

## New Inventions.

### Improvement in Carriage Wheel Hubs.

We would call attention to an improvement on Carriage Wheel Hubs, secured by patent on the 1st inst., to the inventor, Simeon Heywood, of Claremont, N. H. It is a neat and useful improvement, and by a simple contrivance converts the wheel into its own wrench for turning on or off the screw-nut which confines the hub upon the axle. The mechanism employed is a dog and spring, both being enclosed in a close metal cap which covers the outer end of the hub, and excludes all dirt. The dog is operated from the outside by means of a common screw-driver, and when turned in one direction, catches the nut in such a manner that it will be turned off by turning the wheel in the same direction. The same operations reversed will turn the nut on and secure the wheel; the dog may then be turned to a position midway between the above, where it will be securely retained by the spring, and the wheel be left free to revolve.

### Substitute for the Crank.

Mr. S. V. Strait, of Litchfield, Medina Co., Ohio, has taken measures to secure a patent for changing a reciprocating into a rotary motion, in other words a new substitute for the crank. There are no ratchets employed, but bearing curved guide plates, four of them upon a moving piston slide head, which act upon two curved projections or cams secured to a wheel attached to the shaft that is to receive the rotary motion from the reciprocating motion of the piston. By changing the curved guide plates so as to act upon the upper sides of the cams, a motion to the shaft is given in a contrary direction from that which it receives when the guides act upon the lower sides of the cams. The principle of action is that the guides attached to the piston slide, keep acting upon the wheel on the shaft like a pilot at the wheel of a steamboat. He employs a very ingenious plan for changing the motion, but the principle we have stated, is the ruling feature of the invention.

### Improved Stave Machine.

Mr. Dennison Woodcock, of Independence Centre, Allegheny Co., N. Y., has taken measures to secure a patent for improvements on machinery for sawing and dressing staves, which has been considered novel and good by many who have seen the invention. A cylindrical saw with teeth around its one edge, is fitted loose on a pulley somewhat smaller in diameter, and forming a whip saw over it. The pulley has cutters on it, and the stave is fed in, in such a way that it passes through the saw it may be said, the saw acting on the outside of the stave, cutting it convex the whole length, and the cutters on the pulley cutting the inside concave the whole length. The saw forms a kind of eccentric on the pulley, the space between the two being that which gauges the thickness of the stave. The section of the stave is nearly a crescent.

### Improved Harvesting Machines.

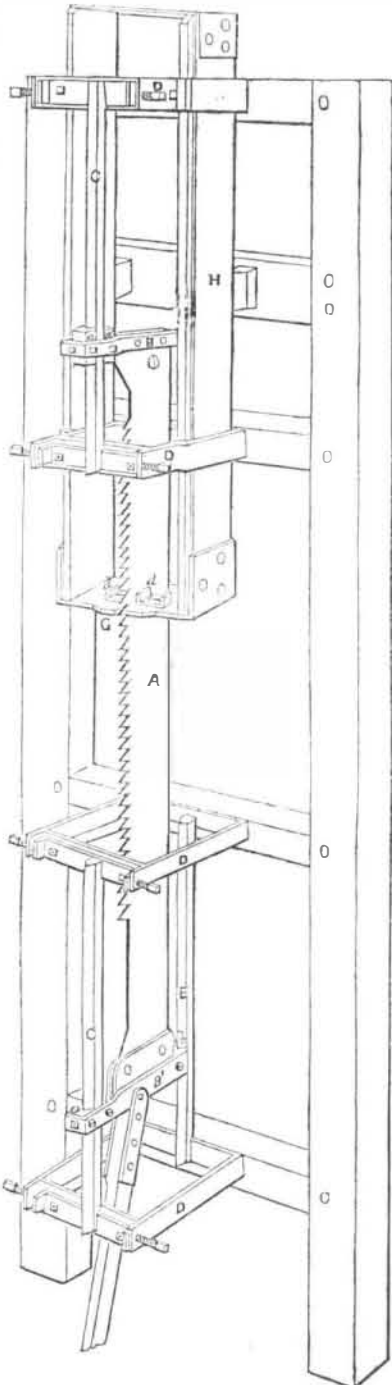
Mr. George H. Rugg, of South Ottawa, La Salle Co., Ill., has taken measures to secure a patent for valuable improvements in harvesting machines—grain reapers. The machinery is so arranged that the driver while sitting in his seat can work a lever with his knees and move a guide roller and the machinery in any direction. The cutter or sickle can also be tightened by the driver while sitting in his seat, and the fingers for gathering in the grain or grass are so shaped and combined with rivets, that they never clog. These improvements are allowed to be of considerable importance.

