NEW INVENTIONS.

Packing of Piston Heads.

F. J. Palmer, of Greenbush, Rensselaer Co., N. Y., has taken measures to secure a patent for an improved mode of regulating or adjusting the packing of piston heads, by which, when the packing gets loose within the cylinder it may be made to work steam tight without removing the head of the cylinder. The packing is adjusted and regulated by means of a cam which acts upon rods bearing upon springs, which rest against the packing, and force it out, causing it to press steam tight against the interior sides of the cylinder. By this mode of operation, the packing may be regulated or adjusted by inserting a key through an aperture in the cylinder head, said key fitting in the cam. By turning the key the cam is turned and the packing adjusted, after which the key is withdrawn, and the aperture in the cylinder head closed by a bolt. The removal of the cylinder head, for the adjusting of the packing is thereby rendered unnecessary, and the packing, is made to work steam tight in a very simple and expeditious manner.

Ox Bow Fastener.

John A. True, and Jonathan W. Morrill, the former of Newburyport, and the latter of Hampton Falls, Mass., have invented a useful improvement in a "Bow Yoke Fastener," for which they have taken measures to secure a patent. The invention relates to a new mode of securing the bows in ox yokes, and at the same time making them capable of adjustment, so as to suit all sized oxen. A spring catch is inserted into one side of the bow hole, and permanently secured in the same. In combination with the ox bow, which has several notches cut in one of its sides near one of its ends, into which notches the spring catch projects and holds the bow firmly in its place—the several notches allow the bow to be adjusted to suit all sized oxen.

Improved Oil Box for Locomotives.

Jacob D. Clute, of Schenectady, N. Y., has taken measures to secure a patent for an improvement in oil boxes for locomotives, which consists in providing the journal box with an oil chamber on each side of the journal, which are supplied with oil from the oil cups on the outside of the journal box. They have passages through them, of the entire length of the journal, to supply the oil constantly to the whole of its surface, and there is a communication with another box oil chamber on the inside end of the journal, to supply the inner end with oil, also to prevent the escape of the oil over the side from the journal box.

Improved Table.

P. W. La Roza, of the city of Brooklyn, has taken measures to secure a patent for an improvement in Extension Tables, the nature of which consists in making the table capable of extension, by attaching on each side of it, by hinges, two flexible folding pieces for an additional top to rest upon. These folding pieces being hinged to the two halves of the table, are braced and connected by a cross-piece placed in and across the centre of the length of the flexible side pieces; in this cross-piece there is an additional leg to sustain the additional top. This leg, cross-piece, and flexible side pieces are made to fold up within the table.

New Invention.

An ingenious mechanic of Nashua, N. H., has invented a new method of driving circular saws without an arbor. With a saw arranged as he has it, a four foot saw will cut a board three and one-half feet wide, while as now arranged, a four foot saw will hardly cut one and one-half feet. It is also arranged so that it will cut when the carriage is going either way, and will, at the same time, saw nearly twice as fast.

[The above we select from an exchange; we have seen it in quite a number. Who is the man; how does he do it? &c. We are not disposed to believe the statements at all.

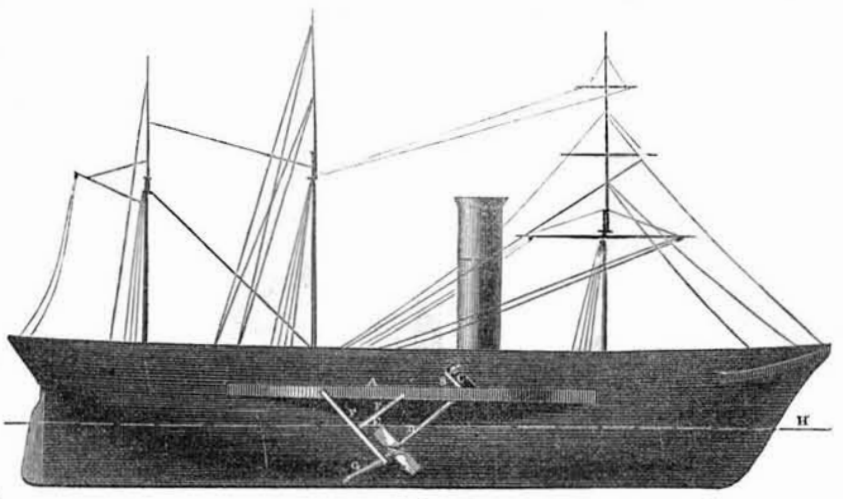
A number of persons from North Carolina have gone up the Alabama River, Georgia, and commenced the manufacture of turpentine. They expect to make 12,000 barrels next year.

