

## New Inventions.

### Improved Lifting and Force Pump.

We have seen the model of an improved Lifting and Force Pump, the invention of Dr. N. Dodge of this city, which we think will unquestionably take the place of the common force pumps now used. Some of its advantages are the cheapness of construction, the small amount of power required for operation, together with great simplicity and durability. As we intend to present our readers with an engraving of it in the course of two or three weeks, we shall withhold a more detailed explanation until that time, as we are certain it will attract much attention and wish all to understand it fully.

### A New Instrument.

A new kind of instrument has lately been exhibiting at Mr. Atwill's Music store in this city. It is named the Keyed Violin, and is played like the parlor organ, by means of a pedal and keyboard, and its structure may be simply described as follows.—There are forty strings (five octaves) stretched upon a horizontal frame, and brought to the proper tension by means of the same apparatus as that employed in tuning the piano. At right angles with these strings, are forty horse hair implements, each resembling that part of an ordinary violin bow, which comes in contact with the strings; these are all attached to and stretched upon a frame, and by ingenious machinery are worked up and down with a steady motion, each bow continually passing within a minute distance of its corresponding string. The motion of the perpendicular frame and bows is caused by the use of the pedal, and the music executed in the same manner as upon the organ or piano. The pressure upon a key causes a simultaneous pressure laterally against one of the bows, bringing it in contact with its neighbouring string, and thus producing a sound similar to that made by bowing and fingering upon the violin now in use.

### Ely's Railway Station Index.

(Concluded from first page.)

struck, thereby calling the attention of passengers to the index, while the arrow points with unflinching certainty to the name of the place at which the cars have arrived. No matter how much the cars may stop or go backwards, between the stations, the Index, as if endowed with instinct, will always point out the correct name of the station.—The cost of constructing and putting up this invention, is about \$7 per dial, or \$16 per car. We trust that every rail road company in the United States will forthwith have their cars furnished with this very needful invention, as it will greatly add to the comfort and convenience of their passengers, and save themselves from the imputation of much blame and many curses. It should form as necessary a part of every car as do the seats, and since the expense is so trifling, we hope ere long to see it universally adopted. Munn and Co., proprietors of the Scientific American, are the appointed agents of the invention, to whom all applications relative to it may be made. Railroad companies are informed that they can obtain the right to use it for a very small sum, or they can have as many dials put up as they wish at the above rates, upon short notice. Rights for several of the states are not yet sold, and if applied for soon, can be purchased on reasonable terms. An enterprising man may here find an opportunity to realize a large sum from a small capital.

We shall now proceed to explain the internal arrangement of the Index, referring the reader to fig. 2 on the front page. A is the back of the dial case. B and C are two ratchet wheels, fastened together, and turning

upon D, a stationary axle, which projects through the face of the dial, and upon which the arrow [Fig. 1.] is affixed. F is an arm or ratchet which meshes in the teeth of B, and is attached by a pinion at I, to the perpendicular shaft E. J is a coil spring, one end of which is attached to F, the other is screwed on to the case A. This spring serves the purpose of holding the arm F in contact with the ratchet wheel B. G is a branch of F, to which it is attached on the back side at H, and meshes into the other ratchet wheel C.—By lifting the shaft E, the arm F, it will be seen pushes against a tooth of B, at the same time raises the arm G which is attached to it, thus forcing around together the two ratchet wheels B and C to the distance of one cog.—A contrary motion is produced by drawing down the shaft E. The arm or ratchet wheel G is thus made to mesh into the ratchet wheel C, causing both the wheels B and C, being fastened together, to revolve in a direction contrary to that produced by pushing up the shaft E. Behind the ratchet wheel C is placed a gong or bell, the hammer of which is operated by the cogs of C, so that by any movement of the ratchet wheels the gong is struck. The dial face [Fig. 1] is fastened to the ratchet wheel B, and revolves with it.—The arrow is fastened to the immovable axle D, and consequently remains stationary. The ratchet wheels contain as many teeth as there are stations on the route, and the dial being correspondingly marked off, it will be easily understood that any movement of the dial face will be indicated by the arrow. The operation of the index then, depends wholly upon the movement up or down of the shaft E. In fig. 3, E is a continuation of said shaft, pass-

FIG. 3.

