

**A NEW ROAD WAGON.**

The engraving shows a novel vehicle, having the combined advantages of a light speeding road wagon or adjustable vehicle for light and heavy work. It has a very light draught, and is easy riding. The friction on the axles and all of the wearing parts is light, and the shaft shackles, seat, and box are adjustable so that they may be readily adapted to their requirements.

In this vehicle all the advantages of thorough braces and pliant platform are secured, with the addition of improved springs at the front and rear. The forward spring is of novel form, and arranged in line with the bolster, while the rear springs, which are of C form, are attached to and in line with the side bars. The springs are connected by leather or metal shackles with the bars attached to the slatted platform. The front bolster is connected with the rear axle by a central reach and by side bars which are secured by braces, clips, and bolts.

The platform is composed of slats which are thick in the middle and taper toward the ends. This construction gives strength and elasticity. The seat and box have curved bottoms to conform to the curvature of the pliant platform, and are made adjustable. There is no draught on the springs, platform, or box, and the friction and jar or quiver on the axles, wheels, king bolt, and shaft shackles are reduced to a minimum.

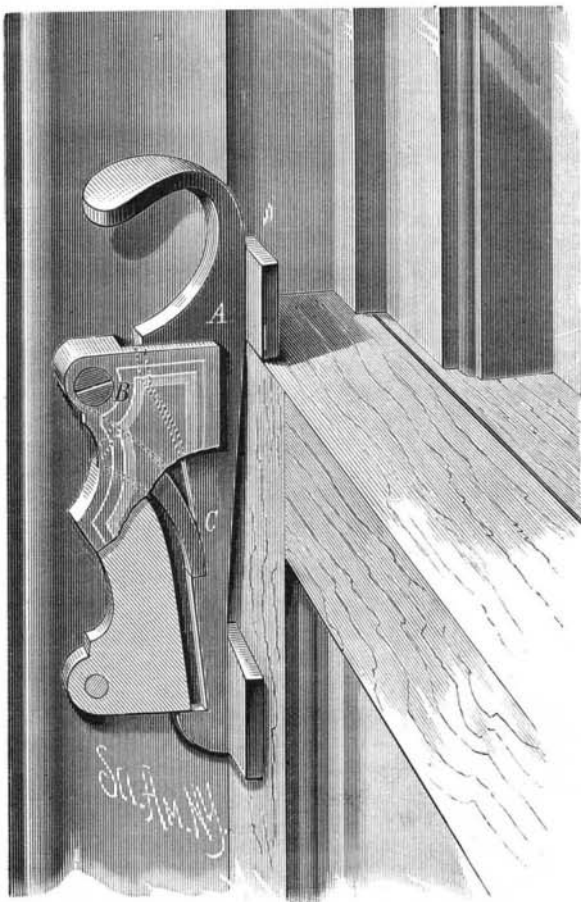
The springs have solid heads or metal tips, which render them stronger and more durable, and reduce the tendency to rattle. The springs, together with the pliant platform, form a combination which secures great elasticity and avoids most of the jar common to other vehicles when driven over obstructions, rough pavements, railroad crossings, crosswalks, ditches, etc., and it has very little swing or dip, and readily adapts itself to uneven roads, and, finally, it is peculiarly adapted for speeding and road purposes. It is used with or without a box, and it may have one or two seats or one or more boxes.

This wagon is made in different styles to adapt it to the wants of purchasers. It is made very light for speeding, a little heavier for physicians' use or for light driving. Another style is suited for liveries and general use; still another for farmers' use, provided with adjustable seat and box. A wagon is also made on the same general plan for sewing machine agents, grocery men, light express, and general use; and a still heavier wagon has two or more seats, and is well calculated for carrying a number of persons comfortably.

This improved vehicle was recently patented in the United States and Canada by Mr. James L. Phillips, box 342, Lowville, Lewis county, N. Y.

**NEW SASH HOLDER AND FASTENER.**

The engraving shows an improved sash holder and fastener recently patented by Mr. John Harley, of Wallace-