WILSON'S NEW PROPELLER.

Figure 1 is a side elevation representing the new principle of propulsion, and figure 2 is a perspective view of the propeller. The inventor is James Spottswood Wilson, of San Francisco, California, who has taken measures to secure a patent. The invention is based on two principles; first, that the force of water increases in an equal ratio with an increase of depth; the second is, that weight, acting on an inclined plane, promotes locomotion.

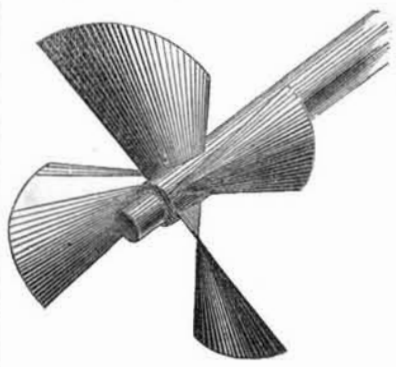
The propeller is constructed of any of the known forms that will allow of total immersion as represented in figure 1, the propeller being submerged below the water line, H. It is placed at the ships' side at an angle that may vary from perpendicular to 45° from the horizon, as represented. A is a guard secured

Figure 1.



on the side of the ship, B; C is the crank of the propeller shaft, D; E is the propeller;

Fig. 2.

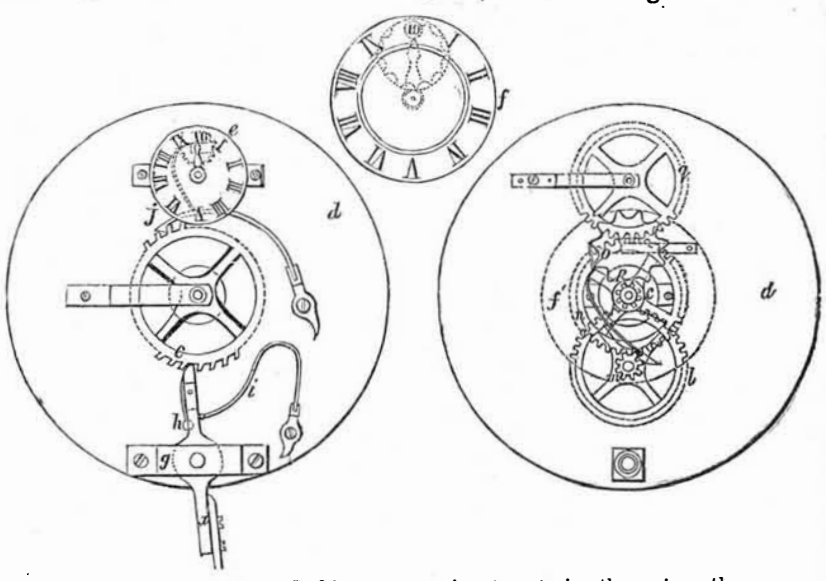


its lower journal runs in a bearing box in the brace, F; G and F' are also braces. The crank is attached to the end of a connecting rod of the piston rod, the cylinder being placed athwart the ship. The same arrangement is attached to the other side of the vessel. The propeller is moved by the direct action of the engine. This description will enable any one to understand the arrangement and operation of this propeller. The object of placing the propeller in this position is to obtain an application of force to produce the greatest speed in the most simple manner.

These wing wheels will be about 10 feet in diameter, the depth at which they will act to the best advantage is 3 feet. Mr. Wilson advances some very excellent arguments for the superiority of this method of propulsion.

GRAYSONS'S ODOMETER.

Figure 1. Figure 3. Figure 2.



This is an instrument to be attached to carriages for showing the distances over which the wheels pass. As improved, it is the invention of Wm. Grayson, of Henly-on-Thames, England, who recently took out a patent for the same, which has been published in the last number which we have received of "Newton's London Journal." As we have had many enquiries about these instruments, we know that this article will interest many of our readers.

This invention consists of an arrangement of apparatus denominated an "odometer or road-measurer," to be attached to a street cab, or other vehicle, for the purpose of denoting the length of way passed over by the running-wheels.

