# Zcientific American.

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 torm 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 mouldirg 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 gimblet entirely. It is certainly very convenient to work it, like a bit-stock.

## New Carpet Loom.

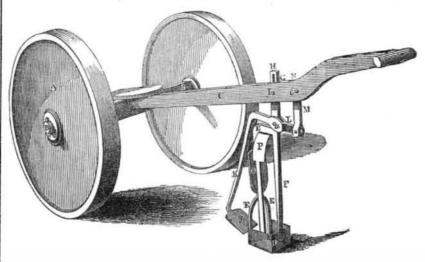
The editor of the "Worcester Palladium" has recently seen in operation, at Mr. Bickford's machine shop, in that city a new carpet loom, the invention of John Goulding, a gentleman of well-known mechanical ingenuity.

He says it is much more compact, and occupies much less room than any other carpet feet in a room 10 feet high. It weaves nearly and with such superior facilities as we postwice as many colors as any other loom, of sess, parties wishing to secure foreign patents any pattern of Brussels carpeting that may be | will do well to consult with us in anticipation desired, and performs the work with much of any business they may have to transact

Foreign Patents.

Under the new law, patents tor Great Briloom now in use; requiring a space 20 by 10 tain can be secured at greatly reduced prices, neatness and precision, and gives to the web abroad. We solicit for Patents in the United a high finish. It is a beautiful machine, of States, Great Britain, France, Belgium, Ausgreat simplicity in its construction, and all the tria, Spain, Prussia, Russia, and all other counparts apparently so adjusted as to be durable tries where laws for the protection of inventors exist.

#### DITCHING MACHINE.



machine for digging ditches, invented by Jo- | plate, P, is but to incline the sod to the one nathan W. Morrill, of Hampton Falls, N. H., side. 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. DDD are the cutters tor 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 scooper; it has a bent handle, K L, which turns on a tulcrum 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, 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 ter addressed to the inventor.

This engraving is a perspective view of a | throwing it out at the side of the ditch. The

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 DD, are depressed, and enter the ground straight down, cutting three sides to cutting the sides and front edge of the sods. 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 torward. Two men should always be employed to work this c, which allows it to move back and forth as machine. The inventor states that he has worked it and that "it performs admirably."

More information may be obtained by let-

To work this agricultural implement, it is

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, aud to 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.

had its rotary cylinder placed above the bench,

and cut the board from its unplaned to its pla-

ned surface. Woodworth's machine has a ro-

tary cylinder placed above the board, which

cuts from the planed to the unplaned surface,

and it has pressure rollers to hold the board

down, to keep it from being lifted up. The

machine which cuts from the unplaned 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

unplaned 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 cut-

ters. This machine of Mr. Norcross is intend-

ed to reduce a board to an even thickness, and

also to reduce the uppersurface to a plane sur-

face, grained, or made corrugated in a longi-

tudical direction. No rollers are employed to

hold the board down or counteract any ten-

dency of the rotary cylinder to lift it, as in

the Woodworth patent, because the upper cy-

linder 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 direc-

tion. 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 re-

volving 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 unplaned to the planed surface; in combi-

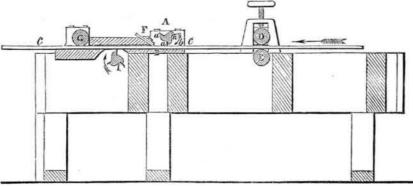
nation with the stationary cutter for finishing

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 solicir 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

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 im-The annexed engraving is a longitudinal | F, has acted upon it. The drum, G, may be mediately perceive which is his place, instead

## NORCROSS'S NEW PLANING MACHINE.



which a patent was granted on the 22nd of board a grained appearance. I is another cut- cond, there are two entrances, one at each last June (1852), to N. G. Norcross, of Low- ter cylinder, the cutters of which rotate and side, between the wheels, so placed that perell, Mass. A is a rotary cylinder, with a se- cut below on the board, from its planed to its sons may enter without stepping into the ries of planes, a a a, placed above a bench or unplaned surface. The planing machine of muddy roads. Third, there is a check-string rest, B. The said cylinder revolves in the di- Daniel Hill, of Stoneham, Mass., invented in for each passenger, to indicate on which side rection of the arrow, b, or that of the board, 1828, for the purpose of planing boards, had a of the road he desires to be set down. On C, which is moved under it, so as to cut from rotary cutter placed underneath the surface of the outside, instead of the abominable "knifethe unplaned surface of the board towards its the board, which was supported and moved board," are twelve separate seats, easily applaned surface. D E are the feed rollers; af- along on a bench. This machine could not proachable by ladies by means of a staircase, ter the rotary cylinder, A, then is placed a reduce an uneven board to an equal thickness and not a ladder or step. These seats are as straight stationary inclined plane iron, F, ar- throughout, but the board was prevented from comfortable as the interior, and as safe; and, ranged near to the path of the knife edges of being drawn downwards, and it was cut from moreover, by means of a frame and a light the cutter cylinder. G is an emery or smooth- its planed to its unplaned surface. A planing cover, which rolls up with a spring behind ing drum; its surface is covered with teeth machine invented by M. Roquiere, for which the driver, can at any time be protected from like those of a file or some abrasive material, a patent was granted in France in 1818, as de- the weather; so that, even during heavy rain, o smooth and finish the board after the plane scribed in Vol. 23 of "Brevets d'Inventions," the carriage would fill outside as well as in."

made with a corrugated surface to give the of seating himself in his neighbor's lan. Se