

## New Inventions.

## Ventilating Parlor Stoves.

T. White, and J. R. Parker, of this city, have applied for a patent for an improved ventilating parlor stove. The heated current from the fire is made to descend in a flue between an outer cylinder and the fire chamber, and made to pass through small cylinders surrounding the radiating flues, then up through the chimney. This plan is to keep the hot current longer in contact with the radiating surfaces of the stove.

There is a back draft which admits air through channels in the sides and base (but has no connection with the fire) and meets the hot current as it descends from the fire chamber. This is for ventilation. A flaring radiating flue passes through the center of the top chamber of the stove, thus generating a current of air, which keeps the plates cool, and yet serves as an excellent air heating reservoir. Measures have been taken to secure a patent.

## Seed Planters.

Ives W. McGaffey, of Philadelphia, has taken measures to secure a patent for a useful improvement in Seed Planters. The plow has two wings of peculiar construction, which both open the furrow and cover the seed, a roller presses down the soil on the seed after it is planted. The channel for dropping the seed is so arranged that it serves to conduct both the seed and manure into the furrow at the same time—a good arrangement.

## Potato Digger.

Mr. McGaffey, has also applied for a patent for a machine for digging potatoes. This machine has an attachment on its front which first throws the cover soil and vines to the right and left off the hills or rows of potatoes, the digger which is placed behind it scoops up the the potatoes which are made to roll towards a separator, when the earth is screened from them, and then they roll into a receptacle perfectly clean. The uncovering device, and the digger which is placed behind it are both adjustable and capable of being set to enter the soil at any required depth.

## Screw Propellers.

Horatio O. Perry, of Buffalo, N. Y., has taken measures to secure a patent for an improvement in propellers. The improvement is more particularly applicable to those propellers which are only partially submerged, but is also applicable to the submerged propeller. This improved screw is composed of two or more hubs, from each of which radiates a series of arms, to which the blades are attached, they (the blades) extending only a portion of the distance from the exterior towards the axis of the screw.

## Threshing Machines.

Spencer Moore, of Central Bridge, N. Y., has made an improvement on Threshing Machines. It consists in the employment of grain and dust arresters, arranged in such a manner as to prevent the dust and grain from passing upward in the face of the operator or feeder—these arresters cause all the dust and grain to pass through the machine. Measures have been taken to secure a patent.

## Improved Lifting Jack.

James P. Howell, Craigsville, N. Y. has applied for a patent for an improvement on lifting Jacks, the nature of which consists in a peculiar arrangement of a lever and pawl, by which the rack of the jack may be raised by the lever and held by the pawl at any desired point, and also liberated from the pawl when desired, and then allowed to descend by merely moving the lever. This improvement, is both simple and good.

## Stave Machine.

Daniel Drawbaugh, of Eberly's Mills, Pa., has made an improvement in stave machines, the nature of which consists in the combination of a stationary concave, and a vibrating bed, a curved knife and a pressure roller, by which staves are cut from blocks and made in a very perfect manner. Measures have been taken to secure a patent.

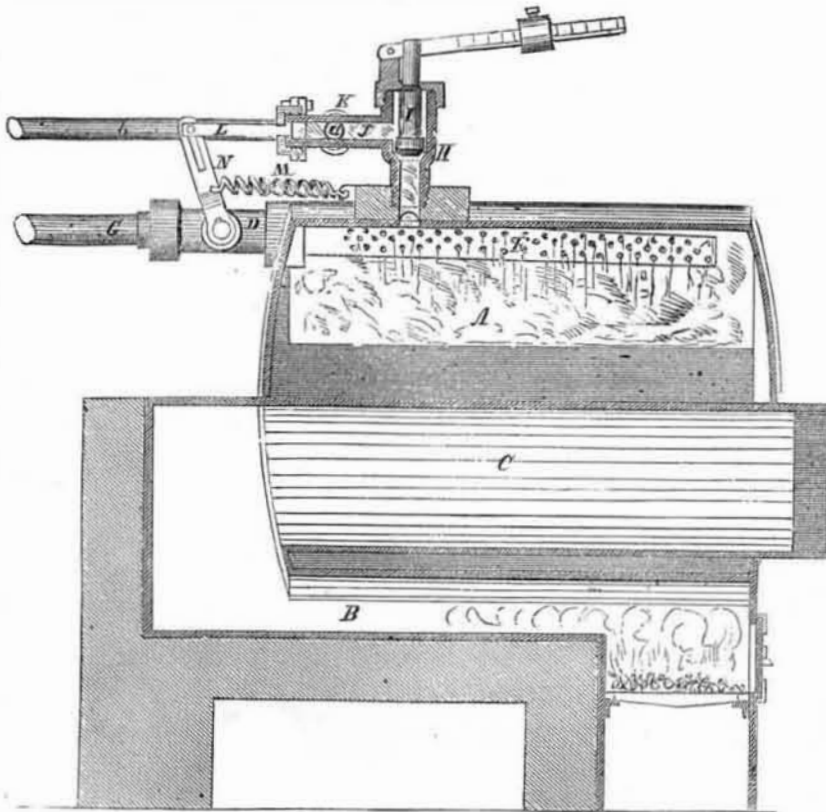
## Machines for Felting Hats.

