



**New Inventions.**

**Improved Portable Air Heating Stove.**

Mr. R. Sheppard of No. 347 Pearl st. this city, has made a very desirable improvement on a portable stove for parlors, halls, steamboats and Railroad cars. The stove is made of an ornamental form like our common pyramid stoves, but it has a fire grate on both sides, and a hot air chamber suspended between the two grates, receiving the heat all around it, while it looks just like the back plate of the stove. The cold air is admitted through a vertical tube extending down through the bottom communicating with the atmosphere in the room, and the hot air is carried along and distributed through one or more apartments by lateral pipes. The smoke pipe passes straight up. Our common heating stoves only radiate their heat from the stove and the smoke pipe, this stove radiates its heat by the hot air pipes. The improvement is self evident and with the fire on both sides, it must be a cheerful stove. Measures have been taken by Mr. Sheppard to secure a patent for the improvement.

**Ingenuity in the Manufacture of Iron.**

Mr. Lorenzo Sibert of Woodstock, Shenandoah Co. Va., has made some valuable improvements in the manufacture of malleable iron which is said to reduce the cost of manufacturing Blooms 40 per cent below any other process. At the furnace of Dr. Hale a few miles from Kanawha, Va., Mr. Sibert has his furnace in operation and as it is placed on a lower level than the coal, he has erected a rope railway to carry the coal to the furnace, dump its load and return in a few seconds. He has a span of ropes, nearly 700 feet in length, starting from the coal bank at an elevation of more than 200 feet on the mountain, and running to the furnace door. By these ropes a car load of coal comes down, empties itself and returns an empty car in less than half a minute.

**Improved Tilting Wagon.**

Mr. William Start, of Smyrna, Kent Co., Delaware, has recently secured a patent for a very valuable improvement in tilting wagons, which should arrest attention. The improvement consists in arranging the body of the wagon that it may be run back on friction rollers until its centre of gravity be brought over the axle tree of the hind wheels, when it is tilted to discharge its load. Springs are placed in a position to prevent sudden concussion when the box of the wagon is turned down.

**New Fire Escape.**

Messrs. Huttman and Koch Kornelia, have deposited in the Franklin Institute of Philadelphia, a beautiful model of a new Fire Escape. This model, although only about two feet long, can be altered to 12 feet. By making the carriage 12 feet long by 7 wide, it can be elevated 50 feet, and afford an easy escape from the window of the upper stories of the burning building. The mode of descent is not by a mere ladder, but is in the form of a regular stairway, flights of steps, with banisters and all. On the top is a platform, with a railing on all sides, having a moveable landing, which can be extended from either side, so as to rest upon the window sill, and allow a passage from the house to the platform.

**New Fire Annihilator.**

The London papers say that a Mr. Phillips proposes to subdue flame by effectually preventing the access of impure air. The object of the Fire Annihilator is to diffuse through the atmosphere (already vitiated by the combustion) of an apartment on fire, a quantity of carbonic gas and steam, and thus render the continuance of flame impossible. These gases and vapors are generated in a portable apparatus, which when intended for the protection of private dwellings, weighs from twenty to thirty pounds; and the construction is such that the æiform fluids can be evolved in less than three seconds on touching a spring.

**Hovey's Straw Cutter.**

We present three views of the cutters and principles of cutting embraced in the Straw Cutter of William Hovey, Esq. of Worcester, Mass. A perspective of his excellent Straw Cutter was published in number 10 of vol. 2 Scientific American, but as the principle upon which this Cutter acts, has been recently litigated and established as different from all others, we present that principle of the invention to make it clear as a sunbeam.

FIG. 1.

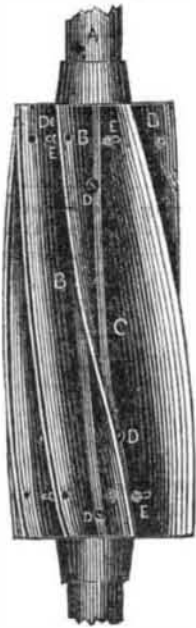


Fig. 1, is a view of the cylinder with its spiral flanges and one knife C, on it. Fig. 2 is a view of the knife, and fig. 3 an end view, showing the knife cutting on the cylinder F.