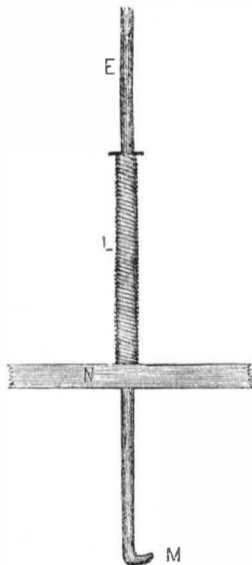
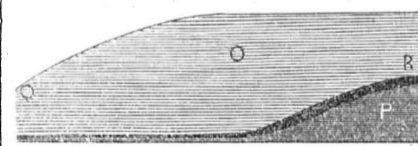


FIG. 4.

ing down through the floor N, of the car, and terminating near the ground in a foot, represented by M. L is a spiral spring, by means of which the shaft E is hung in a proper po-



sition. Fig. 4 represents a cam which projects an inch or two above the rail, in order to move the shaft E up or down, when they come in contact. One of these cams must be placed on the track about ten rods on each side of every station house. As a train comes up, the shaft E, [Fig. 3] projecting down through every car, comes in contact with cam O [Fig. 4] at the point Q, which being curved causes the shaft to rise, thus moving the index which points out the name of the place. On the return of a train the foot of the shaft M [Fig. 3] catches on the edge at R, [Fig. 4] and by the under edge, P, of the cam is drawn down, thus likewise moving the index. The shaft E having passed the cam, is liberated and returns to its position by means of the spring L [Fig. 3]. The shaft and connections being placed in the partition of the car, nothing is exposed to the eye except the dial, which may be beautifully ornamented, according to fancy. There are a few other particulars connected with the invention which it is unnecessary here to explain.

### Perpetual Motion.

The Delaware Republican says one of the ingenious mechanics of that place flatters himself that he has invented a machine that creates its own power, and that it will run, when once set in motion, as long as the material of which it is composed may last. He says he can construct a machine of one man power up to a hundred horse power, and that it may be used for driving all kinds of machinery.

Another mechanic in this city has just published that he has also discovered this power. So has another in Georgia, another in Missouri and another in Michigan.

There is no man who has studied the principles of mechanics—the composition of forces—that ever wastes time and talent in searching after an *ignus fatuus*.

### An Air Navigator.

A series of experiments have lately been made beneath an immense tent in Cremorne Gardens, London, by a Mr. Stringfellow—a fine name for suspension. The inventor marches through the air by a machine which sustains and propels itself through the circumambient fluid. The machine excited considerable attention and surprised all the spectators by its wonderful performance. The next expedition that is fitted out by the British government to explore the Niger and the country through which it winds its sluggish and pestilential way, should employ this Mr. Stringfellow with a number of his machines to make a flying exploration, untrammelled with their heels in mud or water.

### Prevention of Steam Boiler Explosions.

A late number of the London Mining Journal states that "Mr. Joseph Spencer, of the Bilson Iron Foundry, England, has invented a steam whistle to be attached to stationary boilers, to give notice when the water was getting low. It is very simple, and, we should say, effective and secure; consisting of a common steam whistle, placed on the top of a boiler—the passage of the steam to which is closed inside the boiler by a valve opening downwards, having an open link attached, and kept close by a balance lever. The float lever works in this open link, and as the water gets low it pulls down the valve, and admits the steam to the whistle immediately giving notice to the attendants. The works being all inside cannot be tampered with."

We must beg leave to tell our respected contemporary across the water, that a patent was granted for this very invention by our Patent Office last year. We have seen both the drawings and specification of it.

This is not a British invention with a Yankee name tacked to it, but vice versa.

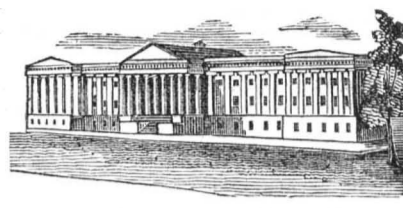
### That Engine.

