

## NEW INVENTIONS.

## Hat Bodies.

Francis Thomas, of the city of New York, has invented a new improvement on machines for making hat bodies, the nature of which consists in placing a cap, made of wool or cotton, over the "former," which is constructed of wires, forming a conical frame. The fur to make the hat body is thrown upon the cap on the "former," by a picker having a reciprocating motion, and the vacuum is created in the "former" in the usual way by a rotary fan. The fur thrown from the picker on the cap spoken of, adheres to it, and when sufficient fur has been distributed, the cap is taken off the "former," and the body of fur is hardened by compression merely, without the aid of water, as is done in the usual mode of making such fabrics. Measures have been taken to secure a patent.

## Improved Carriage Wheels.

George Poe, of Ellicott Mills, Md., has taken measures to secure a patent for an improvement in making carriage wheels, which improvement consists in jointing and bracing the fellys by means of a metal cap of the same depth of a felly, and having ears running out each way for the fellys to rest on. Each cap has a circular opening through its centre, for the reception of the tennon of the spoke, and as the fellys are fitted into recesses in the caps, a very strong wheel is thus produced.

## Improved Grain Separator.

Peter Conrad, of St. Louis, Mo., has taken measures to secure a patent for an improvement in grain separators, which improvement consists in the use of an air chamber in direct communication with the fan, and expanding spouts with adjustable valves in combination with gates or slides, by which the grain is cleared in a superior manner.

## Improvement in Looms.

E. W. Nichols, of Worcester, Mass., has invented a new improvement in looms, which improvement consists in a self-acting contrivance for regulating the friction which is given to the warp beam for the purpose of producing tension on the warp, whereby the said tension is made to act uniformly at all times, whatever quantity of yarn there may be on the beam. Measures have been taken to secure a patent.

## Rings for Spinning Frames.

Geo. White, of North Scituate, R.I., has taken measures to secure a patent for a new and useful tool for making rings for spinning frames. The nature of the invention consists in placing in a stock a series of cutters in such a manner that, by properly operating or moving the stock, the cutters will act upon the metal ring, and cut and finish it in the required form. The stock is provided with a water passage, which runs longitudinally through it, and conveys water to the ring, keeping it moist, cool, and well lubricated.

## Improved Wagon Brake.

Perry Dickson, of Blooming Valley, Pa., has taken measures to secure a patent for a very simple and excellent brake for wagons and carriages. It simply consists in so connecting double cranks to the inner end of the pole or shaft of a carriage or wagon, and connecting the cranks to a friction brake for the face of each wheel, in such a manner that the least backing up of the draught animals brings the brakes up against the face of the wheels, and so presses them that they cease to revolve, and merely slide. It is a useful improvement for hilly countries, and cannot fail to commend itself to all whom it may concern.

## For Daguerreotypes.

J. F. Mascher, of Philadelphia, has taken measures to secure a patent for a new improvement, whereby a case containing a double daguerreotype picture is made into a stereoscope, and yet the outside case remain exactly as it has usually been constructed. Mr. Mascher unites a supplementary flap or leaf to fold in the inside of the case, and in this he places two lenses, whereby the pictures in the frame are made to appear to the person who looks through the lenses, one solid picture by binocular vision.

## Life Buoy for Steamboat Accidents.

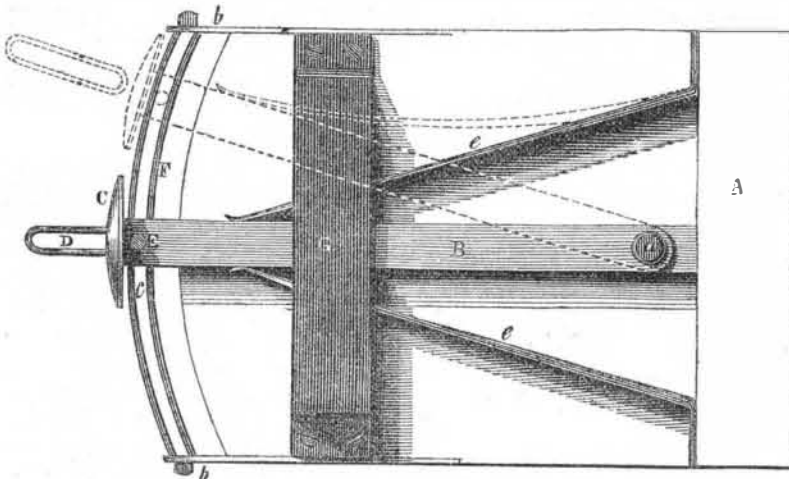
Our attention has been directed to a good Life Buoy, constructed by G. W. Gerau, of the firm of Flanders & Gerau, sail makers No. 88 South street, this city. It is simply a trunk of cork covered with painted canvas, and can be made very cheap. A number of such articles can be hung by loops around rooms, or alongside of a vessel, to be used in cases of emergency. One, three feet long and