A, is the shaft of the cylinder. C, is the knife. This machine is beautifully contrived to actuate the knives, and to take them out and set them in, so as to sharpen them when required. Each knife has a nut slot made in it, and which slides down over a set screw E, which is stationary near the upper edge of the flange B. The knife C, is made firm by screwing up the nut. It may happen that a chip may be broken out of a knife and when it is ground down it would not be so deep in the cylinder as the other knife. In that case, the ground knife would be of a less perpendicular length than the rest, and would not cut on the cylinder. This evil is ingeniously obviated by the vertical set screws D, which are permanent in the cylinder of the spiral, and which, by elevating them by the driver, will set the knife C to form the desired radial line on the cylinder. A knife may be formed with slots like fig. 2, but the slots in fig. 1

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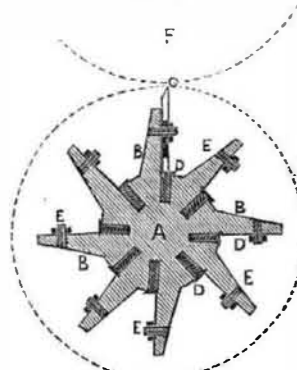
FIG. 2.



suit us best—yet they work in the same manner constructed either way.

Fig. 3 shows the mannerfully by which the knives are secured in the cylinder and the way they are set, and how they can be changed as desired. It also shows this principle, so well known to scientific mechanics, viz. "a true radial spiral of whatever pitch or angle has its plane at all times perpendicular to the axis round which it winds, and at all times when it comes in contact with a cylindrical surface of whatever diameter, it will point directly to, and the pressure will be in perpendicular lines to the centre of the cylinder's axis," exactly as represented by fig. 3

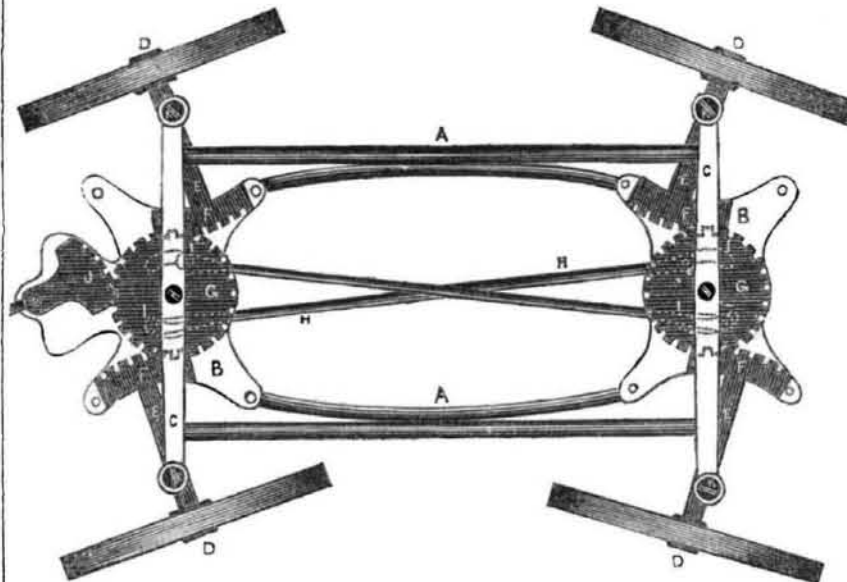
FIG. 3.



Radial spiral knives require less power and are less subject to breakage, and are therefore easier kept in repair than straight diagonal knives cutting on a cylinder. This straw cutter is therefore constructed upon the best possible principle to cut on a cylinder—in fact no other can be used advantageously. Mr. Hovey, the patentee and manufacturer, we remember was highly complimented in the scientific Report of a Committee of the last Fair of the Worcester Mechanics Institute.

The machines are kept for sale by Mr. J. Mayher, No. 187 Water street, New York.