James S. Taylor, of Danbury, Con., has made a useful improvement in machines for felting hats. The improvement is made upon a machine, for which he has already received a patent, which consists of a suitable number of rollers placed diagonally to each other, and within a frame, or vat. The rollers are so arranged as

to form a cavity or chamber between them of sufficient size to receive the hat, which is forced through the chamber the whole length of the rollers, by their rotation. The rollers of this machine has only one motion, the improvement consists in giving them two or more motions—a lateral as well as a rotary motion, by which the hats are felted in a much superior manner.

## CONTROLLING THE STEAM PRESSURE IN BOILERS.

Figure 1.



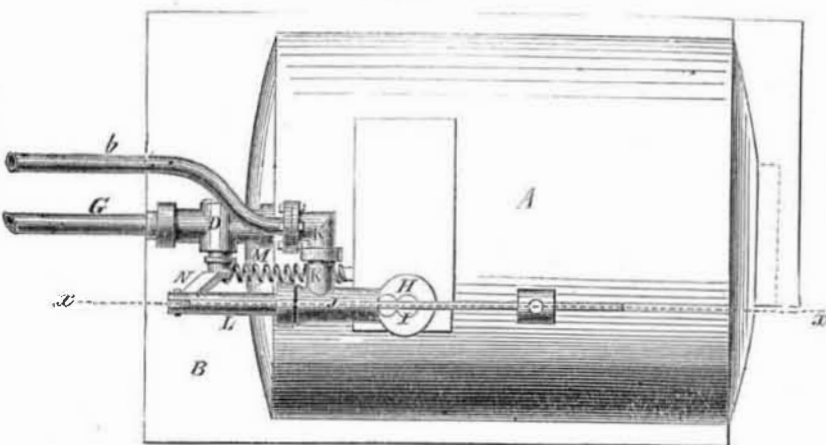
The annexed engravings are views of an invention for Controlling the Pressure of Steam in Boilers, for which a patent was granted to Henry S. Williams, of Malta, Ohio, on the 14th of February last, (1854).

Figure 1 is a vertical longitudinal section of a steam boiler and a safety valve with the improvement attached, taken through the line, *x x*, of figure 2, which is a plan view. The same letters refer to like parts. The nature of the invention consists, 1st, in opening the water cock of a steam boiler, and admitting water in small jets into the boiler by means of a plunger and slotted arm or their equivalents, when operated by the pressure of the escape steam of the safety valve, (or at the moment the pressure of the steam rises above a certain mark) and then closing said cock at the moment the steam is reduced to the given pressure, by means of

a spring attached to the boiler and slotted arm which connects the cock and plunger together, all for the purpose of reducing the temperature and pressure of the steam, and thus prevent explosions. 2nd. It also consists in starting the steam pump or "doctor," in case it should not be in operation when the pressure of the steam in the boiler rises above the given point, by means of the escape steam from the safety valve, said steam being admitted to the pipe leading to the steam chest of the pump, through a branch pipe of that which carries the plunger. This branch pipe is provided with a valve, which prevents the steam from the "doctor" passing into the boiler when the pump is running, but allows of steam being admitted to the steam chest when the pump is running.

