

## New Inventions.

## Proposed New Description of Railway.

Mr. E. E. Merrill, C. E., of Camberwell, in a letter to the London Railway Times, suggests the construction of a railway between London and Liverpool, on a novel and gigantic scale, which puts all our present practical details of railway travelling entirely in the shade and even the broad guage is but a pigmy to his proposition. His plan is to construct a single line of railway from London to Liverpool with a twenty feet guage, without turnings, slidings, or crossings, except at the two termini, and passing place in the centre, and no curve to be of less than four miles radius. The rails are to be of suitable thickness, laid on transverse and longitudinal sleepers, on which only one carriage is to travel at one time; this carriage is to be 200 feet long, 25 feet wide, and 15 feet high, on ten wheels, two in the centre and four at each end; the lower part, between the wheels to be constructed similar to the hold of a ship, and appropriated to luggage, of which a liberal quantity is to be allowed each passenger. The upper part of the carriage to contain a lobby, at about the middle, from which a door leads into a grand saloon, fitted up with all possible elegance, similar to the state room of a ship, with a staircase leading to the roof, which is to be grand promenade, with a light, but strong, railing round it, five feet high, resembling the deck of a large steamship; on the other side of the lobby is to be a refreshment room, where refreshments of all kinds are to be supplied at moderate rates, with a small office parted off, where a ticket clerk takes money instead of at the stations. Next is a ladies' room, fitted up with similar elegance to the saloon, and beyond this another large apartment, with benches and tables for the lower class fares. This mammoth vehicle is to be propelled by a locomotive of corresponding power, capable of carrying fuel and water for the whole journey, which is to be performed in four hours. Four carriages to travel each way per day, starting from both termini at the same time, passing each other at the turnout in the middle, and the fares to be one penny and two pence per mile for the first and second class passengers respectively. One or two guards will be stationed on the roof, to see all safe, manage signals, &c.; and the propounder thinks that the enormous saving in engines and carriages, and clerks, and porters at stations, which are to be merely platforms for passengers to step on or from, will induce capitalists to find the money for forming such a passenger line, the existing lines being retained for merely luggage trains.

## Chromatype.

Chromatype is a new process of photography. It consists in washing good letter paper with the following solution:—Bichromate of potash, ten grains; sulphate of copper, twenty grains; distilled water one ounce. Papers prepared with this are of a pale yellow color, and may be kept for any length of time without injury, and are always ready for use. For copying botanical specimens or engravings nothing can be more beautiful. After the paper has been exposed to the influence of sunshine, with the object to be copied superposed, it is washed over in the dark with a solution of nitrate of silver of moderate strength; as soon as this is done a very vivid positive picture makes its appearance, which then only requires washing in pure water.

## Oil Stone.

Besides the mineral deposits found on the shores of Lake Superior, there has been discovered a quarry of valuable stone on Carp river, said by many mechanics who have tested it to be quite equal, if not superior, to the famous Turkey oil stone. It is said to work well with either oil or water.

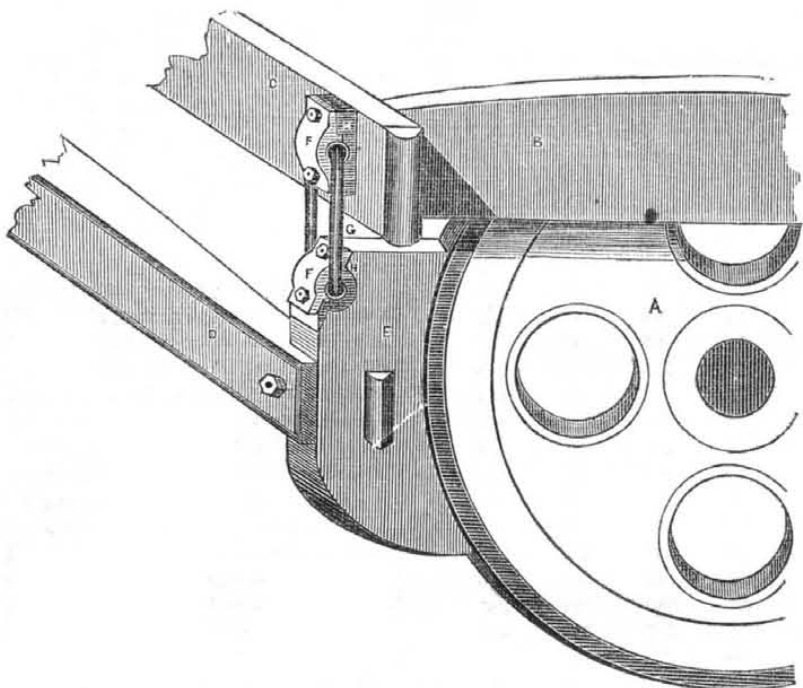
## Tight Pantaloon and Tobacco.