The apparatus is composed of a train of wheelwork, with two dials and indexes, to indicate the distance travelled. It is mounted on a metal plate and enclosed in a box which is affixed to some convenient part of the carriage, in such a manner that one dial may be seen from the outside thereof; so that, previous to entering thecarriage, the passenger may examine the dial, and have the index placed at zero. The other dial must be inspected from the inside of the carriage, and is intended for the use of the proprietor, to serve as a check upon the driver, who will be accountable for the distance travelled, as indicated or marked upon this dial, after due allowance for back carriage. The train of wheels whereby the indexes are actuated is set in motion by a pin, stud, or cam, on the nave of one of the running-wheels; this pin, stud, or cam, is, at every revolution of the wheel, brought against the lower end of the pendent lever, which it forces back; and the upper end of the lever is thereby made to act upon a ratchet-wheel, which forms part of the mechanism of the odometer.

Figures 1 and 2 exhibit the improved odometer or road-measuring apparatus which forms the subject of this invention. This instrument is applied to the upper part of the body of a street cab or other vehicle, in a suitable position above the axletree; and from it depends a lever, *x*, the lower end of which is acted upon by a pin, stud, or cam, on the nave of the running-wheel. As the wheel rotates, the pin will be brought against and caused to force back the lever, by which means, a tooth at the upper end of the lever will drive round the ratchet-wheel, *c*, one tooth; as will be understood on examining fig. 1, which represents a back view of the instrument. In this view is shown the wheelwork at the back of the plate, *d*, on which all the counting mechanism is mounted. The dial *e*, represented in this figure, is inspected from the inside of the carriage, and, being enclosed within a box, cannot be tampered with by the driver. Figure 2 represents a front view of the plate, *d*,—the passenger's dial, *f*, being removed, and its position only indicated by the dotted circle, *f*, in order that the parts beneath may be more clearly seen. Figure 3 exhibits the passenger's dial, *f*, detached. The lever, *x*, turns on a pin or centre mounted in the bridge-piece, *g*, on the back of the plate, *d*, as shown in figure 1.—Its upper end bears against a stop, *h*, and is kept in its proper position by a spring, *i*.—The ratchet-wheel is prevented by the spring-click, *j*, from moving more than one tooth at a time. On the axle of the ratchet-wheel, at the opposite side of the plate, *d*, is a pinion, *k*, with 10 teeth, which gears into a cog-wheel, *l*, with 100 teeth. On the axle of this wheel, *l*, is another pinion, *m*, of 10 teeth, which gears into a wheel, *n*, of 100 teeth; and on the shaft of this wheel, *n*, is mounted a hollow shaft, that carries the index of the passenger-dial, *f*, which, as will be seen by referring to figure 3, indicates quarters of miles, half miles, and miles, to the number of ten. For the purpose of indicating a larger number of miles, the patentee has adapted to the back of the dial, *f*, a magic or jumping index, consisting of a small dial with tens printed thereon, which is connected to a jump-wheel, *o*, (fig. 2,) behind the dial, *f*, shown by dots in fig. 3. On the hollow shaft which carries the index, is mounted a pin or stud, *p*, which, at every rotation of the wheel, *n*, acts on the wheel, *o*, and jumps it one tooth,—thereby indicating that ten miles have been travelled. The index being connected to a hollow shaft (which is mounted on the shaft of the wheel, *n*, and is carried round thereby by friction of contact) may be moved round by the finger, when required to bring it back to zero, without deranging the other mechanism; and, before a passenger enters a vehicle, he should see that the driver sets the index at zero; so that, at the end of his journey, he may, by a simple inspection of the dial, at once ascertain the distance he has travelled.

In order that the proprietor may be protected from fraud, his index, which is inside the carriage, will continue to count and indicate the total distance travelled during the several journeys throughout the day. The proprietor's index, as well as the passenger's index, is worked by means of the toothed wheel, *n*; but an intermediate wheel, *q*, of an equal number of teeth, communicates motion from the wheel, *n*, to the index, which indicates, on the dial, *e*, the total distance travelled. This dial, *e*, is also provided with a magic or jumping index, to indicate the tens; but, as the jumping index is precisely similar in construction and operation to that connected with the passenger's index, and already described, it will not be necessary to enter further into detail in reference thereto. The proprietor's dial and index are kept under lock and key.

The apparatus and train of wheelwork, above shown and described, are intended for a vehicle of which the running-wheels measure 12 feet in circumference; and, for this purpose, the ratchet-wheel is made with 44 teeth, which is obtained by dividing 528 (the number of feet in the 10th part of a mile) by 12, the circumference of the running wheel, which must, in passing over a tenth of a mile, revolve 44 times. It will therefore be evident that, if a running-wheel of any other dimensions is employed, the number of teeth in the ratchet-wheel must be varied; for instance, supposing the running-wheel measures only 11 feet, then, by dividing 528 by 11, we have 40, which gives the number of teeth for the ratchet-wheel,—all the other parts remaining the same.