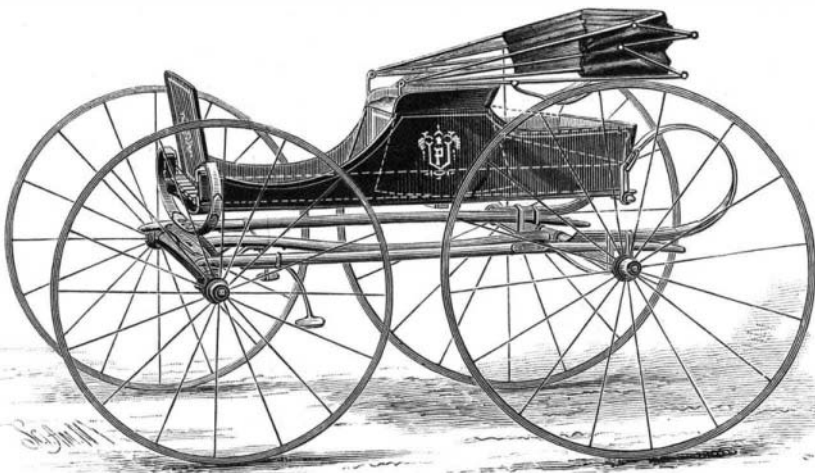


**HARLEY'S SASH HOLDER AND FASTENER.**

burg, Ontario, Canada. The device is very simple, consisting of three principal parts: the wedge, A, casing, B, and the rubber spring, C. The upper end of the wedge is provided with a handle, and two flanges project from its face, one near the top and the other at the bottom. The back of the wedge has a notch near the middle to receive the end of the rubber spring, C. The casing, B, is secured

to the window stop, and has a curved recess which contains the larger end of the rubber spring, C. The lower end of the wedge has a nib which prevents it from being drawn out of the casing.

When the window sash is raised the wedge is drawn by friction partly out of the casing and does not interfere with the opening of the window; but as soon as the sash is released the friction between the sash and the wedge draws the latter down into the casing and clamps the sash tightly, preventing it from descending further. When it is desired to close the window, the wedge is pulled upward, releasing



**PHILLIPS' NEW ROAD WAGON.**

the sash, when the window may be closed. The window is fastened, when closed, by hooking the flange near the upper end of the wedge over the top rail of the lower sash, as shown in the engraving.

Further information in regard to this invention may be obtained by addressing the inventor as above.

**Brewers' Patent Suits.**

The appointment of an advisory committee by the United States Brewers' Association, to counsel brewers who are attacked by "patent sharks" as to their best methods of defense, and if possible to combine interests in a common repulse, was decidedly a step in the right direction. "A child may lead a horse to water, but no man can make the horse drink." The advisory council exists, and so do patent sharks, but they have not as yet come in contact.

We are given to understand that ten or a dozen suits are pending against brewers in New York and vicinity for an alleged infringement of a patent that has been held in abeyance for a number of years, relating to the pitching of casks, etc., by means of hot air. Shultz, of Philadelphia, a long time ago, patented an arrangement for blowing hot air through a furnace into casks, heating them thoroughly so that the pitch would readily spread, thus saving much trouble. The principle was crude, and as times go it was antique. Stromberg, of Baltimore, improved on it. Holbeck went one better, and at last Gottfried, of Chicago, "collared the pot," and rested content until some one discovered that brewers were making a soft thing out of the "pitching patent." The cost of a machine was about \$200, which sum fully covered the principle and the cost of apparatus. There was not enough money in it to "run" a big factory or to make a large income, so the patent fell flat, and was used by any ingenious smith who cared to apply it. Things went on thus until a celebrated firm of lawyers in Chicago "smelt blood," revived the patent, prosecuted claims, frightened some into compliance, and at last instituted suits for damages against brewers using the machine, in some instances, we are told, to the amount of \$15,000, in equity. They expect, it is said, to hop out of New York with at least \$200,000 damages obtained against brewers who have used this precious hot air arrangement. Those who have settled are referred to in proof of the validity of the claim, and an eminent trade journalist in Chicago gives testimony in its favor. We expect to hear of a patent on the breath of heaven yet.

To show the value in equity of this precious patent, we may state that on Wednesday, Sept. 15th, Henry Guenther, of the John Kress Brewery, New York city, pitched, on the old principle—i. e., unhooping and taking out the head of the keg—twenty-four quarters in twenty-five minutes, beating the patent pitching machine all hollow, especially as to equity. For proof we refer to Mr. Stenger, of Eckert & Winter, and to Mr. P. Hoffmann, and to many others who witnessed the operation. Patent claims, in equity, must be careful in particularizing. —*Brewers' Gazette.*

**A New Oil from Grape Vines.**

The introduction of American vines into France to resist the ravages of the phylloxera is likely to receive a check, since it is claimed that only six or seven varieties do resist the insect's attacks successfully, while none of them produce wine as good as that obtained from the French vines. M. Laliman, a French *savant*, has discovered, however, that an oil can be distilled from the American vines which will not congeal above 8° Fah., while other oils congeal at 27½° Fah. M. Laliman, therefore, recommends this oil for watch-making and similar uses.

