NEW INVENTIONS.

Improved Boot Crimp.

William Faus, of Buckhorn, Pa., has taken measures to secure a patent for improvements in the above. These improvements consist in the employment of two sets of clamps, one set of a double wedge or conical shape, for stretching the corners of the leather, when the boot is fixed for crimping, and the other for stretching the entire surface. The operation of crimping is performed by a removable lever, which is likewise an improvement, as by the ordinary plan this lever is stationary, so that the boot, after being partly crimped or shaped, must be taken off and finished by hand. In this improved apparatus the crimping lever is attached to the table by a pin, so that it can be removed after the crimping has been done, and another substituted in its place. The clamps are made to work in slots cut through the above-named lever, by means of set screws, which operate exclusively on their corresponding set of clamps. All, therefore, that is required to be done for crimping the boot is to attach the leather to the clamps and press the lever between a pair of wooden jaws four or five times, moving the screws and clamps outwards as the lever is operated.

Improved Car Wheel.

In the process of casting railway wheels, they are liable to break from the contraction of the metal in cooling, to obviate this evil an improvement has been made by John Eaton, of Brownsville, N. Y., who has taken measures to secure a patent. For this purpose the space between the centre or hub of the wheel and its periphery is formed in a series of spiral curves, which transversely take a zig-zag shape, so that the wheels are prevented from breaking as they contract in cooling, in consequence of the curves giving way or yielding both longitudinally and transversely. To prevent any excess of metal at the periphery, so that the thickness may be nearly uniform throughout, provision is made for a hollow truck or recess, extending all around the wheel and connected to the ends of the spiral curves, which forms, likewise, part of the casting.

Improved Bread Cutter.

A machine of the above description has been lately invented by William R. Goulding, of New York City, who has taken measures to secure a patent. It consists simply of a knife that may be adjusted to suit any thickness of bread that may be required to be cut, and of a guide bar connected to it by means of screws. These screws, which are for the purpose of adjusting the knife to the required width for cutting the slice of bread, are fastened to the ends, and pass through the ears or projections of the guide bar, which are tapped to receive them. In order to obtain the requisite width, the screws are turned in a corresponding direction (to right or left), and the thickness of the slice of bread is varied accordingly.

Improved Carriage Hub.

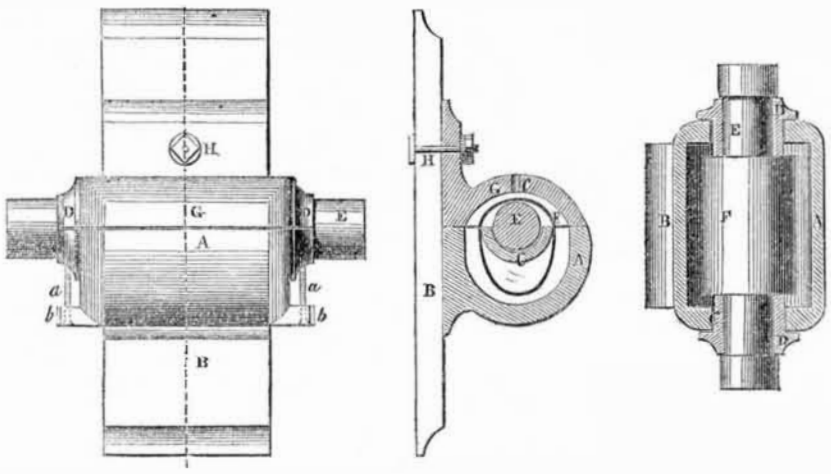
In order to secure the axle more effectually than has hitherto been done, on the wheel, a new improvement has been invented by John Olles, of Philadelphia, who has taken measures to secure a patent. For this purpose two tubes, one inside the other, are let into the eye of the hub, and the end of the axle is made of a suitable shape to play freely within the inner one, but is prevented from working out by means of a collar and screw box, which are fitted on to the outer tube. The objects effected by this arrangement are, first, that of shifting the bearing of the axle to all parts of the inner circumference of the intermediate casing, which is accordingly made movable, and in the second place that of securing the wheel firmly on the axle as well as preventing the oil from flowing any where except to that part of the axle inside the hub.

Improved Wrench.

