

NEW INVENTIONS.

Improved Omnibus Lamp.

Measures to secure a patent for an improved Omnibus Lamp have been taken by F. O. Deschamps, of Philadelphia, Pa. The improvement consists in placing the lamp within a case, the lower part of which is formed of glass, and the upper part of a metal cap furnished with a lens. The case is inserted in the top or roof of the omnibus, having the lower or glass portion within, and the upper or metal part outside. The lamp will, therefore, serve the purposes both of lighting the interior and likewise the driver when taking

the fare of the passengers, this latter purpose being effected by means of the lens which reflects a light upon any required focus. This focus, of course, would be the money-box, for the driver by the present arrangement is subjected to much inconvenience from a deficiency and often total want of light, when taking money or giving change.

Beef-Steak Machine.

Every one, undoubtedly, has experienced the inconvenience of dining on a tough beef-steak,—a machine for the purpose of rendering this viand as tender, after going through the process, as it was before the operation the reverse, has been invented by John Lyon, of

Enfield, N. H., who has taken measures to secure a patent. The machine consists of two corrugated rollers, one of which is adjustable, arranged in sliding bearings and placed horizontally one above the other, between which the steak is passed. The upper roller is connected to springs by means of vertical adjusting screw rods, so that it will suit itself to steaks of varying thickness. The apparatus is enclosed in an iron frame, and the rollers are set in motion by cog-gearing, which is operated by a crank.

New Printing Press.

We learn by the "Pittsfield (Illinois) Free Press," that John G. Nicholay, who recently

obtained a patent for an improvement in Rotary Printing Presses, has been employed for several years in the office of said paper, the editor of which, J. M. Parkes, Esq., speaks of it in the most flattering terms. He believes it will not cost more than one half the price of the common "power-press," while it will work much faster and do better work.

The town of Rutland, Vt., is said to have turned out a million dollars' worth of marble the past year.

An attempt to light the town of Basle, in Switzerland, with gas from carbonized wood has entirely failed.

SAFETY CAR FOR INCLINED PLANES.

Figure 1.

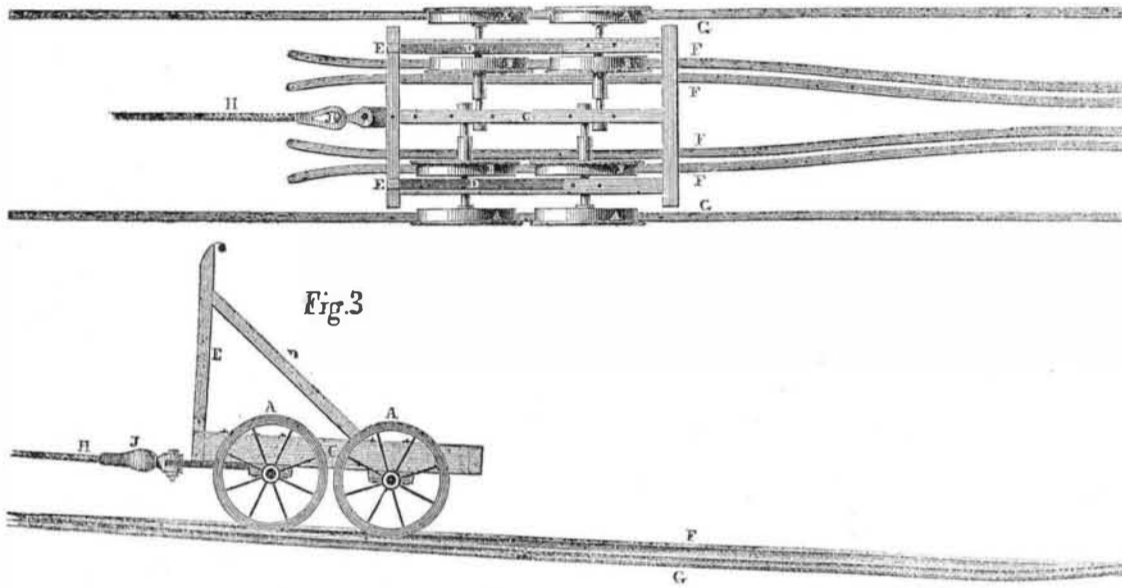


Figure 2.

