

## NEW INVENTIONS.

## Ventilating of Railroad Cars.

Harvey Law, of New York City, has taken measures to secure a patent for a novel and important improvement in the ventilation of railroad cars. The object of the improvement is to supply the cars with cool pure air, free from dust, by blowers worked by belts receiving motion from the revolution of the axes of the cars, or from the engine. It is well known that if it were attempted to drive a current of air through a train of cars, it would be very disagreeable, owing to the cloud of dust and sand with which the atmosphere around a train of cars is charged. This evil is entirely obviated by Mr. Law; he brings the air in contact with revolving moist surfaces, in troughs below the cars, and they take up all the sand and dust out of the air, and the air is afterwards driven through the cars cool and pure. The doors and windows can thus be kept perfect close, so that no sparks will enter to annoy, and there will be no danger of accidents by putting heads and arms out of the windows. The principle is different from all others we have seen, and we hope some of our enterprising railroad companies will soon give the invention a complete and fair test. At the present time those who wish for comfort and clean clothes keep clear of railroad travelling, except in cases of necessity. There can be no disguising the fact, that some important reform is wanted to keep dust, smoke, and sparks out of our railroad cars. We hope that every railroad company will give this subject attention, and so provide proper remedies for these evils. Our river steamboats are the finest in the world, and possess the most accommodations; on the other hand, our railroads are far behind those of the first class in Europe. We must push along and keep improving.

## Improvement in Smelting Furnaces.

Christopher G. Best, of the city of Albany, N. Y., has taken measures to secure a patent for an improvement in smelting furnaces, which is of no small importance. The furnace is a reverberatory one, and the fuel and metal are separated in two different chambers but quite near to one another. The flame and heat is brought down vertically through the metal and spread equally over and all through it. The ashes of the coal is not allowed to mix with the metal. It can act both as a draught and a blast furnace. It can be charged at intervals the same as the cupola furnace, and it works with great convenience and economy.

## Eyes of Millstones.

D. P. Gerberick, of South Bend, County of St. Josephs, Ind., has taken measures to secure a patent for an improvement in the eyes of millstones, the object of which improvement is to prevent the clogging of the stones when grinding moist grain, middlings, &c., which are liable to do so. The improvement consists in forming the upper portion of the eye of an inverted conical shape, and the lower portion of the eye of a conical shape also, the base of the lower cone being at the face of the stone, and the smaller ends of the two cones meeting at a point above the centre of the stone. The lower end of the damsel is also of a conical shape, the base of the damsel cone being of sufficient area to cover the fork which strides the bail of the stone.

## New Process of Making Butter.

Mr. James Stubbs, of Cuttyhunk Island, informs us of a new process of making butter from the cream, which promises to supersede the labor of the churn, at least during the warm season. At his dairy recently, a quantity of cream which had obstinately refused to become butter under any reasonable or even unreasonable amount of agitation in the usual mode, was at length emptied into a clean "salt-bag" of coarse linen, and deposited in the ground at a depth of twelve inches below the surface, to cool. On the following morning it was found that the buttermilk had entirely disappeared, and the butter remained in the bag perfectly nice and sweet. He has since frequently manufactured butter by this method, with invariable success, in from six to twelve hours. As an effectual preventive of

any earthy taste becoming imparted to the butter, Mr. Stubbs suggests that the bag containing the cream be placed in another bag, or cloth, of the same material. The value of the discovery may be easily tested.—[New Bedford Mercury.]

[This is certainly a new way of making butter, but it does not strike us as being at all a commendable plan. A little ice perhaps would have done all the burying process did.

## A good Railroad Improvement.

The Michigan Central Railroad, we learn, by properly sodding their track, have got rid of all the annoyances which formerly arose from wind and dust. Within one month a road may in this way be rendered dust-proof and at little more expense than is required during the same time to tinker up sprinklers. We hope this improvement will be adopted by all the railroads in other States.

## The Compound Rail.

J. F. Winslow, of Troy, N. Y., the inventor of the compound rail returned in the steamer Atlantic from England, he having gone there to make arrangements about the manufacture of his compound rail. We have been informed that he was perfectly successful in his foreign negotiations for the making of the compound rail, in England, for several railroads in the United States. He had arrived but one day when the mill at South Troy was burned down. The whole of the Nail Works belonging to Corning & Winslow, we see it stated, were destroyed. This will throw quite a number of workmen out of employment for some time, and will be a great loss to the proprietors also; but the gentlemen who own the works will soon have them rolling away again. They are wealthy, enterprising, and energetic.

