

## NEW INVENTIONS.

## Improved Wagon.

Isaac Crandall, of Cherry Valley, N. Y., has made certain improvements in the construction of wagons, for which he has taken measures to secure a patent. His improvement will be understood by the following brief description. The invention relates to a novel method of arranging many of the parts of the common double wagon, and of making its upper reach elastic, so as to yield when the front axle and tongue are moved out of a straight line with the direction in which the carriage is moving, so as to accommodate itself to the movement of the horse, and as soon as the horse is in motion on a line parallel with the lower reach, to throw the tongue and front axle, together with their attachment, in the proper position to be drawn in the direction of travel. This arrangement prevents the tongue from loosely playing from side to side, and thus very frequently striking the horse while drawing the carriage; the extra reach may, with convenience, be used upon carriages already constructed, and the injurious lateral motion of the tongue while the horse is drawing, thus prevented.

## New Safety Lamp.

The number of accidents occasioned by the use of fluid lamps has induced a variety of inventions to prevent the explosions which have heretofore been by far too common an occurrence. A most effectual method for accomplishing this object has been invented by C. J. Conway, of New York City; for his invention Mr. C. forms a reservoir at the base of the lamp, into which the fluid is poured without bringing the fluid near the burning lamp. This reservoir is then closed and the fluid conveyed by a small air-tight tube up to a chamber or small reservoir near the top of the lamp, from which there is no external opening except for the wicks. The upper end of the tube is bent in the form of a syphon with the curved portion placed in the top of the smaller chamber, so that the fluid cannot pass from the upper to the lower reservoir, but may pass from the latter to the former by simply inverting the lamp. The receiving reservoir being quite large, the upper reservoir may be filled several times without any new supply by the same process of inverting the lamp. The arrangement forms a very cheap, safe, and convenient article, and is also quite ornamental. Gustave Sellin, No. 27 Bowerly, is the agent for manufacturing and selling, of whom further information may be obtained.

## Grain Separators.

An improvement in grain separators has been invented by John Bean, of Hudson, Mich. The improvement is made upon the common wind or fanning mill, whereby the coarse foreign materials are extracted from the grain before being subjected to the blast of the fan wheel, thus the grain is better prepared for the action of the air and screen sieve. The means by which this object is effected is by placing in the centre of the upper sieve a forked guide, with its point towards the hopper containing the chaff and grain, and two spouts, one near each of the outer corners of the upper sieve, and placing beneath the sieve a thin metallic plate corresponding in size with the size of the sieve, so as to prevent the current of air striking the grain until it has passed from the upper sieve and plate to the screen sieve, thus effectually cleaning the grain, first by sifting and separating, and afterwards by thoroughly expelling the dust and finer particles by the air blast. The inventor has taken measures to secure his improvement by patent.

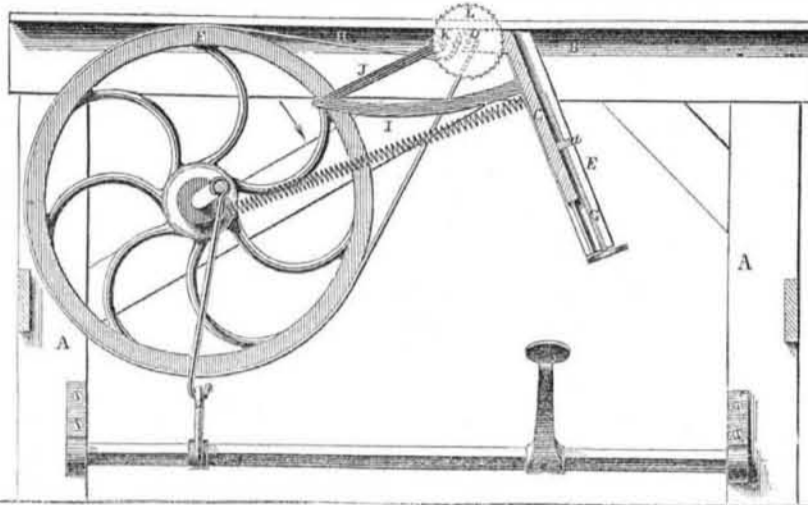
## Improved Mill for Grinding.

An improvement in mills for grinding has been invented by T. & D. A. Humphrey, of Pine Grove, Pa. The novelty consists in an arrangement by which the ground grain is separated into various qualities. The fine or superfine flour is carried to the packer to be deposited in barrels, another portion is conveyed to the bolt to be re-bolted, and the coarser portion back to the eye of the mill stone to be re-ground. In this manner the various

qualities are separated as desired. The means adopted to effect this result are briefly as follows:—a series of conveyor reels or propellers and spouts are used, the propellers are three horizontal shafts with spiral wings, like the threads of a screw, some turned to the right and some to the left, according to the direction in which it is desired to convey the flour, &c. The main or middle propeller shaft

is placed immediately and longitudinally beneath the bolt, and spouts from this propeller convey the ground grain to other propellers, by which it is conveyed to the place desired, thus saving the labor of separating by hand, and at the same time performing the work more readily and correctly. The inventor has taken measures to secure his invention by patent.

