

## NEW INVENTIONS.

## Improvement on Violins.

Moses Coburn, of Savannah, Georgia, has taken measures to secure a patent for a unique improvement on violins. The instrument is made of a gradually increasing width from the neck to the bottom, or of a nearly angular form, only so far departing from it as to destroy sharp corners and stiffness of form. The external convexity of top and bottom, however, are preserved. The reasons for departing from the common form of violins, is, that the instrument being made so much narrower at the middle, it makes two vibrating bodies instead of one, as by the new improvement. The two parts of the common violin vibrate independently, and not in accordance with each other, therefore they interrupt the free and perfect intonation of the strings. Mr. Coburn is a professor of music, and teaches it in Savannah; he is, therefore, capable of forming an excellent judgment respecting the defects of the old violin, and the improvement which scientifically, will remove the evils. In his violin he places the air apertures in the sides, in order that the top may not be weakened by cutting them through. Thus the top of his instrument presents a fair, unbroken, triangular table, and looks neat and handsome to our notion of such things.

## Improved Fastener for Window Sash.

William Morehouse, of Albion, Orleans Co., N. Y., has taken measures to secure a patent for an improvement in the construction of window sash, so that they can be raised and retained at any position desired, and prevented from rattling without the necessity of employing cords, weights, pulleys, or any of the catches and eccentrics in common use. The sash has a vertical groove nearly its whole depth in one of its sides, and there are some spiral springs placed snugly therein, and covered with a strip of wood which is peculiarly fitted to it. When the window is raised the tension of the springs upon the strip presses upon the window frame and retains it in any position in which it may be placed.

## Cider Mills.

F. B. Hunt, of Westfield, Hamilton Co., Ind., has invented a new improvement in cider mills. He employs two adjustable endless aprons, with spurs on them, for feeding in the apples, and by which the apples can be cut as desired, by cutters, or any substance, such as beets, turnips, carrots, cabbages, &c., may be cut with the one set of cutters, as desired, without the necessity of employing several implements for this purpose, as is now the case. The press is portable, and very convenient for the purposes stated. Measures have been taken to secure a patent.

## Machinery for Moulding Smoothing Irons.

William D. Cummings, of Maysville, Ky., has taken measures to secure a patent for a new machine for making hollow smoothing irons. It is designed for the purpose of moulding the box or the body of the irons, for which a patent has been granted to himself in conjunction with N. Taliaferro, and its object is to enable them to be moulded with great rapidity, and of much better quality. The common slow process is superseded, and the machine enables the moulder to cast a great many irons in a very short time, and continually, a thing he could not do by the old way.

## Self-Holding Screw Driver.

Jacob W. Switzer, of Basil, Fairfield Co., Ohio, has taken measures to secure a patent for a self-holding screw-driver, which consists in combining with the ordinary brace and bit stock, a self-holding screw-driver for holding the screw firmly and securely, while the operator is driving or withdrawing a screw. There are spring catches on it, which have jaws, into which the screw is placed to be driven in. With pointed screw-nails it dispenses with the use of the gimlet entirely. It is certainly very convenient to work it, like a bit-stock.

## New Carpet Loom.

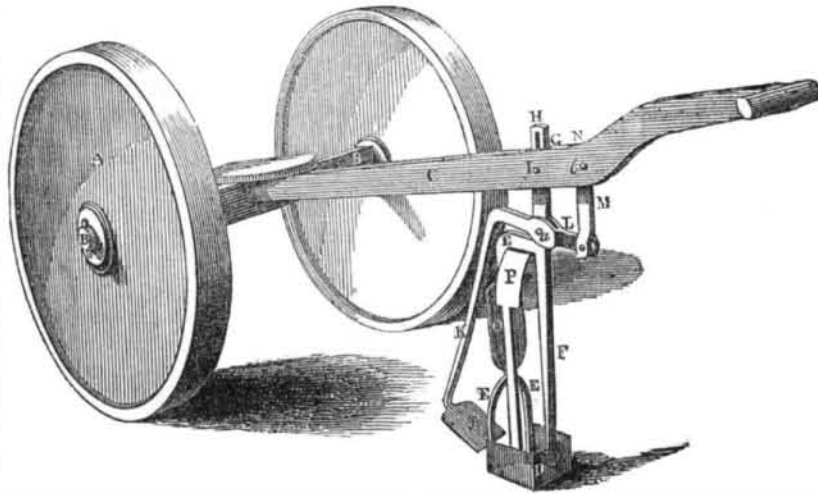
The editor of the "Worcester Palladium" has recently seen in operation, at Mr. Bickford's machine shop, in that city a new carpet loom, the invention of John Goulding, a gentleman of well-known mechanical ingenuity.