We would inform the many persons who have written to us in regard to the 12 horse power engine and locomotive boiler, that they are now sold. A gentleman in Virginia was the lucky purchaser. We are constantly filling orders for engines and machinery of every description from all parts of the Union—Our extensive acquaintance among the principal machinists, and a long experience in mechanical matters enables us to select the best machines at the lowest prices.

The  $2\frac{1}{2}$  horse power engine and boiler which we advertise are not yet sold. They are brand new, made in a very substantial manner, and operate beautifully. The engine is attached to the boiler, rendering the whole so compact that the purchaser on receiving them would only have to make a fire in the furnace to put them in operation. Price \$250 cash. Any one at the South or West who would like them, may send us a draft for the amount, and we will have them promptly forwarded at our risk, and delivered in perfect running order.

### The Great Britain.

This heretofore ill-fated steamer, having been regenerated, is advertised for sale by auction in Liverpool in September. With her present engines, she is capable of carrying from 800 to 1000 men for a fortnight's voyage; with smaller engines, by which her coal stowage could be reduced, she could accommodate 1000 emigrants for a distant voyage.



### LIST OF PATENTS

ISSUED FROM THE UNITED STATES PATENT OFFICE,

For the week ending Sept. 12, 1848.

To William Stephenson, of Cincinnati, Ohio, for improved Door Lock. Patented Sept. 12, 1848.

To Josiah Kirby, of Cincinnati, Ohio, for improvement in machines for cutting Bungs. Patented Sept. 12, 1848.

To Isaac Baker, of Warwick, Mass., for improvement in machinery for dressing Chair Seats. Patented Sept. 12, 1848.

To William Bumford, of Ipswich, Mass., improvement in Needles for Knitting Looms. Patented Sept. 12, 1848.

To Miles R. Payne, of Waldo, Ohio, for improvement in Shingle Machines. Patented Sept. 12, 1848.

To Christian Sharps, of Cincinnati, Ohio, for sliding breech pin and self-capping Gun. Patented Sept. 12, 1848.

To Stephen Baldwin, of Williamson, N. Y. for improvement in Washing Machines. Patented Sept. 12, 1848.

To William Stephenson, of Cincinnati, Ohio, for improvement in Door Locks Patented Sept. 12, 1848.

Frederick E. Sickels, of New York City, for improved method of controlling motive power. Patented Sept. 12, 1848.

To J. C. Kneeland and George M. Phelps, of Troy, N. Y. for improvement in machinery for cutting and arranging paper. Patented Sept. 12, 1848.

To William Smith, of Bangor, Me., for improvement in machinery for sawing Shingles. Patented Sept. 12, 1848.

To Job Arnold, of Freeport, Illinois, for method of applying a Governor to a Horse Power. Patented Sept. 12, 1848.

To Deshon & Webster, of New London, Conn., for improvement in double bellows Pump. Patented Sept. 12, 1848.

### INVENTOR'S CLAIMS.

#### Straw Cutters.

L. A. Harper, Russellville, Ky. for improvement in straw cutters. Patented Aug. 15, 1848. He claims arranging the fly wheel and the line of its shaft, and the parts for operating the feed rollers with respect to the knife and feeding box.

#### Ditching Machine.

B. T. Stowell, Wadham's Grove, Ill., for a ditching machine. Patented Aug. 22, 1848. What he claims is the combination of the adjustable side ploughs with the central plough, the inclined endless revolving floor, and the depositing apron.

#### Water Wheels.

Lewis Wertz, Chambersburgh, Pa., for improvement in water wheels. Patented June 20, 1848, reissued Aug. 15, 1848. What he claims is the combination of the cap with the inner ends of the converging buckets and the collar for the purpose of forming a pocket or channel to prevent the water from spreading out laterally when it first acts against the wheel, and keeping it in a solid compact current until finally discharged. He likewise claims the combination of auxiliary converging shutles with the principal shutles and the wheel.

#### Regulating Motion.

Henry Allen, Brattleboro, Vt., for governor for regulating motion. Patented Aug. 22, 1848. What he claims as his invention is a wind wheel or fan.

#### Who shall I get to take out my Patent?

This is the enquiry of almost every inventor, and for an answer we would advise them to read our advertisement of Patent Agency in another column. Patents may be secured through the Scientific American Office on better terms than elsewhere, as our facilities for attending to such matters are unequalled.