### The London Patent Cab.

We understand that the omnibus which we spoke of two weeks ago, has been patented by a Mr. J. A. Franklin, (worthy name) and is quite a novelty, although a somewhat expensive one. Around the vehicle runs a gallery by which each passenger goes to his place, being admitted thereto by a private door which opens at that place alone. His seat is the perfection of comfort, and before

him is a mirror in which he can study his own physiognomy undisturbed. A pipe of gutta percha leads to the driver, with whom he can confer whenever he desires.

### Improvement in Hanging Saws in Saw Mills.



This improvement is the invention of E. H. & Sanford E. Parsons, of Wilkesbarre, Luzerne Co., Pa., and was secured by patent to them, April 30, of last year.

The accompanying figure is a perspective view showing how the mill saw is hung.

The invention consists in hanging the saw in advance of its front or cutting edge, in such manner that the pressure of the log advanced against it is in line with the direction in which the carriage is advancing, thus dispensing with a heavy saw gate, which is usually required to strain the saw.

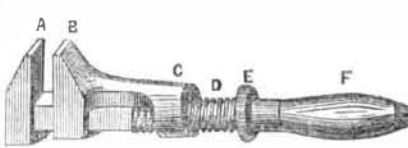
In order to effect this result each extremity of the saw, A, is fitted with a light frame, B B, with the lower one of which the pitman is connected by which the saw is driven; the frames project in front of the cutting edge of the saw and each is fitted at its front extremity with a pair of brasses, a a', which embrace a double V shaped guide, C, but are not set up tightly against it. The guides, C C, are supported at their upper and lower extremities by brackets, D, projected from the framing of the mill, and are fitted with set screws by which they are adjusted to their position. It will now be perceived that when a log is forced by the carriage against the cutting edge of the saw, the pressure will cause the saw to turn horizontally upon the guides as axes, until its horizontal direction corresponds with the direction in which the log is advanced by the carriage, the saw being thus forced to run true while sawing. When the saw is not cutting, the guides thus far described are not sufficient to keep the saw steady and hence it becomes necessary to apply a pair of single V guides, E

E, directly behind the saw and parallel with those in front. Each of the frames, B B, is also fitted at its hinder extremity with a brass, b, to run upon the hinder guide: these brasses are not set up snug against their guides, but a sufficient play is given to allow the saw to accommodate itself to the direction in which the carriage moves. When the saw is cutting the hinder brasses do not act, as the pressure of the log alone against the cutting edge not only steadies it, but tends as before described to keep it running truly.

The saw is prevented from buckling or bending longitudinally above the log by a pair of guide blocks or model pins, d d, which are secured to a yoke, G; the latter embraces the saw and forms the lower cross piece of an adjustable sliding frame, H, which can be raised or depressed according to the thickness of the log on the carriage. Saws arranged on this principle may be seen in Binghamton, Broome Co., and at Springville, Erie Co., N. Y.

More information may be obtained by letter addressed to the inventors and patentees.

### Hewet's Patent Wrench.



This wrench was secured by patent to Henry W. Hewet, of New York, and is now manufactured by E. F. Dixie, of Worcester, Mass. A is the fixed jaw; B is the movable jaw; C is the nut on the movable jaw; D is a revolving tube with an octagonal lower flange, E. This tube has a male screw on its outside working into the nut, C, of the movable jaw. By grasping the handle, F, and working the octagonal part, E, of the tube, the movable jaw is advanced towards or from the fixed jaw, A. The screw tube, D, is placed between the handle and the fixed jaw. The claim of the patent is for the screw on the outside tube revolving on the main bar, the said tube working in a nut on the movable jaw. We have testimonials from Woodburn, Light & Co., McFarland & Bisco, C. Hovey & Co., C. Niles, &c., of Worcester, speaking very highly of its merits, and stating that they believe it to be in many respects the best in use.

The agents for this wrench are Messrs. Bliven, Clapp & Douglass, No. 8 Plattst., New York.

### The Lever—its Principles.

Many people suppose that there is power in a lever. This is an error. A lever is but a stick or crow bar which is totally inert except when power is applied to it. A long lever has no more power than a short one, not one bit. It is true that a man exerting a pressure of 200 lbs. constantly will lift the same weight with as much ease as a man with a lever of half the length exerting a pressure of 400 lbs., but then the man with the short lever will move the weight through twice the space of the long lever in the same time. A screw propeller with a shaft and blade one half the diameter of another, will move the vessel just as fast, if it receives double velocity,—the lever is smaller but the velocity is greater. "Velocity and pressure," the golden rule of mechanical science.