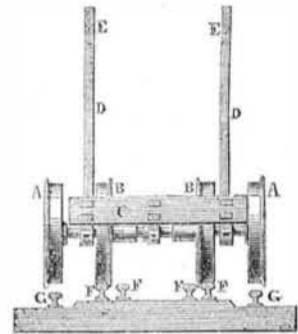
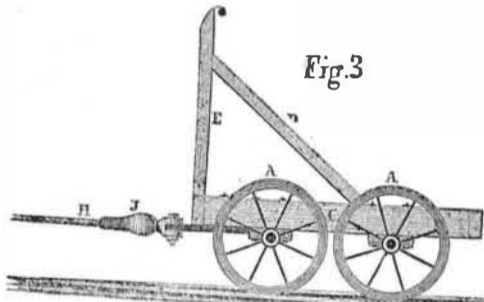


Fig. 3



The annexed engraving illustrates a new Safety Car, (so called,) invented and patented on the 12th of last October, 1852, by Samuel McElfatrick, of Fort Wayne, Ind.

The object of the invention is to facilitate and cheapen the passage of cars upon inclined planes, and is especially applicable to the coal fields of our country where this mode of transportation is necessarily much in use.— Figure 1 represents a plan of car and tracks. Figure 2 represents an end elevation of the same. Figure 3 represents a side elevation of the same. The same letters refer to like parts. The ordinary plan of passing coal wagons over inclined planes is by coupling them together and attaching the upper car to

the plane rope. This method is the fruitful cause of loss to life and property owing both to the breakage of the eye bolts by which the cars are coupled (the strain on each bolt being in proportion to the number of cars depending upon it) and also to imperfect connections, it being scarcely possible but that where so many cars are to be connected and disconnected, there should be occasionally a pin omitted or not properly placed. The rope is also liable to damage when unhooked and thrown upon the track at both ends of the plane, and the labor of connecting and disconnecting cars is a very serious item of expense upon a large business. This invention remedies all the difficulties, and is so simple

and cheap in its arrangement that it must commend itself to those engaged in the coal business, and wherever inclined planes are used.

The Safety Car consists of a strong oak frame, C, permanently attached to the rope, H, by the swivel, J, and carrying two posts or horns, E E, against which the train abuts. The frame, C, rests on four short sliding axles, to each of which are fastened two wheels, to each marked A A A A, to run on the main track, G, and B B B B, to run on the converging track, F, at the foot of the plane. The operation of this car will be very readily understood; the train to descend abuts against the horns, E E, and passes down the plane, when near these foot the wheels B B B B, of

the safety car, take the track, F F, which, by gradually rising (as compared with the main track) lifts the wheels, A A A A, which are drawn over and within the main track by the convergence of the rails, F F. When the safety car is brought into this position the track, F F, by descending rapidly carries it into a pit and allows the train to pass over it. The train to go up is placed at the foot of the plane, and the safety car in rising out of the pit shifts its track and carries the train up before it.

Any information in regard to the above invention, may be obtained of the inventor at Fort Wayne, Ind., or of G. W. Campbell, 232 Pearl street, this city, N. Y.

