

## New Inventions.

## Music Notation.

When children are learning music they experience much difficulty in fixing on their memories the names of the notes, and their several positions on the scale; and many a child, or even adult, becomes discouraged before they have acquired the rudiments of the science, and give it up in despair. To facilitate the learning of music, and the reading of it at sight, a blind gentleman, Mr. Cornelius Mahoney, the teacher of music in the institution for the blind, in this city, has invented a system of notation that deserves to come into general use. He has the name of the note cut in the note, itself, showing white in the black notes and black in the white ones, so that at a glance, the name of the note can be seen. The same gentleman is also the inventor of embossed music for the blind, by which any blind person can read the music by touch and will not require a second person to read them, as was formerly the case; thus placing this charming solace and divine consoler, sweet melody, within the reach of that class who need it most—the blind. This is a valuable and humane invention and we hope it will be adopted in all the institutions for the blind.

## New Steam Valve.

A suspended segment or convex valve and a concave valve-seat, are used by this inventor—H. D. Wickes, of Flint, Mich.—and a steam-chest is dispensed with, so that the construction of the engine is simplified, and the steam is made to act upon the valve in such a way that all unnecessary pressure of the valve upon the seat is obviated, all binding of the axis of the valve removed, and every facility offered for adjusting the valve to the seat. The invention will be fully understood from the following description and accompanying illustrations.

Fig. 1 is a perspective view of a horizontal steam engine, with this invention applied. Fig. 2 is a longitudinal central section of the cylinders and valve, and Fig. 3 a transverse section of the same.

A is the cylinder, and B is the valve. The valve is attached to a rock-shaft, C, which is fitted to work in bearings in frames, D D, bolted to the engine cylinder, and derives an oscillating motion from an eccentric on the crank-shaft of the engine, or through other suitable agency. H is an arm attached to the rock-shaft, for connecting it with an eccentric. The face of the valve is of the form of an arc of a cylinder, generated from the axis of the rock-shaft, C; and the valve seat, a a, is of corresponding form. The valve seat contains two steam ports, s s', and an exhaust port, e, arranged in the manner common to reciprocating engines, the steam ports communicating with the two ends of the cylinder, and the exhaust port with the exhaust pipe, E, which is attached to the passage box, F. Besides these ports there is a third port, b, arranged longitudinally in the valve seat at one side of the ports, s s', and extending the whole width of the ports, and spaces between them, this port communicating with the steam pipe, S, which is secured to the opposite side of the passage box, F, to the exhaust pipe, as shown in Fig. 3. The valve contains the exhaust cavity, c, common to the short slide valve, and the usual width of face, d d, on each side of it, and is extended beyond d d far enough to contain two ports, f f', corresponding in width with the steam ports, s s', with a proper width of face, g g, outside of the ports, f f', and these ports communicate both with a longitudinal cavity, h, which ranges over the port, b, of the seat.