**IMPROVEMENT IN HOSE CARRIAGES.**



This is an engraving of an improvement in Hose Carriages, invented by Mr. Joseph Pine, No. 158 Centre street, this city, and for which he has taken measures to secure letters patent. The carriage is made with a separate axle for each wheel D. Each axle is made with a sectoral rack F, on its inner end, which meshes into a central cog wheel G. The pole of the carriage is made with a rack J on its inner end meshing into the central cog wheel G. The wheels of the carriage cannot move but by the central cog wheel, and it only moves as directed by the pole of the carriage. The hind axles and central cog wheel are made and arranged like the front ones. The two central cog wheels are connected together by diagonal braces H H, which are secured to the under side of the central cog wheels G G

When the pole J, moves the front central cog wheel, the hind axles through the diagonal braces, are moved in unison with the front wheels. B B, are two plates, (there is one above and one below) between which the cog wheels and the racks operate and are retained. The outline of these plates are only shown in order to exhibit the mechanical arrangement. C C, are two bars or bolsters, in which are bosses through which pass the vertical pivots K K, which allow the axles to move freely. A A, are straight and elliptical bearers for the frame of the carriage. They are permanently secured—the straight sleepers to the bolsters C C, and the elliptical ones between the plates B B. It is evident that when the carriage is moving the wheels will always move in a line just as directed by the pole of

the carriage. Its motion therefore over rough pavements is very steady, and for turning the corners of streets, or in a narrow circle with rapidity, it possesses great advantages, owing to the ease with which it can be managed by the pole. A large carriage built on this principle has given great satisfaction to the Hose Company in this city, for whom it was built.

**The Electric Light.**

The London Spectator, says that a "new claimant has come forward as the original inventor of the electric light in the person of a Mr. J. B. Lindsay of Dundee, Scotland. The Spectator acknowledges his claims. It seems that he publicly exhibited the electric light in 1835 and at that time declared that it might add the night into day. He can produce an intermittent stream, it shines without combustion, can be maintained equally without air in a sealed vessel, or in the open air, and is inextinguishable by wind or water." The light produced is a very brilliant white light. Light is contained in all the elements of nature. The Creator said, "let there be light and light was," and this before the sun was made. How different is the light thrown upon light, since the discovery of electricity. The galvanic battery produces the most intense artificial light of any other apparatus or process known, and also the most intense heat in the volatic arch. By the recent electrical experiments of Smee, we are approaching nearer to a knowledge of the hidden agency that induces combustion in our frames.

**Splendid Achromatic Lenses.**

The great Viennese optician and telescope manufacturer M. Voigtlander, succeeded a few years ago in producing two achromatic lenses of thirteen inches in diameter, which give a perfect achromatic image, with a focus of only nine inches. These glasses, with an extensive and complete apparatus for producing scenic and pictorial effects, were brought to this country by the Messrs. Langenheim, brothers-in-law of Voigtlander, who engaged the most eminent artists of Vienna to prepare a series of pictures representing the most striking features of the Alps. The great skill and scientific knowledge of Professor Grant of this city, were put in requisition by the Messrs. Langenheim, and preparations were made for bringing out a series of pictorial representations with the new apparatus. But at that time Professor Grant was called away by Government to proceed to the Gulf of Mexico to disinfect the United States ships in that quarter of yellow fever, and by a strange coincidence, the brothers Langenheim were called upon by their fellow countrymen in Vienna to participate in the struggle for freedom in that ancient citadel of despotism.

Messrs. Langenheim went to Europe, were active participants in the gallant but ineffectual struggle of the Viennese for freedom, and were thrown into a dungeon and kept for several weeks in hourly anticipation of death. At length, however, they were liberated, on the express condition of immediately leaving the country, never to return, and they forthwith sought again our friendly shores. They have now returned to this country and with Prof. Grant's assistance it is reported that the public will soon be treated to the sight of some panoramic scenes, that will far surpass any thing of the kind ever presented to the world.

These achromatic lenses aided by the power and brilliancy of oxyhydrogen light are to present panoramic scenes of the size and invested with every appearance of life and reality.

**Telegraph.**

We understand that the work of constructing the new telegraph line, between New-York and Buffalo will be commenced next week, and vigorously prosecuted to completion. It is reported that it will be completed and in working order as early as the 1st of Sept.

The British South Eastern Railway Company are about attempting to link London to Paris, by one continuous line of electric communication. The wire is to be laid along the bottom of the channel from Folkstone to Point Grinez. The distance is 20 miles, and the depth varies from 14 to 17 fathoms. The wire is stated to be covered with gutta percha treated with sulphur.