Measures to secure a patent for the above have been taken by George B. Read, of New York City. All mechanics have had too much practical experience of the difficulty of keeping adjustable wrenches properly fixed, so that they may not slip around the nut instead of firmly grasping it. The inventor has hit upon a happy device to attain this desideratum by the following plan. One jaw which is attached to the wrench stock by a pivot has a recess through it, in which slides the shank of the other jaw, which is therefore adjustable, and its shank is provided with a rack into which catches a pawl attached to the stock and held in position by a spring. By this construction, as the handle of the wrench is turned, the two jaws are forced against the sides of the nut, more especially grasping the outer corners of it, the failure to do which is the cause of the slipping so common in other wrenches.

IMPROVEMENTS IN JOURNAL BOXES.

Figure 1. Figure 2. Figure 3.



The annexed engravings are views of an improvement in Journal Boxes, invented by George Pierce, of Norwich, Conn., who has taken measures to secure a patent for the same.

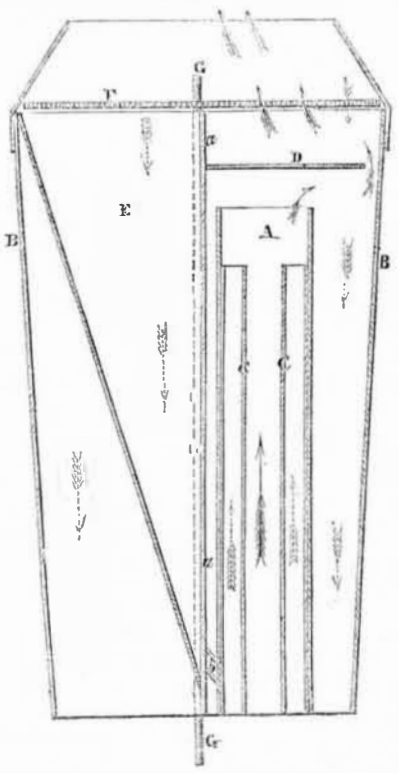
Figure 1 is an outside view of the journal box; figure 2 is a transverse vertical section of fig. 1, taken through the middle, as shown by the dotted lines. Fig. 3 is a plan view, with the cap removed, and the shaft placed upright. The same letters refer to like parts.

A is an oil reservoir of the form of a half cylinder. It is attached to or cast along with the stock, B. C is the journal box placed within the reservoir. The journal box is of the shape of a half cylinder, and is provided with flanges, D—one on each end—which fit over the sides of the oil reservoir, and prevent the escape of oil, as shown particularly in fig. 3. The journal box is secured permanently in the reservoir by means of the screws, *a a*, which pass through openings in the lugs, *b b*, on the outer sides of the reservoir and into the under parts of the flanges, D. E is the journal fitted in the box, C, and F is a conductor of cotton or other suitable material, which passes around the journal and box and into the fountain, A: the two ends being united, if desired, by making it a continuous belt, as shown in fig. 2. G is a cap which fits on the upper part of the reservoir, A, and over the journal, E. This cap is secured to the stock, B, by a bolt, H. This cap has an aperture, *c*, through which the reservoir is supplied with oil. The conductor wick, F, conveys the oil over the journal. In consequence of box C being placed in the oil reservoir, the oil has a tendency to keep the box in a cool state, and even if the box becomes heated, it will make the oil flow more freely over the journal. The top of the journal box is on a level with the top of the oil reservoir, so that the oil, when the reservoir is full, is as high as the top of the said journal box; the said box, therefore, has its outer surface wholly in contact with oil, thus affording complete lubrication for the journal or bearing of the shaft.

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

Kimball's Spark Arrester.

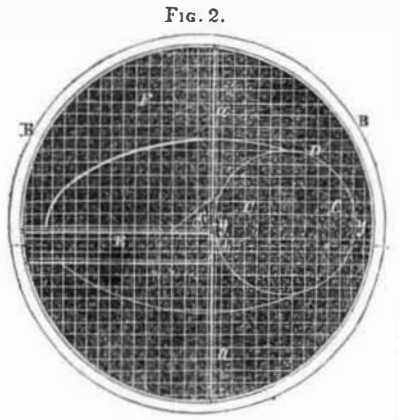
Fig. 1.



