# NEW INVENTIONS.

### Cutting Hand Rails by Machinery.

George B. Pullinger, of Philadelphia, has invented a new machine for cutting "hand-rails," and other irregular forms. There are two peculiar cutters set upon the upper ends of two vertical spindles, which are placed opposite to one another, with a space between them, for the rough piece of wood to be fed in. These cutters are of such a form—almost bell-shaped—as to cut the rough piece to the form of rail required. There are three feed cone pulleys employed, the lower one being made fast, and the two upper ones capable of reversing their places, for only two feed pulleys are in operation at once, and the upper ones are employed for guiding more than feeding. One side and top of a rail is finished by the passage of the stick through it at one operation, then it is put through again, when the top pulleys are reversed, and the rail is then finished. This machine is a very important invention, as it performs work which has hitherto been exclusively performed by hand labor. Measures have been taken to secure a patent.

### Improvement in Bridges.

Benjamin C. Coghill, Oquawka, Illinois, has taken measures to secure a patent for an improvement in Bridges, the object of which is mainly to prevent them being carried away on our western rivers by freshets. In the West, where the banks of so many rivers and streams are very low, the bridges are sometimes carried away by the waters, which often rise to the height of many feet above the ordinary level, sweeping away the common bridges, and often leaving whole tracks of country destitute of facilities for crossing the said rivers. This bridge is constructed, with the object of holding the roadway and all the parts firm to the abutments, and the abutments permanent in their foundations. This is done by a peculiar framing confined to the earth for the abutments, and by braces and girts secured in such a way to the abutments as to render the structure proof against being floated off by the most powerful freshet.

### Machine for Cutting and Bending Tin.

J. A. Jillson, of Poughkeepsie, N. Y., has invented an improvement in machines for cutting and bending tin for the covers and bottoms of pails, cups, and such-like vessels. The tin plate to be acted on is placed between two discs which are situated at the ends of two horizontal shafts, which vibrate in such a manner that the tin may be placed between the discs and secured by pressing the one disc against the other, which is termed the holder. The face of the holder is covered with tin to prevent it from marking the tin to be acted upon, and, at the same time, it produces sufficient adhesion between the shield and the tin, without much lateral pressure on the frame of the machine. The tin being placed between the discs, the shafts are made to revolve and the tin is cut in circular form by circular cutters, which are placed upon a carriage on the upper part of the frame. Rollers for bending the tin are also placed on the frame, and so arranged as to bend the edge, making the necessary ledge to overlap the body of the pail, cup, or other article. A movable gauge is placed some distance below the discs; it is governed by a spring, and is excellent for adjusting the tin.

### Improved Capstan.

George Newcomb, of the city of New York, has taken measures to secure a patent for an improvement in Capstans for ships, which consists in applying power and communicating motion to a capstan by means of a horizontal shaft, which receives rotary motion through the action of a pair of levers hung loosely upon it, and which carry pawls engaging into toothed wheels made fast upon the shaft, this shaft carrying a bevel wheel gearing into another bevel wheel upon the capstan. The levers which carry the pawls have the power applied to them by another set of levers, which admit of the purchase being increased indefinitely. The object of the improvement is to economize space, and apply a greater power in a smaller space than can now be applied to the common capstan.

### Paper Cutting Machine.

Thomas H. Dodge, of Nashua, N. H., has invented a very excellent machine for cutting paper for printing. A blade is made to receive a reciprocating side slanting and downward motion by bevel gearing, which is moved by simply turning a crank handle. This machine cuts both card boards and paper, and is exceedingly simple in arrangement and construction, and is allowed to be a good improvement on machines which have been in use for the same purpose.

### Surgical Adjuster.

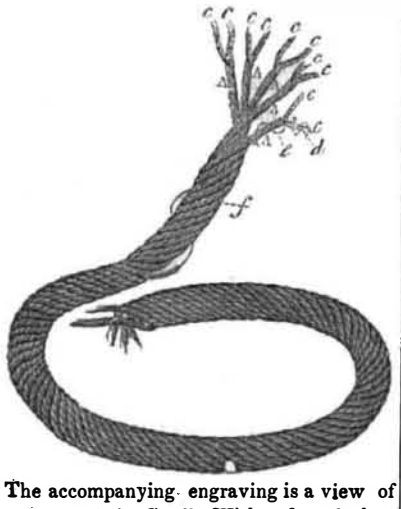
Dr. Zimri Hussey, of Chillicothe, Ohio, has invented a most excellent improvement, named the "Perfect Adjuster," to be employed in the surgical treatment of fracture and luxation. There is a seat piece with certain braces and appendages applied to the double inclined planes, for the purpose of rendering additional aid in the adjustment or reduction of the most difficult cases of fracture and luxation (dislocation) of the lower limbs.

