New Inventions.

Improvement in Milling.

Geo. Mann, Jr., of Otta wa Ill., has applied for a patent for ventilating and removing moisture from meal as it comes from the stones before it enters the bolting cloths. All grain possesses considerable moisture; this is partially set free by the heat generated by friction in grinding, still it enters into the meal, and clogs the bolt cloths, preventing free bolting. The more work a mill has to perform, the evil increases in proportion, so that more of the meal is carried off with the bran in proportion to the increase of work in the mill, thus lessening the product of fine flower as the speed of the stones is increased. The object of this invention is to carry off the moisture from the meal after it leaves the stones, by passing it through a many-sided tapered agitator, and subjecting it, in its passage to the bolts, to a current of cold air. The meal thus treated bolts more freely and allows of a great deal more work being performed in a given time by any mill.

Taper Holes in Hubs.

Wm. I. Casselman, of Vernon, N. Y., has invented an improved machine for boring taper holes in hubs to receive axle boxes. The nature of the invention consists in having a cutter attached to one end of a lever, with a pin on the opposite end of it, said pin working in an irregular or oblique slot and an adjustable plate secured to a suitable bed. The fulcrum of the lever passes through a rod, which has a screw cut on a portion of it, and a nut working thereon. The rod and lever are operated by the nut mentioned, and a cutter on one end of the lever is made to pass through the hub in an oblique direction, cutting a taper hole by the motion which is given to it (the cutter) by the pin on the opposite end of the lever, working in the oblique slot in the adjustable plate mentioned. Measures have been taken to secure a patent.

Evaporating Brine, Cane-Juice, &c.

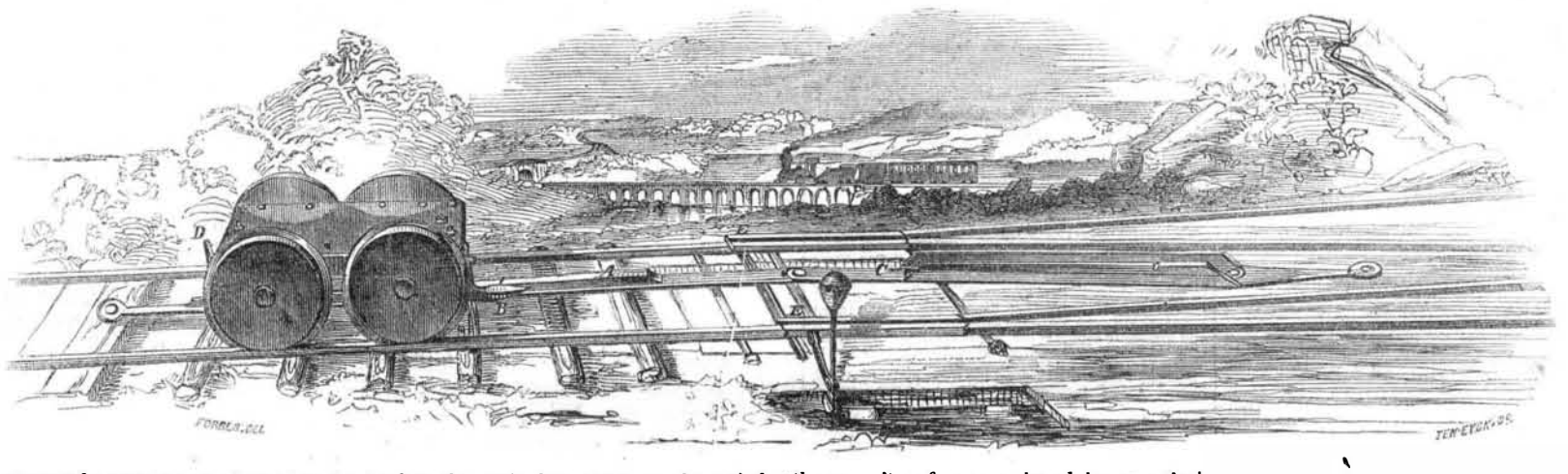
Andrew Thorndike, of the city of Boston, has made an improvement in Evaporators for evaporating cane-juice, brine, and other liquors. This invention consists in supplying the necessary heat for the evaporation of liquids and solutions and carrying off the evaporations therefrom, by means of hot air or steam, which is admitted and allowed to circulate over their surface in a covered vessel, and then through a jacket surrounding the vessel, imparting the heat necessary to produce evaporation by its contact with the surface of the liquid and with the sides and bottom of the vessel, and carrying off the evaporation thus produced by the draught which is caused by its tendency to escape to the atmosphere. Measures have been taken to secure a patent.