## An Improved Railroad.

Mr. Carpenter, of Rome, N. Y., has made an improvement in the ordinary iron railroad, calculated greatly to diminish the liability, if not utterly preclude the possibility of a train running off the track, under any circumstances. The improvement consists of a middle rail of iron or wood, running the whole length of the track, precisely in its centre, and raised a foot or so above the side or bearing rails. Friction rollers are attached to the engine and cars beneath, to play upon the sides of the middle or guiding rail, whereby the motion of each car is steadied, and any tendency to fly the track at once arrested.—This seems to us a very good thing, especially since it will prevent any break down or smash up in case of a wheel or axle giving out.—[Tribune.]

## Rider's Cotton Batting for Mattresses, &amp;c.

On page 294, this volume, Scientific American, there is to be found a claim for improvements in cotton batting, the patent for which was granted on the 18th of last May. The improvement consists in making cotton batting into a kind of felt. We stated in a note annexed to the claim that it was an important invention for upholsterers, and that it would yet be an article of principal use for all kinds of upholstering purposes. Since that time, although it is not long since, it has become a material of extended application. We have used it ourselves in some articles which heretofore were all made of curled hair, and we find it equally as good for our purpose and certainly it is a great deal cheaper. We believe the improvement to be a most excellent one, and that it will be the means of conferring many benefits, especially upon the great mass of our people, who are neither poor nor rich.

The inventor and patentee is E. P. Rider, No. 194 Columbia street, Brooklyn, N. Y., and we wish to direct attention to the subject because we believe the improvement is one of no ordinary merit, and because we believe that we do good by spreading as far and wide as we can, a knowledge of any article that will conduce, especially, to greater domestic comforts when connected with economy in price.

The temperature of human blood is 104° Fahr., it is independent of the place where man lives; it is constant, and external objects act upon it by addition or subtraction of caloric, according to the more or less heat of these bodies; this is the cause of the sensation of heat or cold, and it is from this peculiarity that man is enabled to live in all climates.

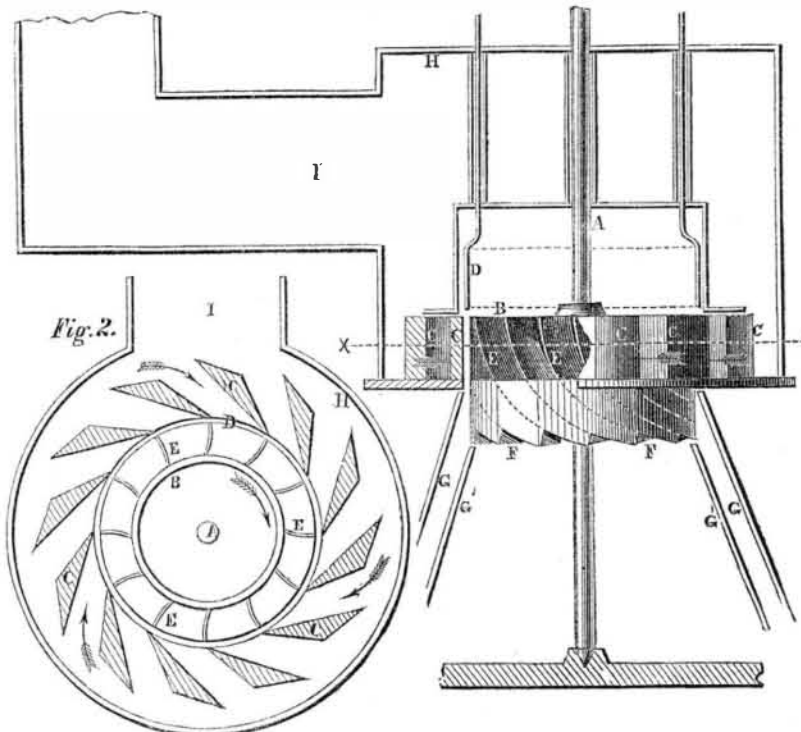
They say that fish may be carried alive any distance by putting on them a good coating of compact clay, wet with salt water, and surrounding it with ice. In this way you may see swimming in the fish-mongers tubs at Paris fish brought from the coast of Denmark.

