

## NEW INVENTIONS.

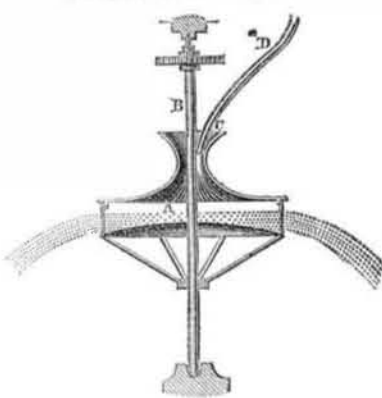
## Improvement in Woolen Rovings, &amp;c.

It is well known that woolen rovings in their untwisted state, cannot, at present, be used for weaving, knitting, &c., but have previously to go through what may be called a spinning process, by which the fibres of the wool are twisted together. John H. Bloodgood, of Rahway, Essex Co., N. J., has taken measures to secure a patent, by which the rovings can be used for weaving without the necessity of performing the above operation, simply by felting them as they come from the carding machine. This is done by steaming the rovings, and at the same time applying a pressure which, by its peculiar action, felts them together into a thread fit for any purpose for which twisted threads are now employed. The advantages are the cheapness of the process, as all the expenses of spinning are saved, and the fabrication of a material that may be advantageously employed as a weft when cotton warping is used. Cloth made of this felted roving thread, it is stated, is more easily knapped by the *teasles*, and also takes a finer finish in the dressing. It should be understood that no new improvements in machinery are claimed.

## Meat Cutter.

Measures for securing a patent for improvements in the above-named machine have been taken by Anson E. Brooks, of New York City. The nature of the improvement consists in the employment of a series of adjustable beaters, arranged to act as a screw, and that can be set at different angles to allow the meat to be fed in fast or slow to the cutters, according as different degrees of fineness are required. To effect this purpose they are fixed on a longitudinal shaft, which operates in combination with another shaft set horizontally, and which holds the cutters in such a manner that, in addition to forcing the meat towards the latter, they also cause them to have a drawing cut. Another advantage is, that the meat is also forced more effectually towards the opening at the discharge end of the machine. This last office is performed by a scraper fastened at the screw end of the shaft on which the beaters are placed, and by which the meat is gathered up and discharged through the above-mentioned opening.

## New Method of Making Shot.



The annexed engraving is a vertical section of an apparatus for manufacturing shot by means of centrifugal action, which is the invention of M. Louis Bonnet, of this city, who has taken measures to secure a patent. It is intended as a substitute for shot towers and other apparatus now employed for this purpose. It consists in substance of the following parts:—

A is a circular trough made of iron, it is secured on a vertical shaft, B, which is driven by wheel and pinion, or belt and pulley. The upper part of the trough is of a funnel-shape, C, and there is a pipe, D, inserted in this funnel for conveying the molten lead into the trough. The sides of the trough are perforated with a number of small holes of different sizes. The metal being poured into the trough, C, and the shaft, B, made to revolve at the rate of 350 revolutions per minute, the molten lead will fly from the centre to the circumference and through the holes against a circular partition of cloth surrounding the apparatus, at a suitable distance, which depends altogether on the fluidity of the metal and rapidity of the motion. The experiments which have been made with this apparatus

have been very satisfactory to the inventor. More information may be obtained by letter addressed to the inventor at the office of the *Courrier des Etats Unis*, 73 Franklin street, this city.

## Railroad Car Brake.

Measures for securing a patent for an improved Railroad Car Brake have been taken by L. B. Batcheller, of Arlington, Bennington Co., Vt. This improved brake is intended to be operated either in the ordinary manner by a brakeman, or to be set in action by the buffer rods when the car strikes against another car or other obstacle. The great merit of this invention consists in its quick action,

whereas, in the common brake, much time is consumed in taking up the slack chain, and much of the power exerted is lost in overcoming the friction incident to the arrangement. The contrivance consists of two vibratory bars beneath the platform of the car, one at each extremity. These bars are allowed to move to and fro by means of a slot at each end, through which there passes the screw for holding them to the cross-pieces of the car. Vertical standards, with a hand wheel at the top, are attached to the vibratory rods. The two standards (one at each rod) are connected by a chain, so that when the brakeman turns either standard, the two vibratory rods are made to approach, and, by a

suitable arrangement of levers and cross-bars, the shoes or segments are brought to bear against the wheels. When the brakeman relaxes his hold the rods are forced back by springs.