He says it is much more compact, and occupies much less room than any other carpet loom now in use; requiring a space 20 by 10 feet in a room 10 feet high. It weaves nearly twice as many colors as any other loom, of any pattern of Brussels carpeting that may be desired, and performs the work with much neatness and precision, and gives to the web a high finish. It is a beautiful machine, of great simplicity in its construction, and all the parts apparently so adjusted as to be durable in operation.

## Foreign Patents.

Under the new law, patents for Great Britain can be secured at greatly reduced prices, and with such superior facilities as we possess, parties wishing to secure foreign patents will do well to consult with us in anticipation of any business they may have to transact abroad. We solicit for Patents in the United States, Great Britain, France, Belgium, Austria, Spain, Prussia, Russia, and all other countries where laws for the protection of inventors exist.

## DITCHING MACHINE.



This engraving is a perspective view of a machine for digging ditches, invented by Jonathan W. Morrill, of Hampton Falls, N. H., who has taken measures to secure a patent for the same.

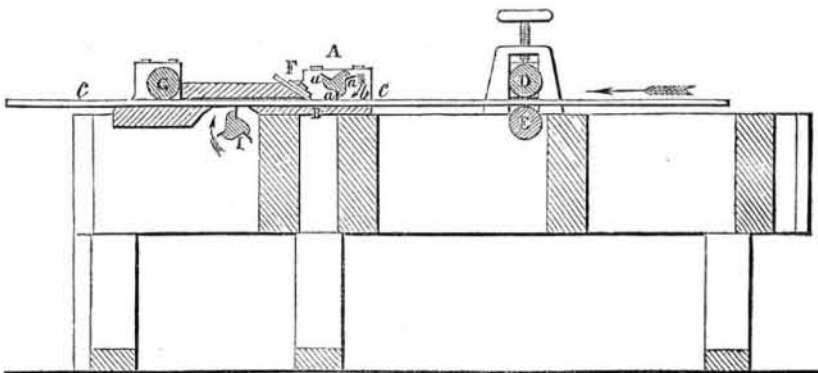
AA are the wheels; B is the axle of the same across which the beam lever, C, is secured. The cutters for ditching are placed and secured in this lever. D D D are the cutters for cutting the sides and front edge of the sods. These cutters are united together and are braced and supported by the stirrup brace, E, which has a vertical bar, F, secured to the front edge, and passes up through the slot, G, in the lever, C. This bar, F, has a slot, H, cut in its upper end, with a pin, I, passing through it to make it fast to the lever. As the cutters are raised and lowered, the slot in bar F admits of the lever, C, being depressed and raised. J is a spade, cutter, or scoop; it has a bent handle, K L, which turns on a fulcrum pin, a, which passes through the bar, F. The part, L, is secured to a link, M, which passes up through a mortice, N, in the beam, and it is loosely secured in the same by a pin, c, which allows it to move back and forth as the cutters, D D D, and spade, J, are depressed or elevated; O P are thin plates of metal for guiding the sod as it is raised up, and for

throwing it out at the side of the ditch. The plate, P, is but to incline the sod to the one side.

To work this agricultural implement, it is brought to its proper position to make the ditch, and the attendant applies his weight to the front end of the beam, and the square cutters, D D D, are depressed, and enter the ground straight down, cutting three sides to the depth of eight or more inches, and then he goes to the back end of the beam, and puts his weight upon that; this action of the attendant makes the spade lever swing forward and forces it into the ground between the cutters, D, thus cutting a square deep sod clean from the bottom. The machine is then moved forward about six inches or nine inches, and the same operation repeated; the second sod which is forced up into the box cutter, throws the first sod up and out at the side. The spade, J, has a very peculiar action, and the beam, C, is employed simply as a horizontal lever, and no more, and the wheels are for the purpose of moving the machine easily forward. Two men should always be employed to work this machine. The inventor states that he has worked it and that "it performs admirably."

More information may be obtained by letter addressed to the inventor.