### To Prepare Canvas for Oil Painting.

1st Process.—After the canvas is stretched in the common way, apply with a brush the following size and rub in well: 4 oz. good glue, ¼ oz. alum, and cut ¼ of an inch of white soda soap from off the end of a bar, then add 1½ pints of water, and melt the whole over a slow fire, and strain it through a fine cloth.

2nd Process.—Take 1 part alum, 2 parts white soap, and 3 parts of glue, with water enough to make it of consistency of the first size, melt and strain as above, then mix whitening with it so as to make it considerably thick, not so thick however but that it can be applied with a coarse brush to the canvass. If any person should like a ground less absorbent, they can pass a thin coating of oil over the canvas after it is perfectly dry.

### Ossian E. Dodge.

This famous comic singer and princely good humored fellow, dropped in upon us a few days since, with one of his best smiles irradiating his countenance. We were pleased to learn that he intends to offer a glorious entertainment at Tripler Hall, next Tuesday, the 29th inst., and we bespeak for him a generous welcome from our citizens. Mr. Dodge is a warm-hearted generous man, and a universal favorite among all who know him. The ladies, we are sure, will not permit their husbands or lovers, to keep them away from "Tripler," when Dodge comes out with his programme. It will be a splendid affair. It is concluded upon, in consideration of Mr. Dodge's intimate association with the American press, that the down-east brethren are to take an excursion to Gotham for the purpose of attending the Concert. This is really a testimonial to his merits, and we shall anticipate the occasion with peculiar pleasure.

### To Render Canvas Water-Proof.

Take 7 lbs. of soap and dissolve it in two gallons of water, and while at the boiling heat add 3½ lbs. of the sulphate of zinc (white copperas). The sulphuric acid of the salt combines with the alkali of the soap, and the oxide of the salt combines with its oil and forms an insoluble metallic soap, which, when cold, rises to the surface and has the appearance of a white hard mass. This is afterwards re-boiled to purify it. The next step to be taken is to boil 2½ gallons of linseed oil along with 1 pound of potash until it assumes a soapy appearance. The whole is now boiled along with two pounds of fine animal charcoal and five quarts of water, which purifies the mixture, after an hour's boiling, when the whole is filtered and is of a clear color. About one pound of sugar of lead (acetate) and one pound of rosin is mixed with the oil, and boiled for one hour. Into this mixture is stirred at a boiling heat, 2 lbs. of the metallic soap described above, and after it is dissolved, about two quarts of india rubber dissolved in turpentine is added, and this completes the making of the mixture. This is put on to the canvas with a brush at a heat of 160 Fah. Two coats will be found sufficient to make it water-proof. More however may be applied. Each coat should be allowed to dry before the other is put on. If copperas be employed in this mixture, it will make it of a brown color, and cobalt a blue.

To make leather water proof, take equal quantities of the metallic soap and raw linseed oil, mix them together, and place the liquid in at a heat of 225° and suffer it to cool gradually. The leather should be dried in the atmosphere, when it will be perfectly pliable. Any quantity of the above may be made, so as the proportions are maintained.

This is a first rate composition for the purpose stated, and one to which painters should give peculiar attention, so should the manufacturers of glazed and patent leather.

### Whitewashing.

As the time is now at hand for whitewashing on a large scale, we will give a receipt which is the best known for out-houses. Take half a bushel of good unslacked lime, slack it with boiling water and keep it covered during the slacking process. Strain the liquid through a sieve, and add a peck of clean salt dissolved in warm water, add three pounds of boiled rice or wheat paste and half a pound of dissolved glue. Add five gallons of water to this mixture, and it is best to put it on hot, but in that case use only old brushes, or make allowance for the spoiling of them.

It has been found that our dry winds bite off, as it were, more of the whitewash than do rains. The salt is to obviate this evil. For whitewashing the interior of dwellings, do not use any salt, as it absorbs moisture, and to the above lime, add about two pounds of Spanish whiting. It makes the white more clear looking if a little indigo is squeezed through a cloth amongst it. Amongst the lime, Spanish brown or ochre may be stirred to make a colored lime paint. The sulphate of iron (copperas) makes a buff color; the sulphate of copper, (blue vitrol) a blueish color.