## WOODWARD'S PATENT WEEDING PLOW.


This figure is a perspective view of the Weeding Plow of Joshua Woodward, of Mittineague, West Springfield, Mass., whose improved Seed Planter was illustrated and described in the Scientific American of last week. E is a view of the angle plate of this weed plow. The patent for this improved agricultural machine was issued on the 9th of last March, (1852) The purpose of the machine, or plow, is to eradicate weeds from land with the least power applied, and in the most effectual manner. A is the beam; B are the handles; C is the share or mould board; these parts are similar to those in plows now in use. There is a piece placed on the upper side of the mould board, for insuring the turning of the weeds under, by its curving over. The sole, D, of the plow is flat and solid, and upon it is secured an angle plate, E, by proper bolts, so as to be shifted to and from the land side, to the angle required for the work to be done, the angle being determined according to the direction to be given to the mould-board. The part perpendicular to the sole of the plow is thin, so as to cut its way readily into the ground; by this means the ground is effectually cleaned of weeds in the following manner:—the plate, E, being set, it is made to enter the ground, while the edge of the *share* just skims below the surface, eradicating the weeds as nearly up to the corn as is desirable, but does not disturb the roots. The angle guide plate, F, causes the plow to run steady throughout its whole course. which is absolutely necessary, especially in ground which is liable to clog; any deviation, under these circumstances, at once prevents the mould-board or share from scouring. G is a brace. The upper part of the mould-board is made movable, and its rear end is projected beyond the cutter, so as to cover the weeds most effectually.

The claim of this patent is for the plate, E. constructed, arranged, and combined with the plow, as set forth. More information about rights, &c., may be obtained by letter addressed to the patentee and inventor. We would state that Mr. Woodward resided at Haverhill, N. H., when the patent was granted, since that time he has moved to the place designated above.

### Wortendyke's Patent Countertwist Wick.




The accompanying engraving is a view of improvements in Candle Wicks, for which a patent was granted to Cornelius A. Wortendyke, of Godwinville, Bergen Co., N. J., on the 30th of last March (1852). The improved wick is made of any number of strands, and each strand is made of two or more separate yarns, the yarns being twisted in one direction, and the strands in the opposite direction, and the wick being twisted in a direction opposite to that of the strands, so that at each successive stage of the process of the manufacture, the twist is contrary to that which immediately precedes it.

The engraving represents a specimen of the improved wick made of five strands, A A representing them, each of which is formed of two yarns, *c c*. The yarns are first spun singly, in the common way of making candle wick, the twist being towards the left (looking towards the ends of the yarns), as indicated by the arrow, *d*; the yarns are then doubled and twisted to form a strand, the twist of the strand being towards the right, as indicated by the arrow, *e*. The five strands thus formed are then combined, to complete the wick by twisting them together towards the left, as indicated by the arrow, *f*. The twist in the successive stages of the process of forming the wick, are as described alternately to the left and to the right hand. Thus the improved wick is fully described, so that any person acquainted with the mode of making wick will fully understand it.

The object of this invention is to form a wick of any size, for tallow and other candles. This wick is prepared expressly for the machine mould lately introduced into practical use. It is of a soft and spongy texture, and has the appearance and answers the purpose of the braided wick. The process of twisting and countertwisting does not in the least prevent the strands of the wick from opening and imbibing the tallow freely, while, at the same time, it preserves its firmness, uniformity, and perfection. It works free and smooth in the moulds, and saves an immense labor in the manufacture of candles.

Further information can be obtained by addressing C. A. Wortendyke, patentee, or A. Wortendyke, manufacturer of the Patent Countertwist Wick, Godwinville, near Paterson, N. J.

### New Gold Washer.

Alexander Barclay, of Newark, N. J., has taken measures to secure a patent for an improved gold washer. The object of the improvement is to stir the gold and earthy matter, in which it is found in a state of nature, more effectually, while washing, than is done by other machines, in order to a more perfect separation of the gold from earth matter, previous to the amalgamating process. He employs a hollow cylinder with beaters in it; water is admitted to the inside, and the lighter matters are made to rise and pass off through an annular space.

### Tubular Ventilating Window Sash.

H. Strait, of Cincinnati, writes us he has invented a better plan for window ventilation than the one proposed in his last letter, of having perforated panes of glass. He now proposes tubular perforated window sash. The tubes can be plated to give them a finished appearance, and they will be fire-proof.

### Rapid Evaporation of Ice.

Every washerwoman knows by experience that, when wet clothes are hung out in a cold freezing day, they will soon become hard, then they will dry, and become quite limber after being exposed for some time. This is owing to the rapid evaporation of ice. In the arctic regions, the dryness of the atmosphere is remarkable. Wood, horn, and ivory are shrivelled up. The handles of razors, knives, combs, &c., are damaged in the same way as when kept in warm rooms. The human body, in the arctic regions, becomes highly electric from the dryness of the skin. Friction of the skin produces the electric ozone odor. A piece of linen, says Sir John Richardson, after being washed and exposed in the air at 40° below zero, if agitated by the wind, dries nearly as fast as if it were exposed to the sun in England.

### Singular Petition to the Senate for an Appropriation.

On Thursday, last week, Senator Underwood presented a petition from some female constituents of his, and which was of a peculiar character. They represented that a gentleman named Tibbett has applied to them, and satisfied them that he is the inventor of a steam engine which may be used with perfect safety. He proposes to generate steam by throwing water on red hot boilers, so as to generate just the quantity of steam which may be required, without involving any danger of explosions. The engine has never been completed. These ladies, however, satisfied of the practicability of the invention, and animated doubtless, by most philanthropic motives, have given him the sum of fifteen hundred dollars, for the purpose of constructing an engine, and ask Congress to give as much more. Now had these ladies been readers of the Scientific American, or their husbands (if they have any) subscribers, they would have saved their fifteen hundred dollars. Their money is done for, that's a fact. This plan of Tibbett is at least 28 years old, and besides it is useless, and opposed to true science. This has been set forth in our columns a number of times. The memorial was referred to the Committee on Commerce.

### The Collin's Steamers.

The amendment to grant $33,000 a trip to these noble steamers passed the Senate by a vote of 27 to 19 on Friday last week.