The number on the sick list at West Point, last year, caused some investigation to be made, and the surgeon represents the causes to be the inordinate quantity of tobacco used by them, and the practice of wearing pantaloon so tight around the waist as to interfere with digestion.

## IMPROVEMENT ON HANGING BRAKES FOR RAILROAD CARS AND OTHER MACHINERY.

This improvement is the invention of Messrs. John Kimball and Harvey Rice, of Concord, N. H., and patented by them a short time since. This figure represents its application to a "brake" on a railroad car, and it is not an invention of which we have to speak as one *apparently good*,—it is a tried one. It has been tested on 10 passenger cars, for the last year, on the railroad between Concord and Boston, a distance of 75 miles. The inventors occupy the respectable positions of overseers of the car and engines of the Concord railroad. It is also now used on nearly all the roads that connect the Concord line, and with satisfaction. A is the car wheel;

B C D is the framing. The invention consists in placing a tube coating or lining of india rubber, or such like elastic substance around a link, G, passing through a box or casing, F H, which is attached to the brake, E. The rubber is enclosed in the said box, to hold it in a permanent position, except so far as its elasticity is affected by the pressure or motion of the link or pin, G, whenever the brake or other part of machinery to which this box and link is attached, is used, thereby causing the rubber to act and re-act within itself without any rubbing or friction of the link in which it is enclosed, thus avoiding wear of the parts, rattling of machinery, &c., and avoiding



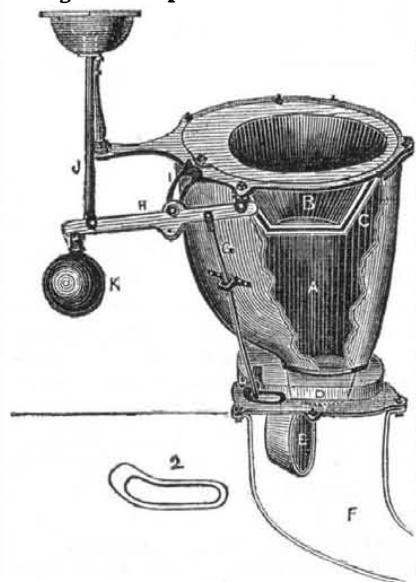
shocks. The brake, it will be observed, is also made with another box similar to the one described, both lettered alike, which encloses the other end of the link, G, thereby enabling the brake to be applied so as to adapt itself to the wheel at all times, with the same force, through the whole arc of the brake, and not more at the top than at the bottom.

The claims of this patent are, first, for enclosing the link or pin in a coating of india rubber or other elastic substance, and securing the said rubber in a box or casing, to confine it permanently in such a way as to allow the

action of the brake, or other machinery, to prevent friction and noise. Second, the application of this box, so constructed to both ends of the link, forming a double joint to the brake, to cause the brake to be applied at all times evenly to the wheel, whether the truck frame be more or less depressed. The claims are not limited, therefore, to brakes, but that is only what the box with the india rubber has as yet been applied to.

More information may be obtained of the inventors by letters addressed to them, post-paid.

## Ingram's Improved Water Closet.



This is a first rate invention, and is patented by the inventor, Mr. James Ingram, plumber, No. 327 Bowery, N. Y. It has a double pan, and while the top one is opened or tipped over from its seat, the lower one, by the same action, closes the opening into the sink pipe. The engraving is a view partly in section and perspective to show the whole arrangement. A is the conical chamber, divided by a conical pan, C, and a dipping metal flange B. E is the lower pan, which acts as a valve to be drawn around the conical throat, D, to stop up the passage, F, of the drain pipe, while the