A is the boiler; B the fire chamber; C the flue; D the water cock, having a valve which

Figure 2.



is opened by the pressure of the water from the pump as soon as the spigot is turned by the action of the escape steam; it is closed by the pressure of the escape steam in the inside of the boiler; F is a perforated copper pipe through which the water escapes in small jets, through the steam in the boiler, when it is desired to reduce the temperature and pressure of the same; G is a pipe leading from the water cock to the ordinary pump; H is the safety valve chamber, and I is its valve. Its construction is somewhat different from those in common use, it having a horizontal pipe, J, communicating with it, which pipe has a branch pipe, K, leading to the "doctor," communi-

ating with it, and consequently with the safety valve chamber, H. The pipe, J, receives the plunger, L, and allows it to move back and forth freely, as it is operated upon by the pressure of steam or the spring M. N is the slotted arm which connects the plunger, L, to the water cock, D, this arm is connected fast to the spigot of the water cock, and turns it, and thereby opens or closes it, the slot in said arm allowing of the plunger moving in a straight horizontal line, as will be evident from figure 1. The spring, M, is connected to the slotted arm, N, and to the boiler. This spring causes the arm to turn the spigot, and close the cock after the steam has been reduced to the proper tem-

perature. When the spigot is closed the arm occupies the position shown in figure 2, and when opened, the position shown in figure 1, it being thrown to said latter position by the steam coming into the safety valve chamber, and exerting its pressure upon the plunger. The branch pipe, K, is provided with a valve, *a*, which opens when the steam passes from the safety valve to the "doctor" or steam pump, and allows of the steam passing from the safety valve and through the pipe, *b*, and operating said pump, and setting it running when the steam rises too high in the boiler, or rather its pressure exceeds the given point, and it closes when the doctor is running or commences to run, and prevents the passage of the steam from the "doctor" to the interior of the boiler. The safety valve, I, fits snugly in the top of the chamber, H, and prevents steam escaping when the pressure in the boiler is too high, thus causing all the escape steam to be thrown against the plunger, and in contact with the steam pump in case of necessity, and when the pressure of the steam in the boiler is right, the steam which may be in the branch pipes, &c., is allowed to escape as the safety valve falls from its upper seat and leaves a passage. This arrangement requires no packing, the steam always keeping the valves tight when necessary.

OPERATION.—Suppose the weight on the end of the safety valve lever to be set for a pressure of 75 lbs. to the square inch, and the pressure gets above that point, the safety valve will rise and close the opening at the top, and allow the steam to act on the plunger and drive it to the position it occupies in figure 1, which causes the slotted arm to open the cock, D, and admit a supply of water through the perforated pipe into the boiler, which acts upon the steam and cools it down to the given pressure, when the safety valves will close, and by means of the weight will be forced to the bottom of its chamber.

Again, suppose the pipes, K and *b*, be connected together, and that *b* carried to and made to communicate with the steam chest of the "doctor," and that the engine is stopped.—Now let the pressure be greater than 75 lbs. per square inch, the safety valve will rise, the plunger will be forced to the position shown in figure 1, and the cock, D, opened, and the steam will rush through the pipe, K, and open its valve and pass along the pipe, *b*, to the valve chest of the "doctor," and set the engine in motion and cause the water to run into the boiler through the pipe, G, and cock, D, and a perforated pipe, F, and reduce the pressure as before.

The claims of this patent will be found on page 187. It is perhaps needless for us to say a single other word in favor of this improvement; all its advantages are so evident that every engineer can see what they are for himself at once.

More information may be obtained by letter addressed to Mr. Williams, at Malta, Ohio.

## The Cart Before the Horse.

A novel cart has made its appearance on the *cours la Reine* at Paris; the horses instead of being before are behind the carriage, which is propelled by pushing instead of pulling. A man rides on one of the horses, and another guides the carriage. The merits of this equipage are said to be that the horses not being able to see where they are going, are not liable to be frightened or run away, while the carriage is a warning whistle to guard pedestrians from being run over. Objections are made that two conductors or drivers are needed instead of one—still, it is very possible that the vehicle may come into favor.—[Exchange.]

[This is no doubt, one of those equipages, that will run away with the horse, before the horse runs away with it.

An iron statue of Henry Clay has been cast at Philadelphia, to be erected at Pottsville, Pa. It is somewhat larger than life. The model was prepared by a Mr. Washe, a sculptor, and it was cast by Mr. Wood, of Philadelphia.

The engineers of St. Louis, Mo., have struck for a reduction of their hours of labor to 58 per week, and double pay for all over hours.