nine inches in diameter, will support four persons in the water; one sufficient to do this can be seen in our office; there is no patent on the apparatus.

## Long's New Bridge.

M. M. White, of this city, is erecting the Nashua and Nashville, N. H., iron truss bridge, to which we referred in No. 42. The plan is that patented by Col. Long in 1839. The clear span is 140 feet.

## TURNER'S RAILROAD COUPLING.—Fig. 1.



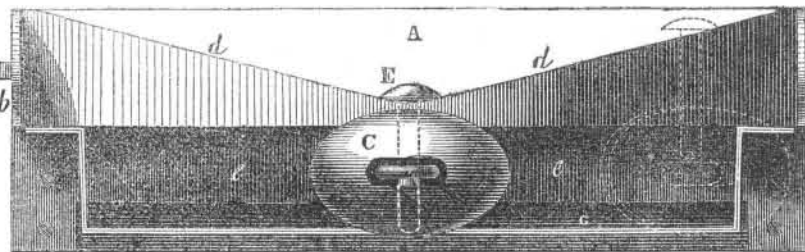
The accompanying engravings are views of a coupling for railroad cars, invented by James Turner, of East Nassau, Rennselaer Co., N. Y., and for which a patent was granted on the 20th of last July (1852.) Figure 1 is an inverted plan of one end of a car having the improvement attached, and figure 2 is a front view. The same letters refer to like parts.

These improvements are chiefly intended to cause the locomotive or any car of a train that may, by accidental means, get off the track, immediately to detach itself from the rest of the train, by which means it will be preserved from any material injury itself, and likewise be prevented from drawing others off the track, or injuring them. The said improvements also accomplish another object, viz., that of allowing a close connection to be made between the cars, and the buffer springs to be dispensed with. They consist simply in connecting the inner end of the traction bars, to which the buffers are attached, to the car in such a manner as to allow the buffer to move sideways, and in attaching to the ends of a car a transverse bar whose upper side inclines upwards from the middle towards the

sides of the car; upon this bar the head of the coupling pin rests—the form of coupling employed being the common link and pin coupling. When the engine or a car gets off the track, it drags the buffer of the next car sideways, and the coupling pins being also moved sideways are raised by their heads passing up the inclines on the transverse bar, until they are drawn from the links, and the detached engine or car is uncoupled.

A represents part of the platform or floor frame of a car; there are two traction bars, B, which, instead of being rigidly attached to the car as is commonly the case, are jointed by a pin, a, and have springs, e e, which are secured to the car, bearing on each side to keep the buffer in line with the middle of the car; C is the buffer; D is the coupling link, and E, one of the coupling pins which passes through the traction bars at the back of the buffer and through the link in the common way; G is a guide for the traction bars; F is the transverse incline bar, which is secured to the car close behind the buffer, and close above the upper traction bar; its form is that of an arc described from a; its ends are fitted in slotted cheeks, b b, attached to the sides of

Figure 2.



the car, or may be otherwise secured; there is a vertical slot, c, extending nearly from end to end of it, and through this slot the coupling pin passes, its head resting on the bar on the two sides of the slot; the inclined form of the upper side of the bar is shown best in figure 2, by referring to which it will be seen that its depth is very slight in the middle, but that it increases in depth towards the ends, this increase in its depth is all on the upper side, which give it two inclines, d d.

It has long been a desideratum to make a close connection or bring the buffers close together, and at the same time to dispense with the bumping spring, but this is impossible where the buffer and traction bars are stationary, as in turning curves the cramping of the buffers could not be prevented. By jointing the bars and applying the side springs, e e, the close connection can be made and the bumping spring dispensed with, as the bars and buffer will yield sideways, and the springs always return them in line with the centre of the car.