## IMPROVED CIRCULAR SAW.



The annexed engraving represents a new method of hanging circular saws, invented by D. H. Harris, of Salem, Mass., and assigned to Messrs. Shannon & Kimball, No. 243 Water street, New York City. By this arrangement the saw may be elevated and depressed at pleasure, without altering the length of the belt, still giving the belt the requisite amount of tension by means of a friction pulley.

A represents the frame upon which the bed or platform, B, is secured; L is the circular saw upon the shaft, D, which is hung in suitable bearings in the slide frame, C. This slide frame works in ways or guides formed upon the edges of the plate, F, and may be raised or depressed by simply turning the thumb screw, G, which passes through a, attached to the frame, C. F is a band wheel hung in bearings in the frame, A, to which power may be communicated in any suitable manner to drive it in the direction of the arrow. The

belt, H, from this wheel extends over a stationary pulley upon the shaft, D, the friction pulley resting upon the upper portion of this belt, as represented. I are two arms projecting from the slide frame, C, in the extremities of which the swing frame, J, is hung, which extends nearly to the shaft, D, and forms bearings for the friction pulley, K; the object of this arrangement is, that the friction pulley may rest upon the upper portion of the band which has the least tension when the saw is in operation. There is much work done with circular saws, which requires an adjustment of the saw, such as rabbeting, halving, mitering, and sawing shoulders and tenons; for these purposes this saw is well adapted, as it supersedes the necessity of raising and lowering the frame which supports the plank, and also makes the operation of the saw more effectual. Measures have been taken to secure a patent. Further information may be obtained by letters addressed to the assignees.

## MASCHER'S STEREOSCOPE.



The annexed engraving is a perspective view of a most beautiful invention relating to the daguerreotype art, invented by J. F. Mascher, of Philadelphia, and for which a patent was granted on the 8th of last March. The improvement consists in converting the

daguerreotype case into a stereoscope, by a very simple arrangement of having a supplementary lid or flap, in which are two ordinary lenses.

Two daguerreotype pictures are taken at an angle of about 25° or 30°, on the right and left of the centre, and placed as shown in the case. In the supplementary lid or flap, are placed two glasses of short focal distance, like those of an opera glass. By looking through these, the person whose likeness is taken, stands out solid and life-like, no more resembling a common picture, than a statue does an oil painting. These cases are made so that the pictures are placed in the right position, and the lenses set at the proper focal distance to produce binocular vision.

We believe it was Prof. Wheatstone, of London, who first made the discovery of the stereoscope, which was afterwards greatly improved by Sir David Brewster, and by him first applied to produce binocular vision with daguerreotype pictures. But the stereoscope of Brewster is a separate instrument from the daguerreotype case, is much larger and costs five or six dollars, while Mr. Mascher has applied that beautiful and wonderful principle of optics to the daguerreotype case itself, and here it is introduced to our American readers as one of the most delightful and pleasing improvements connected with the fine arts.

To show the benefit of having a good paper devoted to improvements in the arts, we would state that this excellent invention, but for the Scientific American, would perhaps not have been made. On page 266, Vol. 7, Scientific American, we described the principle of binocular vision, and the operations of the stereoscope. This set the inventive mind of Mr. Mascher on the right track, and on page 322, same Vol., we published his letter, stating that from the description he had read in our columns, he had produced the first solid daguerreotype pictures in Philadelphia (and we believe in the United States.)—Shortly after that he converted the common daguerreotype case into a stereoscope as now presented in the accompanying engraving.

In a short period, no person, we believe, will have a likeness taken by a daguerreotypist but stereoscopically. As these cases are no larger than the old kind, who would have a flat picture to look at, when the solid life-like likeness can thus be produced. No one can have the least idea of the beauty of this invention, until he sees such pictures with his eyes. By this improvement, husbands will, when thousands of miles separate, be enabled to see their wives standing before them in breathing beauty, wives their husbands, and lovers their sweethearts. It is a noble and elevating art, which perpetuates to posterity the looks of those we love or revere; this improvement will enable us to look upon the loved and respected when far away, or when they are in the tomb; it will enable us to see them as they once were with us, and posterity will know how they and ourselves looked without trusting to the flattery or faults of a limner's pencil.

More information may be obtained by letter addressed to Mr. Mascher, 408 North 2nd street, Philadelphia.

## New Railroad Car Wheel.

Archibald C. Ketchum, of New York City, has invented a new railroad car wheel, by which all parts of the wheel, which are subjected to friction upon their becoming worn, can be taken out and replaced by others. The spokes, hub, and rim of the wheel are formed of separate parts, the hub and rim being of cast-iron, and the spokes of wrought iron. Dovetailed recesses or slots are cut laterally in the inside of the rim and outside of the hub, for the reception of the spokes, which are formed to fit very accurately. The spokes are then rivetted to the rim, and a heavy ring is shrunk upon the hub to prevent the spokes from moving from their position in the slots. The rim is chilled to obtain the requisite degree of hardness for the face and flange, and taking the whole together it forms a most substantial as well as durable wheel. Few wheels constructed in separate parts have the requisite amount of strength to work safely, but this is so put together that it forms a very strong wheel. Measures have been taken by the inventor to secure a patent.