This new brake can likewise be acted upon by the buffers in the following manner: Attached to either vibratory rod is a lever, which is connected to the opposite vibratory rod by a chain, so that when either is moved by the buffer rods, a corresponding opposite motion is given to the other rod. Other levers enable the buffer rods to act upon the vibratory rods in the required manner. By a neat arrangement the buffers can be made to operate quickly or slowly upon the brakes, as desired.

## WHITE'S PATENT EQUALIZING OR SELF-ADJUSTING TRUCK.

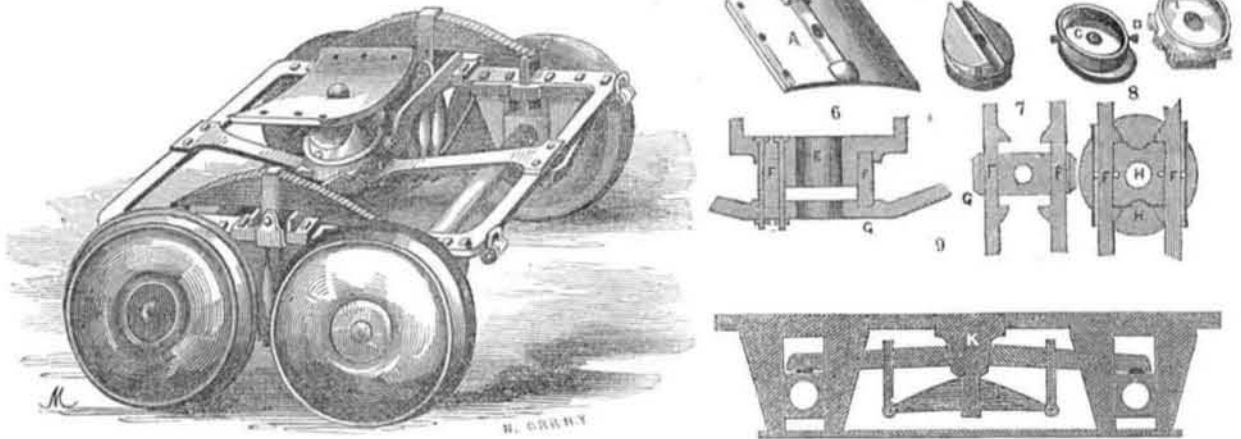
FIG. 1.

FIG. 2.

FIG. 3.

FIG. 4.

FIG. 5.



The annexed engravings are views of a most important improvement in Railroad Trucks for Locomotives, Tenders, and Cars. The inventor is John L. White, master machinist at Corning, N. Y., of the Tioga Railroad. A patent was granted for the improvement on the 6th of last January, (1852.)

Figure 1 is a perspective view of the Truck; the other figures, 2, 3, 4, 5, 6, 7, 8, are perspective and sectional views of several parts of the improvement, and figure 9 is a longitudinal section of a low truck with the improvement attached. The same letters refer to like parts.

In order to render the subject clear, we will state, first, that the truck frame is united to a peculiar knuckle-joint at the centre, by strong bars of iron placed at right angles to one another (the peculiar joint being in the centre) and attached by metal straps to the springs. The boiler or car is then secured to a saddle plate on the top of the knuckle joint at the centre of the truck, so that the whole weight is thrown first upon this joint, and then distributed from it, as a centre, over the transverse supporting bars, to the springs at the sides, and from them, by stirrups, over the wheels, thus equalizing the weight on all the wheels. We would state, secondly, that the peculiar knuckle joint spoken of allows the Truck to have a rolling motion on the same, so that one wheel may be lower than the rest, or it may move over an elevation on an uneven track, and yet the boiler of the locomotive, or the body of the car, will scarcely be affected by the unequal position of the wheels. We will now explain the minor figures of the engravings: A (fig. 2) is the saddle or top plate of the central knuckle joint; its under side is shown in order to exhibit its convex form, and to show a semi-cylindrical projection, which has a knob at each end; this projection is a rail or rider, which is fitted into a recess, shown in the top of the circular metal block, B, (fig. 3); the knobs keep the saddle rider from moving endwise in its recess. The boiler, or car body, is bolted to the top of the saddle, A, by bolts passing down from the smoke-box. The block, B, is placed with its recess longitudinally in the direction of the length of the boiler. As the knuckle joint is placed in the centre of the truck, the weight of the boiler rests upon the centre. C, fig. 4, is a top view of an eccentric metal cup, in which the block, B, sits, and is secured by screws, D. Fig. 5 is a collar box; it can be made in one or more pieces. It has a recess, I, on its top, in which the cup eccentric, C, snugly sits, and in which it is fitted. This collar box is bolted to the