The incline bar, F, may be employed either with or without the bumping spring, and in

combination with any movement of the buffer and traction bars sideways, and may be straight or curved horizontally to suit the movement of the pin.

More information may be obtained by letter addressed to the inventor.

## Hind the Astronomer.

We have seen it recorded in a number of our exchanges, that Mr. Hind discovered another planet on the 22nd of last month. It may be interesting to many of our readers to know who this Mr. Hind is, and something about what he has done. He is the discoverer of three comets, six ultra zodiacal planets, and fifteen variable stars. He is the author of many papers on astronomy, and has computed the orbits of 70 planets and comets in ten years. He is but a young man yet—only 29 years of age. He was born in Nottingham, England, in 1823, where his father was a lace manufacturer. He received his education at private schools, and never was in a university. As it respects astronomy, he is entirely self-taught, but he has been an astronomer since he was six years of age, for even that early, it was his delight to go out and

gaze upon the stars in a clear night. At the age of 21 he was appointed, on the recommendation of Mr. Airy the Astronomer Royal, Observer at the private observatory of G. Bishop, London, but at the age of 17 years he was employed as an assistant in the Greenwich Observatory. Considering his age and his opportunities, he is perhaps the greatest astronomer in the world.

## Competitors for the Prizes.

We do not require that competitors for the Prizes offered by us for the largest number of subscribers, should confine themselves to one particular locality. Some have written to us under the apprehension that the list must be made up from one post-office. The paper will, in all cases, be mailed wherever a subscriber can be procured.

## Connecticut Freestone Quarries.

The great mass of freestone which is employed for building purposes in this city, comes from Connecticut. The quarries are situated on the East bank of the Connecticut river opposite Middletown, and no less than 1500 persons are continually employed on them. This rock lies in beds or strata, which are not horizontal, but incline or dip a few degrees towards the South and East. It is composed chiefly of siliceous sand, the grains of which are firmly cemented together, but it also often contains pebbles of considerable size. The strata are found divided at irregular distances by fissures or joints, which extend downwards to unknown depths, and horizontally as far as the surface earth has been removed. At the top they are usually a little open,—at least those running in the general direction of north and south—but downward, they become very light. Though seldom exactly vertical, they never incline very much from this position. These joints, as may readily be conceived, aid the workmen much in removing the stone from its ancient bed.

"Recently," says a correspondent of the New York Journal of Commerce, "as the workmen have penetrated the lower strata in the deepest quarry, a singular occurrence has occasionally been observed, indicating that some of the strata are not entirely at rest in their present position! This consists in a slight movement of the strata, in certain cases, their native bed! In order, it is possible, to convey a clear idea of the facts observed, we will suppose the principal joints to run north and south, and to be crossed by others nearly at right angles, both sides being nearly vertical. To remove the stone from its bed advantageously, the workmen often sink a channel or groove a foot wide and twenty-five to fifty feet in length, quite through one of the strata, which may be from two to six feet in thickness. When this is done, advantage is usually taken of one of the seams or joints, by the side of which, and parallel with it, the channel is cut, and the broken stone thus dug up removed.

Now, when this is done by the side of an east and west joint, when the channel has been nearly through the stream, a movement of the stratum commences, and the vertical walls of the channel that has been cut approach each other with an enormous force, crushing between them the stone still remaining at the bottom. The approximation of the walls has sometimes been, as estimated, as much as four inches—in some instances the movement has taken place suddenly, with a single tremendous crush; but at other times it has been slower, the stone at the bottom of the channel gradually yielding as the workmen have plied their picks.

It is remarkable that the phenomenon is observed only when the channel is cut in an east and west direction, indicating that the pressure is in a direction at right angles to this, or north or south. After such an occurrence, all the joints parallel to the channel, for a distance of many feet, are found to be slightly opened."

The Albany papers give accounts of the ruins of a city which contained about 15,000 inhabitants, and which have been discovered in the forest by a surveying party in Essex Co., this State, a few miles from Ticonderoga. It is stated that the ruins of more than 200 chimneys are still in a good state of preservation. We simply believe the story to be a new invention, but not a useful one.