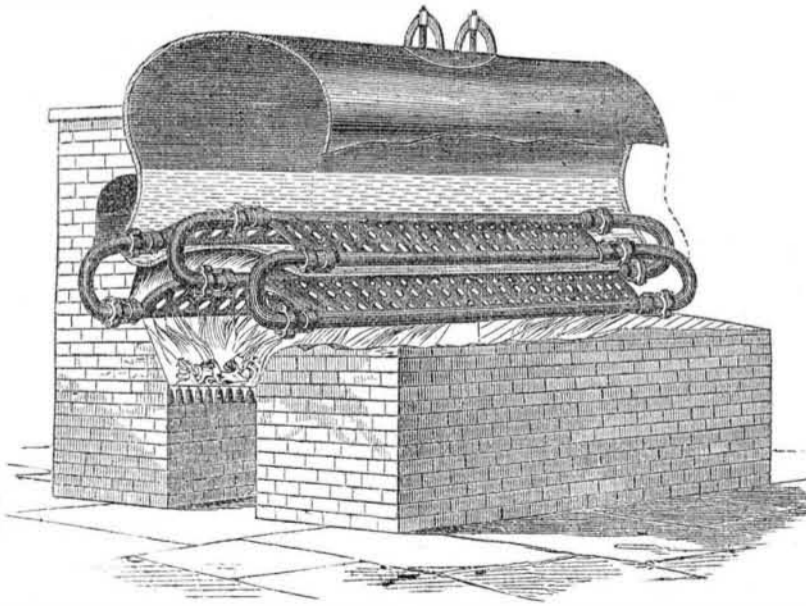
New Steam Boiler.

The annexed engraving is a perspective view with one side in section, of a steam boiler patented by a Mr. Wright, in England and illustrated in the "London Expositor and Mining Journal," who say that "in experiments conducted with care before several engineers and scientific men, it has shown an evaporative power of upwards of 12 lbs. of water for one of coal." This is about 4½ lbs. of water more than is evaporated by a pound of coal by our best marine boilers. The improvement consists in applying to the boilers of engines, or other vessels for evaporating or heating fluids, a cellular apparatus, such as may be easily understood by the engraving.

"They are constructed of malleable cast-iron, and are hollow throughout; one such set of tubes being placed underneath the boiler, over the fire, and two other sets within the boiler; they are connected together by bent tubes, as shown, so that all the tubes have a free communication with each other, but the water contained in them is insulated, and is, therefore, distinct from that in the boiler, by which means it can be raised to a temperature of 400° or 500° Fah., without being converted into steam. The general size of the boiler, which is of the wagon form, without a flue, is 6 feet 9 inches long, 3 feet 6 inches wide, and 2 feet 6 inches high; the area of the bottom is about 21 superficial feet. It is set with brick flues, so as to circulate the heat round the concave sides and the ends, being in this respect like an ordinary boiler. The flue surface is about 23 feet area. The

area of the cellular plates exposed to the direct action of the fire is about 25 feet, and that of the plates within the boiler about 23 feet. The fire-bar surface is equal to 4 square feet. The quantity of water in the boiler is

about 1,500 lbs, and that contained in the cellular vessels about seven gallons. The quantity of water evaporated by this boiler is about 12 cubic feet per hour, making it capable of raising steam sufficient for a 12 horse-



power engine, although its dimensions are only equal to that of an ordinary 4 horse-power boiler.

By this arrangement the flame can only impinge on the boiler through the perforations in the cellular vessels, and all remaining caloric passes over the bridge, and among the

remaining portions of the tubes, causing the insulated water therein, to take up a large portion of the heat, which heated water circulates through the tubes within the boiler, when the excess of caloric is instantly given off to the water contained in the boiler, and the insulated water having thus parted with

its heat, descends, being replaced by the ascending current of heated water, and which in turn gives off its excess, and again descends. Thus a constant circulation of the insulated water is kept up through the cells and tubes, which water is the receiver and transmitter of heat, instead of the caloric or the fire acting directly on the boiler."

[This description from our cotemporary the "Expositor" presents the idea clearly, that the isolated water in the cellular apparatus and tubes, is made to heat the water in the boiler, by absorption through the tubes. We cannot see what advantage is thus obtained over the common direct exposure to the fire of the water to be converted into steam, in the main boiler.

The Patent Fund.

We see by the proceedings of the United States Agricultural Society, that the executive committee "have prepared a memorial to be presented to Congress asking for a portion of the money now annually appropriated to the Patent Office, for the Agricultural Report, and the collection and distribution of seeds."

We hope this does not mean the money voted out of the patent fund. There should be an agricultural department at Washington, apart from the department of inventions.— We hope that no money will be granted to any society for any such purpose; let the money, as it has been, be under the control of government, but let it be controlled in a different manner, and under a different organization.