## The Koh-i-noor.

The Fifehire Journal says that Sir David Brewster has demonstrated that the immense diamond which figured in the exhibition is not the genuine Koh-i-noor, but a very fine diamond nevertheless, and is the one Shah Sojah gave up to the British as the real mountain of light.

Of all the senses granted by nature to man, the most precious and most rare is common sense.

JONVAL TURBINE WATER WHEEL.—Fig. 1.



The accompanying engravings are views of the turbine water wheel with improvements as made by Henry Vandewater, Albany, N. Y. Figure 1 is a vertical sectional elevation, showing the buckets, flume, &c. Figure 2 is a plan view of figure 1 taken at X X, showing the guide shutes, bucket, and wheel. The same letters refer to like parts. A is the vertical shaft of the wheel, B; C C C are the guide shutes to admit and direct the water on the buckets, E E. The buckets have a peculiar form, and are set on the plate of the wheel so as to afford good action in the discharge. The outlets, F F, of the buckets are contracted from the inside to allow the reaction to be exerted nearest the extremity of the buckets; G' is a hollow cone made of cast metal, and G is another surrounding it, the water discharging from the wheel between them. The inner cone is permanently secured to the base plate, while the outer cone can be moved up and down to affect the amount of water discharged by the wheel; H is the outside casing; I is the water flume; D is a gate which encircles the wheel, and is

raised up and down, to increase the pressure of the water on the wheel, or vice versa. It shuts off all the water from the buckets by being pushed down to cover and surround them, or it leaves a part or a whole of all the buckets open to the inlet water. The inlet water and the wheel move in the same direction, as indicated by arrows in figure 2.

This wheel has received some very high testimonials for efficacy and good working qualities; Mr. Vandewater warrants it to do all he says it will, and will guarantee every one he puts up. He has been engaged in putting up wheels for a number of years, but has no agent now for his old wheels, he only puts up his improved Jonval Turbine here represented. There can be no mistake but this is a good wheel, it is warranted to give from 70 to 78 per cent. the value of the water-power used. These wheels are cast to order in Townsend's Foundry, Albany, N. Y., where excellent work is always produced.

More information may be obtained by letter addressed to Henry Vandewater, 545 Broadway, Albany, N. Y.

## Important Railroad Invention.

A very important invention, says the Germantown (Pa.) Telegraph, has been made by Messrs. Jacob S. Provest, and Conrad P. Smith, two intelligent mechanics, or this borough, (who have taken measures to secure a patent,) in boxes for railroad axles, which is likely to make a complete change in this part of the running-gear of cars to the great diminution of accidents, and hence the loss of life and property.

We cannot convey a better idea of this invention than to make an extract from the specification, which states that in the arrangement of the car axles, as now practiced, no provision is made in the boxes for the play of the axle, so as to allow it to stand at right-angles with the line of the car when turning or running on curved lines; the consequence is, that the outer wheels, having the greater distance to run, must slip on the rail backward, or the inner rail slip forward, to compensate for such unequal travelling distance.

The breaking of axles, in a very large majority of cases, occurs while turning curves and can only be accounted for by the torsion or twisting of the axles in turning said curves. To obviate these difficulties and dangers, is the object of this invention, and to do so it is arranged as follows:—

The steps in which the spindles of the car

axles run are made in two pieces, so that when any strain may come upon them in the line of the running of the car, they may be forced apart sufficiently to allow the axle to come up into proper position, to prevent the otherwise twisting of it by being cramped between the rails. The two-part step may have a tongue both upon the top and bottom, which may work in corresponding grooves in the top and bottom of the box, or it may slide in a rebate; in either the box may be so provided with flanges as to form a receptacle for the oil. Behind each of these parts of the step, springs are arranged, which admit of the step being opened when turning curves, and closing it when coming on straight lines, thus allowing the axle to adjust itself as the nature of the case may require. The spring behind the step also allows it to yield slightly when the wheels strike against any obstruction on the road, thus taking the sudden jar or strain upon the springs instead of the spindles of the axle, as in cases where the boxes are right, and which often bend or break the spindle.

Having examined a model and seen it experimented with, we cannot resist the conclusion that the invention of our ingenious townsmen will prove to be of very high importance to the public, in making travelling by railroad far more secure than formerly—a consummation which is devoutly to be wished.