The annexed engravings are views of an improvement in Spark Arresters, for locomotives, invented by V. P. and B. Kimball, of Watertown, N. Y., for which a patent was granted on the 5th of last October (1852). The nature of the invention consists in the employment of a revolving fine screen, in combination with a chamber for creating a downward draught, said chamber being connected at its lower end with the smoke-pipe at a point below the upper ends of the exhaust tubes. The screen allows the smoke to pass through it, but prevents the cinders, the most of which fall below upon touching it; those cinders, however, which stick, as is usually the case, in the meshes of the screen, are cleared from the same, while the screen in its revolution is passing over the chamber mentioned, which has the downward draught. The downward draught is to clear the screen, and this allows such fine wire gauze to be used as will, it is believed, prevent all sparks passing up through it.

Figure 1 is a vertical section, and fig. 2 is a horizontal section,—fig. 1 being taken through the dotted lines, fig. 2. The same letters refer to like parts.

Fig. 2.



A represents the upper part of the smoke pipe; it passes into the main funnel, B. C C are exhaust tubes, which pass upwards in the smoke-pipe, and terminate a short distance below its top. D is a shield placed over the smoke pipe a short distance above it; this shield is attached to a vertical partition, *a*, in the centre of the funnel. E is a chamber, the top of which extends from the partition, *a*, to the side of the funnel, B. This chamber narrows gradually to the tube, *b*, which tube communicates with the smoke-pipe, A, below the tops of the exhaust tubes, C C. F is a circular-shaped screen made of wire-cloth and placed in the upper part, on a vertical shaft, G, which passes through the centre of the funnel, B. The horizontal view shows the screen. Rotary motion is communicated to shaft, G, by gearing from the engine, which consequently rotates the screen, F, and as the smoke and cinders pass up the pipe, A, as shown by the arrows, and through the screen, F; the cinders, however, strike against the screen and fall down to the bottom of B, and the shield, D, prevents them from returning into the smoke-pipe. Some cinders generally adhere to the screen, and, in time, it becomes clogged and obstructs the draught; to obviate this difficulty, the chamber, E, is employed, and as the lower end of it connects with the smoke-pipe, A, at a point below the exhaust tubes, C C, (these tubes convey the exhaust steam into the funnel and are the grand sources of rapid steam generation), a downward draught is created in said chamber, E, and by this means all the cinders which adhere to screen F when it is revolved over said chamber, are drawn downwards by the suction of the air from above, by the blast of the exhaust pipes.—The object and operation of this improvement is so simple that every person will comprehend it and see into its utility.

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

Cotton Scraper and Cultivator.

A combination of these two agricultural implements has been lately invented by J. W. Thomson, of Jackson, Tenn., who has taken measures to secure a patent. The cultivator, in this instance, is attached behind to the standard of the scraper by means of a staple or any other suitable fastening, the beam and handles being dispensed with as unnecessary. The advantage obtained by this combination of two distinct implements is the resulting economy of labor, as the two operations of scraping and plowing the ground are performed together, the teeth of the cultivator taking into the ground and cutting it loose as fast as the scraper clears it off.

A Magnificent Water Power.

It appears by the following paragraph from the Lockport Courier, that an attempt is about to be made to put to practical use the immense water power of Niagara Falls:—

"We are informed that an Eastern company has been organized for the purpose of constructing a canal at Niagara Falls. The canal is to commence about half a mile above the falls, and pass directly through the village at the falls, and empty, of course, into the river below the cataract. The Porters have made liberal donations to the enterprise, and there is no doubt in the opinion of our informant, but that the process will be successfully carried out."

[There can be no doubt but the water power of Niagara is sufficient to drive all the machinery in the world, and some years ago we spoke of its application for factory purposes on a large scale, by cutting a canal from above the falls, as has been done at the Cohoes, on the Mohawk. There are a number of mills at Niagara now, and for the manufacture of wooden ware, for grist mills, and any other kind of manufacturing business to supply the interior of our north and west States, or for working up raw materials from the north or west it may be successful, but to make cotton goods when the raw material has to come from such a distance, and the goods to be again transported to a market at a great distance, it would not be a profitable speculation in our opinion. Steam power near New York City is cheaper than water power at Niagara for many kinds of manufacturing purposes, and cotton is one of them. The reason we give for this assertion is, that the transport of the raw cotton up to the interior and of the goods back again to our market, where all the cotton goods are sold, more than counterbalances the expense of steam as compared with water power. It is our opinion that cotton factories erected near New York City, and using steam power, would make better dividends than those erected over one hundred miles in the interior which employ water power.

The value of land in the centre of the city of London, is £400,000 per acre.