## NORCROSS'S NEW PLANING MACHINE.



The annexed engraving is a longitudinal section of a machine for planing boards, for which a patent was granted on the 22nd of last June (1852), to N. G. Norcross, of Lowell, Mass. A is a rotary cylinder, with a series of planes, a a a, placed above a bench or rest, B. The said cylinder revolves in the direction of the arrow, b, or that of the board, C, which is moved under it, so as to cut from the unplanned surface of the board towards its planed surface. D E are the feed rollers; after the rotary cylinder, A, then is placed a straight stationary inclined plane iron, F, arranged near to the path of the knife edges of the cutter cylinder. G is an emery or smoothing drum; its surface is covered with teeth like those of a file or some abrasive material, to smooth and finish the board after the plane

F, has acted upon it. The drum, G, may be made with a corrugated surface, to give the board a grained appearance. I is another cutter cylinder, the cutters of which rotate and cut below on the board, from its planed to its unplanned surface. The planing machine of Daniel Hill, of Stoneham, Mass., invented in 1828, for the purpose of planing boards, had a rotary cutter placed underneath the surface of the board, which was supported and moved along on a bench. This machine could not reduce an uneven board to an equal thickness throughout, but the board was prevented from being drawn downwards, and it was cut from its planed to its unplanned surface. A planing machine invented by M. Roquiere, for which a patent was granted in France in 1818, as described in Vol. 23 of "Brevets d'Inventions,"

had its rotary cylinder placed above the bench, and cut the board from its unplanned to its planed surface. Woodworth's machine has a rotary cylinder placed above the board, which cuts from the planed to the unplanned surface, and it has pressure rollers to hold the board down, to keep it from being lifted up. The machine which cuts from the unplanned to the planed surface, labors under the difficulty of dulling the planes or cutters much sooner than the one which cuts from the planed to the unplanned surface, owing to sand and dirt being ingrained in the surface of the board, but, at the same time, the surfaces of boards planed by a rotating cylinder are not planes, but are curved by the dubbing or adze cut of the cutters. This machine of Mr. Norcross is intended to reduce a board to an even thickness, and also to reduce the upper surface to a plane surface, grained, or made corrugated in a longitudinal direction. No rollers are employed to hold the board down or counteract any tendency of the rotary cylinder to lift it, as in the Woodworth patent, because the upper cylinder operates on the board in the contrary direction, and tends to force the board down on the bench instead of lifting it up, and the under cylinder to act in the contrary direction. The rotary cylinder above is employed to take off the rough surface of the board and reduce it, so that the stationary plane, F, can operate on it afterwards, and easily make on it a plane surface. By placing the stationary knife close up and near to the path of the revolving knives, the riband shavings made by the former, are cut up and thrown off by the latter; this is an advantage over stationary planing machines which require an attendant to take away the ribbons of shavings from the knife boxes. The claim is for a cylindrical rotary set of cutters to remove the rough from the unplanned to the planed surface, in combination with the stationary cutter for finishing without pressure rollers or pressure bars of any kind, as set forth.

In practice, this machine, we have been assured, works admirably, with a great saving of power. It must make a beautiful surface on a board, and will no doubt attract much attention. A number of inquiries have been made of us respecting it by those who had read the claim of Mr. Norcross as published in our list in the last volume. Here it is illustrated, and a machine can be seen in operation at Lowell, Mass., every day, where its practical qualities can be examined. One will also be exhibited at the Fair of the American Institute, which is to be held at Castle Garden in this city, next month.

## The Prizes Again.

Persons competing for the prizes offered for the four largest lists of subscribers, are urgently requested to send in all the names they procure as early as the first or fifth day of December, which will enable us to announce the result in the number issued December 18th. We have already received a few lists, and a promise of additional names. We earnestly solicit competitors to mention with each remittance, that they are competing for one of the prizes, otherwise we might overlook their letters where only a very small number of names are sent in at one time. Our correspondence is exceedingly large, hence the impossibility of remembering every writer's name.

## An Exemplary Omnibus.

The following is the description of a new bus about to be set up in London:—

"First, the seats in the interior are all separate, so that a person on entering, can immediately perceive which is his place, instead of seating himself in his neighbor's lap. Second, there are two entrances, one at each side, between the wheels, so placed that persons may enter without stepping into the muddy roads. Third, there is a check-string for each passenger, to indicate on which side of the road he desires to be set down. On the outside, instead of the abominable "knife-board," are twelve separate seats, easily approachable by ladies by means of a staircase, and not a ladder or step. These seats are as comfortable as the interior, and as safe; and, moreover, by means of a frame and a light cover, which rolls up with a spring behind the driver, can at any time be protected from the weather; so that, even during heavy rain, the carriage would fill outside as well as in."