**MECHANICAL INVENTIONS.**

An improved car coupling, patented by Mr. William R. Firebaugh, of Danville, Ill., consists of a link fastened to a shaft passing through and loosely mounted in a drawhead provided with a hook and a buffer, upon which shaft a cam provided with a weighted latch and acted upon by a locking spring is rigidly mounted. The shaft of the cam can be rotated by means of a crank shaft and chains, or by a crank directly; by this means the pivoted link is engaged with or disengaged from the hook on the opposite drawhead.

Mr. William B. Padgett, of Batesville, Ark., has patented an improved press for cotton, hay, or other material, that may be operated by hand or other power. The invention cannot be described without engravings.

Mr. Christopher C. P. McCord, of Walnut Grove, Ark., has patented a safety pulley for cotton gins and other machines, the object being to furnish devices by which the power may be quickly disconnected from the machine in case of accident.

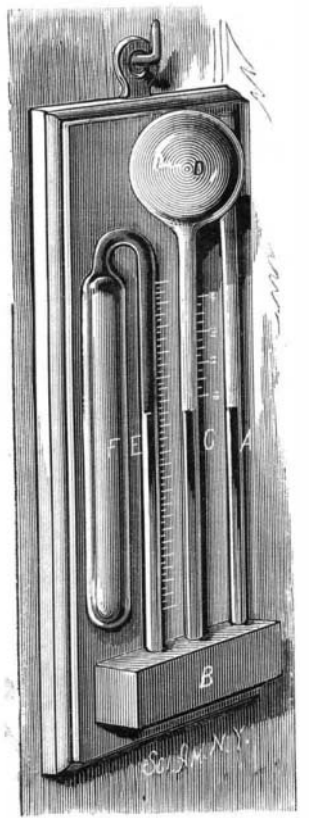
A motor for driving sewing machines and other small machinery by either weight or spring power, has been patented by M. Léonce P. Ducournau, of New Orleans, La. The invention consists in a novel arrangement and combination of springs, gearing, and a fly wheel, and devices connected therewith which cannot be readily described without engravings.

Messrs. James A. Mell and Wesley Wortenbe, of Moline, Mich., have patented a self-adjusting wrench especially adapted for heavy work. It consists, essentially, of two jaws with legs of different lengths pivoted together; the longer jaw being also pivoted to a handle in such a manner that either or both jaws can swing and increase or diminish the opening between them within certain limits, as may be desired.

An improved rotary engine or pump has been patented by Mr. William B. Espent, of Spring Garden, Jamaica, West Indies. The invention consists in certain novel features of construction whereby the inventor obtains a minimum of friction surface with a maximum of piston space and speed and a reduction of joints requiring to be packed.

**A NEW COMBINED BAROMETER AND THERMOMETER.**

The engraving shows a short-leg mercurial barometer and thermometer combined. It consists of three tubes about half full of mercury dipping into a sealed cistern, B, full of the same. The tube, A, is open to the air; the tube, C, has at its top a sealed globe, D, full of air. Now, taking these two tubes alone, any variation in the atmospheric pressure would cause the mercury in A to rise or fall, communicating its movement to the mercury in C; but any variation in temperature would also move the mercury by expanding or contracting the air in the globe, D. To counteract this influence, which would in some cases materially alter the readings of the barometer, another tube, E, is arranged with a long bulb, F, something like a Sixe's thermometer; this tube, E, is, like the other, about half full of mercury, the rest of the tube and the bulb being filled with spirits of wine. Now the action of this thermometer for an increase of temperature is as follows: The spirit expands and drives the mercury into the other two tubes, but the air in the globe also expands by the heat, and prevents the mercury rising in the tube leading to it. All the rise of the mercury, therefore, takes place in the open limb, and exerts a greater pressure on the air within the globe, and thus prevents it from expanding; the height, therefore, of the mercury in the limb leading to the globe is not altered by differences of temperature, and it gives the reading of the barometer. A decrease of temperature acts in an opposite direction; the spirit then contracts, draws the mercury from the open limb, and reduces the pressure upon the air within the globe, which is thus prevented from contracting, so at all temperatures the volume of gas remains the same. Practically it is not altered by differences of atmospheric pressure, as the space in the globe is some hundreds of times larger than the space occupied by the variation of the mercury. The tube, E, also serves as a thermometer, for the spirit is, of course, incompressible. We have not yet heard how far the compensation is practically effected, but the design is certainly very ingenious. —*E. H. Hills, in English Mechanic.*



**Combined Barometer and Thermometer.**