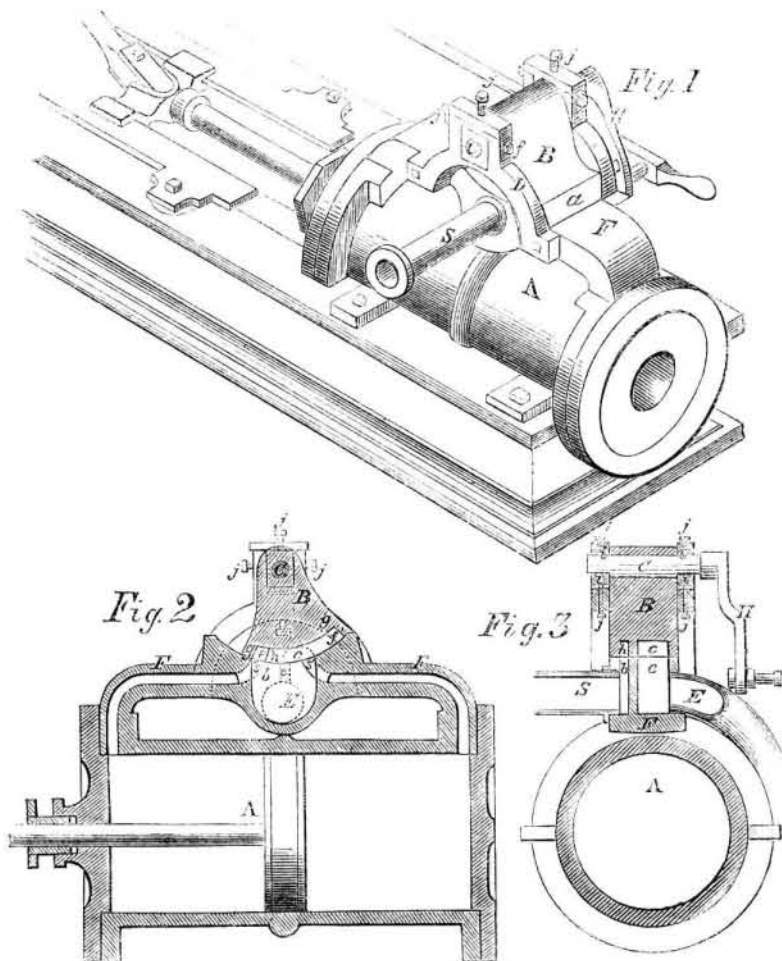
The operation is as follows:—Steam is admitted by the pipe, S, and port, b, to the cavity, h, of the valve, which is always filled, thus constituting a steam-chest. From the cavity, h, it is admitted by the oscillation of the valve from the ports, f' and f', to the

steam ports, s and s', of the cylinder, alternately; and while steam is being admitted to one end of the cylinder through the port, s or s', it is exhausting through the other of the said ports, and through the cavity, c, of the valve, the port, e, and exhaust pipe, E.

During the operation of the valve, the pressure of steam on the valve tends to force it

from the seat; but this is counteracted by fitting the journal boxes, i i, of the valve rock-shaft to the frames, D D, in such a manner as to provide for their adjustment by screws, j j, so that the valve may be confined to its seat, and these screws are so set as to prevent unnecessary friction between the valve and seat.

## WICKES' STEAM ENGINE VALVE.

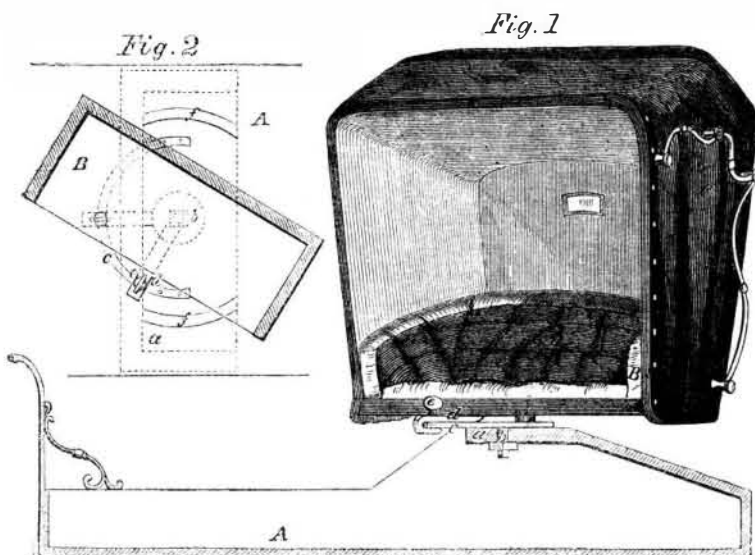


To apply the invention to an oscillating engine, the valve is made stationary, and with its face concave to fit a seat on the cylinder in the form of an arc generated from the axis of oscillation of the cylinder, and the steam and exhaust pipes are attached to the valve instead of to the cylinder; the steam pipe being attached to communicate with the cavity, h, and the exhaust pipe with

the cavity, c. The cavities and ports of the stationary valve are the same as those in the oscillating valve of the stationary engine represented, but the ports, b and e, in the cylinder, are dispensed with.