Ventilating Railroad Cars.

John Bevan, of Jersey City, N. J., has made an improvement in Ventilating Railroad Cars and excluding dust from them, for which he has applied for a patent. The nature of the invention consists in placing a fan blower on the top of the front car, and so arranging it that on each side of it, and on the same spindle, there are a series of revolving blades, which act centrifugally upon cinders, sparks, and dust, so as to throw them off and not permit their entrance at the central part of the blower. The blower or fan supplies the car or cars with air, and the blades spoken of act the part of a screen, to keep out impurities from the air which is supplied to the cars.

Dr. Simpson, of Edinburgh, it is said, is working wonders with consumptive patients, by having them well rubbed with warm olive oil. Some of the patients have increased 13 pounds in weight in seven or eight weeks.

SELF-ACTING RAILROAD SWITCH.---Fig. 1.



The annexed engravings are views of an improvement in Railroad Switches, for which a patent was granted to John F. Klein, of Trenton, N. J., on the 27th of April, 1852. Figure 1 is a perspective view, and figure 2 is a transverse section, showing a shifter connected to a truck, and a section of rail. The same letters refer to like parts. The object of this invention is to have a shipper or rudder on the engine connected to the truck, to be set by the engineer, to switch off the train upon any of the diverging tracks, the object of the invention being to set the track by the engineer, irrespective of the position of the switch to which the train is approaching. A common railroad truck is shown upon the track, on which is the peculiar switch employed, as shown in fig. 1. The switch is composed at one end of a central projecting vertical wedge rail, secured on an axis pin, and at the other end of a frog and center movable wedge rail, secured to an axis pin, also, so as to allow the switch to shift at the middle—move from side to side, to shift the track, according as the shipper is set on the truck by the engineer. Fig. 2 shows the truck. On its front end is secured the shipper, B, which is of a wedge shoe form and is bolted to a bar, *b*, which has a rack cut on its face, this bar is capable of sliding from side to side through guide eyes. There is a spindle or shaft extending along the truck from end to end under the wheel axles; it is supported on proper bearings, and is capable of describing about half a revolution. It has a sector, or semi-pinion keyed on its front, meshing into the rack, *j*, of the shipper bar. By moving the lever, D, to the right (fig. 2,) it is evident that the sector, *a*, would shift the shipper, B, to the other side of the projecting wedge-rail, A, if it was not in the position shown. This shipper therefore is set before the train arrives at the switch so as to take either side, right or left, of the wedge-rail, A, when it comes to it, as it is this wedge-rail which shifts the track.

C, fig. 1, are the central frog flanges of one end of the switch, *c* being a narrow movable central wedge-rail between the two frog flanges, A is a single wedge-rail on the other end of the switch. A weighted upright lever, connected in the usual way to the shifting track, is also shown.

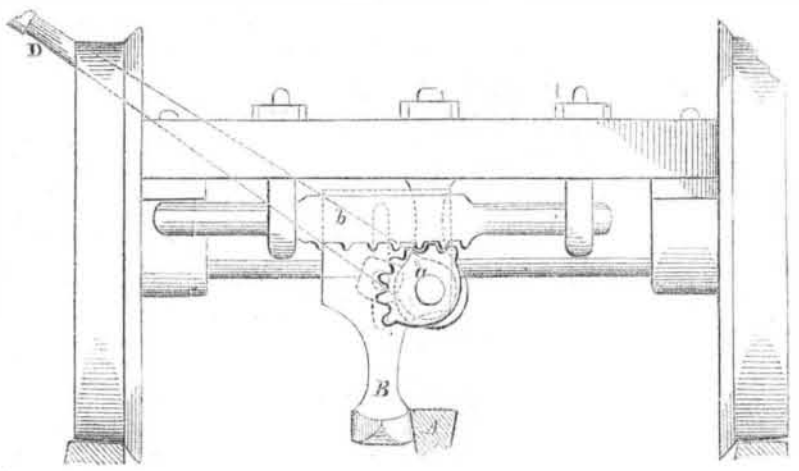
Supposing the shipper, B, to have been set before the train has come to the switch, so that it will run along and pass on the right hand side of the wedge-rail, A, as now shown in fig. 1; if the shifting part of the track—where the two converging lines meet at the joint, E had been so set previously that the off-rail at E, on the off-side of the switch had been on the inside, the action of B on H, like that of a wedge, will force the switch to cant the weighted lever over, and shift the rails, so as to place the outside off-rail out of the break at the joint, and allow the train to pass along on the inside off-rail and the outside nigh-rail, when running to the right.