pan, C, is tipped over and the water let in to clean it, so as to prevent any effluvia from ever getting up from the drain pipe. This is a most excellent and important provision in such apparatus. The way this is done, is by having the pans, C and E, connected to the lever, H, the lower pan by a rod, G, and the upper pan with a travelling slotted arm, I, in which a pin of the lever works. K is a balance weight on the end of the lever, and J is a rod on the top of which is a cap or handle to draw the said rod up, when the slot arm is drawn upwards by the lever, and tips over the pan, C; the axis of the arm, I, is the hinge of the pan. At the same time that this is done the rod, G, has a double joint on it at the bottom, and works in an eccentric slot in the flange L, represented by fig. 2, which so guides the rod, G, as to make the pan, E, fly around the throat, D, suddenly, when the pan, C, is overturned. The chamber can then be washed out, while the passage to the drain is closed, thus preventing all unpleasant effluvia, so common to water closets. When all is thoroughly washed, the weighted lever brings the pan, C, into its place snugly, and the other pan is then thrown open as represented. For private dwellings, this is undoubtedly an unequalled apparatus. Its merits are self apparent, and we cannot but commend it in the highest terms. The China basin sits into the dipping flange B, and no seam is left for an unpleasant odor to escape into the closet.

More information may be obtained by letter, (p. p.) addressed to Mr. Ingram, at the above place.

## New Serving Mallet for Riggers.

Mr. Thomas Batty, at No. 205 South street, this city, has invented one of the best improvements on serving mallets for riggers, that could possibly be desired, and for which he has taken measures to secure a patent. The new mallet is made of cast iron, or it may be made of wood, (but it will be best to be made of iron,) and is cast in two parts to be bolted together, and so made that a number of small rollers with grooves on their peripheries are employed, in place of the grooves on the old mallet. The effect of this is, that an enormous amount of friction is obviated, therefore the mallet will last one hundred times longer than the old kind, and the work can be done with a great deal more ease to the riggers; for instead of having the yarn slide over the grooves, as in the old mallet, the rollers assist the yarn to pass over the rope, without the use of grease and with perfect freedom from that great amount of friction which generally wears out the old kind of mallet, in about two weeks.

## New Kind of Black Ink.

Boil logwood until the liquor is pretty strong, and to one quart of it put in one quarter of an ounce of bichromate of potash, and set it apart, shaking it frequently, for about three weeks. At first the appearance of the ink will be a little greenish, but after it is exposed to the sun and air for some time, it gets beautiful, is very fast, and does not injure steel pens.

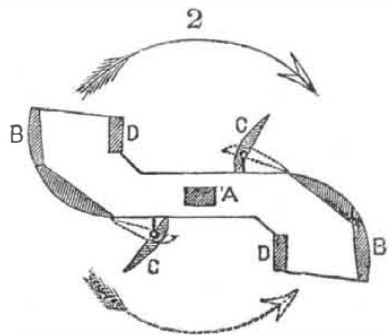
## Self-Adjusting Churn.

This valuable improvement in rotary churns is the invention of Robert W. & Daniel Davis, of Rogerville, Steuben Co., N. Y., and is secured by letters patent dated April 2nd, 1850.

This churn is constructed on a self-adjusting rotary principle, and is strictly philosophical in its operation.

This figure is an end view of the dasher; A is one of the heads of the dasher, to which the floats are affixed; B B are the stationary floats; C C are moveable floats attached by wire hinges, as represented in the engraving; D D are slats which serve to strengthen the dasher, and also serve to separate and agitate the cream.

This improvement is designed to effect the purposes of churning in the most effectual manner and afterwards gathering the butter and working it to expel the buttermilk. These objects are attained in this churn by forming the revolving dasher, so that when turning in the direction of the arrow, the cream is agitated by meeting with the slats of the dasher, which are set at such angles as to force the cream toward the centre: it is then met by moveable floats, which, when revolving in this direction, stand open and cause the cream to move outwards, which various and contrary motions so agitate it, that the butter is soon produced. In order to gather and work the butter, the dasher is turned in the direction of



the dotted arrows, and the moveable floats closing, the outside of the slats of the dasher form a uniform curve eccentric to the axis and moving with the convex side foremost. By a few revolutions, the butter is thrown from the centre to the side of the churn box, and there gathered into a roll. The milk may then be drawn off, and by continuing the motion of the dasher the butter is pressed against the bottom and side of the churn, and worked entirely free from milk. The dasher may be easily taken from the churn, in order to remove the butter; and then replacing it, a quantity of water may be poured in, and a few revolutions will complete the washing of the churn. Further information in regard to rights, &c., may be obtained by addressing (p. p.) the patentees at the above named place.