It was patented December 14, 1858, and any further information can be obtained from the inventor, by addressing him as above.

## POTTER'S REVOLVING CARRIAGE SEAT.



It is very often the case that in riding in a covered wagon, the cover is no protection against the inclemency of the weather, as the rain, snow, or sleet, may beat from the side, and render the voyagers as uncomfortable as if there was no protection over their heads. To prevent this by providing a carriage seat which may be turned cover and all in any position, H. H. Potter, of Carthage, N. Y., has invented the subject of our illustrations, Fig. 1 being a perspective view of the cover,

and Fig. 2 a horizontal cross section. The back or covered side can always be placed against the wind, and the seat affords a greater facility for getting in and out of the vehicle, as the seat can be turned half round while ladies are ascending the step, and adjusted to its proper position when they are fairly in.

A is the body of a pleasure wagon and Bits seat provided with a calash top. The body has a transverse peice, a, on its upper

part, to the center of which the seat, B, is attached by a bolt, b, so that the seat may turn on the bolt as a center. To the transverse peice, a, a semi-circular plate, c, is attached, concentric with b. To the underside of B a plate, d, is secured, and it projects a little beyond the front of the seat, its front end being bent into the form of a hook, so as to catch c; d also carries a set screw, e. On the transverse peice, a, segment plates are secured, and corresponding plates are secured to the underside of B. The seat, B, may be turned either to the right or left, and secured at the desired point by the set screw, e. By turning the seat obliquely with the body, A, a person may get in or out from the body, A, with the greatest facility, and in case of a horse running away or becoming unmanageable, persons may readily get out from the body and reach the ground with less danger than by jumping over the wheels. The tops of the seats are generally a great barrier to the ready getting in and out of vehicles, in consequence of the top projecting over the front of the seat. By turning the seat obliquely, this difficulty is obviated, and aged and infirm people can get in and out of the body without trouble. The seat can also be made to shelter from the sun as well as rain. It was patented Dec. 14th, 1858, and any further information concerning this truly ingenious and useful device, can be obtained by addressing Potter & Blake as above.

## Steam Plow.

S. K. Basset, of Galesburgh, Ill., has invented a new steam plow, in which the wheels of the track of a traction steam-engine are so arranged that the track may be readily guided and turned, and the engine rendered available for drawing a gang of plows to turn over the earth in the usual way. The invention also consists in a peculiar manner of attaching and applying the gang of plows to the track; also in the employment of track clearers, arranged in a novel way, and in so attaching the boiler to the track that it is allowed to remain in a horizontal position when the track rises and falls in corresponding with the inequalities in the surface of the ground. It was patented this week.

## The Cigar Steamer a Failure.

The Baltimore Sun states that "Messrs. Winans, acting upon the improvements suggested by the late trial trip, have concluded to lengthen the cigar steamer thirty-nine feet. This will be accomplished by cutting off twenty-five feet from the bows, and adding the required number, gradually tapering to the prow. The extra sheeting required for the work is now being prepared at the machine-shop of Messrs Winans at Mount Clare. Some alterations, at the same time, will be made in the motive power, by which it is believed the speed of the vessel will be increased. The addition will be completed before the spring."

If this steamer had answered all the expectation of its designers, the above alterations would not have been made. If Messrs. Winans will put a keel on their steamer, decrease the rise of its floor somewhat, and run up the sides of the bow to prevent it burrowing in the waves, then remove the propeller to the stern and greatly diminish its size; they will have a steamer of a good and common model, which will do them essential service, provided the engines and all the other parts are properly constructed and arranged.

ILLUSTRATED SUPPLEMENT.—With our next number we shall issue an Illustrated Supplement of the SCIENTIFIC AMERICAN, containing engravings, and a description of one of the largest manufacturing establishments of its kind in the United States; and in the course of three weeks we hope to have another Supplement ready, which will contain information of great interest to inventors and patentees.

There are now 43 drinking fountains in Liverpool, England, and it is estimated that 1,000 people drink daily at each. This is true temperance—practical philanthropy.