If the train be running in the contrary direction, the shipper is set in the same way, but the central wedge-rail being set between the frog flanges, presses against them and shifts the switch in that manner, simply to obviate the necessity of a very broad base on the wedge-rail belonging to that part of the switch which embraces the two diverging tracks.—The shipper, B, is secured in such a manner that it is capable of vibrating, or rising upwards, so that if it should strike any obstacle on the road, or the edge of the wedge-rail, it will freely rise and do no injury. The following is the claim of the patentee:—

"I claim the bars or shifters, constructed, arranged, and connected to the switches of a railroad, in the manner and for the purpose as described, so that if the train run in either direction, and the rudder be placed in either position, as described, and if the switch or switches are not in a proper position, the rudder will act upon the shifters, and move them gradually, as the train approaches, so as to move and place the switches in such a position that the train may pass on unimpeded, without the risk of running off the track."

The rudder mentioned in the claim, we have called the shipper. Its office is certainly somewhat similar to that of a rudder. We have seen this invention applied on a working model, and can candidly state, that it operated well—accomplishing all that its inventor has claimed for it. More information about it may be obtained by letter addressed to Mr. Klein, No. 67 Warren-st., Trenton, N. J.

Figure 2.



Steam Boilers.

William Kenyon, of Steubenville, Ohio, has taken measures to secure a patent for an improvement in Steam Boilers, which consists mainly in surrounding a vertical cylindrical boiler with a number of flues, which spirally surround it and form a communication between the fire chamber and the chimney. These flues are made in the brick-work setting which surrounds the boiler, and have the effect of increasing the length of the circuit of the heated products of combustion, thereby causing them to give out more heat to the water in the boiler, and at the same time consume more perfectly the elements of combustion.

Cream Freezers.

Thomas M. Powel, of the city of Baltimore, has invented a useful improvement in Cream Freezers. The apparatus has three cylindrical chambers, an outside and an inside one for the ice, with the one for the cream in the middle, so as to expose two cooling surfaces to the cream to be frozen. There is also a reticulated funnel-shaped agitator inside of the cream chamber, for the purpose of more perfect agitation, and for the removal of the cream as it is being frozen, thus allowing new unfrozen cream to be continually placed in direct contact with the cooling surfaces. Measures have been taken to secure a patent.

Nursing and Exercising Chairs for Children.

Joshua Stevens, of Chicopee Falls, Mass., has taken measures to secure a patent for Nursing and Exercising Chairs for children, the object of said chair being for children of from eight to eighteen months old to exercise themselves for pleasure and amusement, and it is so made that it can weigh the child.

Ship Borer.

The Salem (Mass.) "Register" says: "There was a vessel hauled on one of our railways, last week, which exhibited a curious specimen of the destructive nature of the Toredo, or ship-borer. The schooner 'Sarah Jane,' built in Marblehead only about two years ago, was laid up in some of the Beverly docks the succeeding winter, and in Salem during the last. The keel was made a complete honeycomb, and had to be entirely removed, as well as several of the planks. Some of the worms, several inches long, were found in the cavities which they had bored. There was scarcely a foot of the keel that would sustain its own weight.

A Buried Casting.

A curious discovery has been made in Paris within a short time. A colossal statue of Louis XVI. had been ordered from a celebrated sculptor, early in 1830, for the city of Bordeaux.—It was in the mold when the revolution of 1830 broke out, and it appears to have been forgotton, for it was only discovered a few days ago by some workmen who were clearing the site for some new building to be erected on the Quartier Beaujou, in Paris.

© 1854 SCIENTIFIC AMERICAN, INC