cross brace bars of the truck-frame, as shown in section, fig. 6. F F and G are the cross or radiating metal brace bars, as shown in fig. 7. The under side of the collar box, with the brace, G, removed, is exhibited in figure 8. There is a central opening through all these parts for the reception of a vertical axis or loose bolt. If we suppose the cup eccentric, C, to be placed in the collar box, I (a section of this box is exhibited in fig. 6), then the metal block, B, fitted and secured into the cup, C (the recess placed lengthwise of the boiler), and then the saddle, A, placed on the block, B, with its projection or semi-cylindrical rider in the recess of the block, we have all the parts of the central knuckle-joint in position. A bolt is then inserted down through the central opening, E, and secured at the bottom by a nut, H; this bolt is a vertical axis, and is loose in the orifice. The boiler is then bolted to the top of the saddle plate, and as its weight comes exactly on the centre, the knuckle joint formed by the rider on the under side of the saddle, and the recess in the block, B, has a sufficient bearing for the boiler, yet allows it, and the truck also, to have a slight side rolling motion, which keeps the boiler, or body of a car, in line, while the wheels may be moving over a very uneven or winding track. The weight of the engine, or the car, is also very equally distributed over the wheels, whatever position they may be in. As the boiler, or car, is placed on the centre of the truck; the springs are connected with the side radiating cross-bars, and the end of each spring rests on a stirrup, which is connected with the block of the axle box of each wheel; the weight, therefore, is taken off by the springs, as levers, and thrown equally over the wheels; each wheel, by this arrangement, has also individual freedom for separate flexible action on an uneven track. The section, figure 9, shows a lever resting on the two axle boxes of the wheels on one side, which lever is secured by straps to both ends of the spring, and a pedestal, K, rests on the centre of the spring. This shows the application of distributing the weight from the springs to the axle boxes by the said lever, and is useful to be applied to low trucks. Neither boiler nor car body is shown attached, and the figures are on a very small scale, but we believe a careful reader will understand the improvement that we have endeavored to render as clear as possible. The radiating brace bars, to which the knuckle joint central parts are united, and which support the same, curve downwards at the centre, to bring the knuckle joint as low as possible. As the weight rests upon the

centre, the frame of the truck, with the exception of the centre supporting brace bars, can be made much lighter than those in common use.

The cup eccentric, C, performs an important office; by loosening the screws it can be turned so as to bring the knuckle joint formed by the block, B, and saddle, A, into proper line, to make the engine track square on the rails and for setting the engine, and is a device which will save the flanges of the wheels from wearing off. The locomotive rests entirely upon the centre of the truck frame, which forms a centre bearing on the knuckle joint, and at the same time the truck frame is kept parallel with the boiler (or a car body) by the rolling flexible knuckle joint described. As this joint equalizes the weights on all the wheels, it is a most valuable truck for keeping on the track, and at the same time there is less danger of any part breaking, than there is on the rigid trucks now in use. To us it appears to be a good improvement, one that will conduce greatly to the safety of railroad travelling, and to the economy of the "rolling stock." A silver medal was awarded to the inventor by the American Institute at the last Fair.

These improvements, by imparting such a flexible character to the Truck, and equalizing the weight on the wheels, enable a locomotive or car, which may be placed on this Truck, to move over an uneven road with greater safety and economy. Our very best roads are more or less uneven, especially in the Spring, when the frost is leaving the ground, it is therefore applicable and necessary for all our railroads. The improvement was first suggested by the rough track of the Corning and Blossburg Railroad, from which the engines were continually running off; the patentee having charge of the machinery, had his inventive faculties impressed into the service of inventing a remedy. This "Knuckle joint Truck" is the antidote to the evil; it has been employed with signal success for two years on the said railroad, and is now about to be introduced on the New York and Erie and several other roads.

More information may be obtained by letter addressed to the patentee as above.

A small vessel of about 100 tons, called the *Comte le Horn*, about to be launched at Nantes, is built of zinc, as an experiment of the adaptation of that metal to shipbuilding.

The total amount contributed to the National Monument Society, during the month of October, and received at their office, is \$2,189.