (N. H.) Print Works, which were burned down three weeks ago, took fire in the drying room, which was kept at 200° Fah. When first discovered a head of steam from the boiler, at 80 lbs. pressure, was let on, but it failed to extinguish the flame. The loss was estimated at \$150,000, and 400 hands were thrown out of employment.