

## MISCELLANEOUS INVENTIONS.

Mr. John Hill, of Columbus, Ga., has recently patented an improvement in the class of fire extinguishers employed in large buildings, in which a stand pipe is connected by branch pipes and valves with a set of sprinkling pipes in each story, whereby the water may be showered down in any room or compartment in which a fire may take place. The invention consists, mainly, in connecting the valves of each branch pipe where they join the stand pipe and lead to the several stories with a common station by means of shafts and toothed gears, and providing a handle or hand wheel on each floor with the valve, whereby the turning on of the water from the stand pipe to the branch pipe of any one story may be effected either upon that floor or from a common station below.

Mr. William Brown, of Greenpoint, N. Y., has patented an improvement in the class of barrel lifters consisting of a hoop and two clamps, the latter being pivoted to opposite sides of the hoop and provided with handles. This useful invention was fully illustrated and described in our columns not long since.

Mr. Upton Miller, of Mount Morris, Ill., has patented an improved washing machine. This invention relates to that class of washing machines in which the clothes are compressed between reciprocating pressing boards.

Mr. Christopher G. Dodge, Jr., of New York city, has patented an improved calcimine, or distemper paint consisting of Paris white, glue, white soap, chloride of calcium, carbolic acid, and water, mixed in certain definite proportions.

An improved gag-runner for harness, which is so constructed that they may be readily adjusted higher and lower, and may be conveniently attached and detached, as required, has been patented by Mr. Marshall R. Dowlin, of North Adams, Mass. The invention consists in the combination of a metal hook with the loop of a gag-runner.

An improved beehive, patented by Mr. Erasmus H. Key, of Mayfield, Ky., is provided with better arrangements or provisions for the health and comfort of the bees and for the convenience of the bee-culturist than those ordinarily in use.

Mr. John R. Roberts, of Youngstown, O., has patented a towel rack formed of a single piece of wire having its end parts bent to form the brackets and the bearing loops for the roller.

An improved recording apparatus for spirit meters, patented by Mr. John M. Cayce, of Thompson's Station, Tenn., is mainly an improvement upon letters patent of the United States No. 211,554, granted to the same inventor January 21, 1879.

An improved clasp for albums has been patented by Mr. Sidney Posen, of Offenbach-on-the Main, Germany. The object of this invention is to furnish an improved clasp for albums or other books that may be opened and closed and so held automatically.

Mr. Charles Y. Beach, of Fairfield, Conn., has patented a composition for the manufacture of rubber or other gum cloth or fabrics, consisting of caoutchouc or other gum and cotton or other fiber, prepared by grinding together.

## IMPROVED SPROUT PULLER.

Sprout or grub pullers, as commonly made, have sharp jaws, which are liable to cut or break the sprout, and they are otherwise inefficient and inconvenient. The annexed

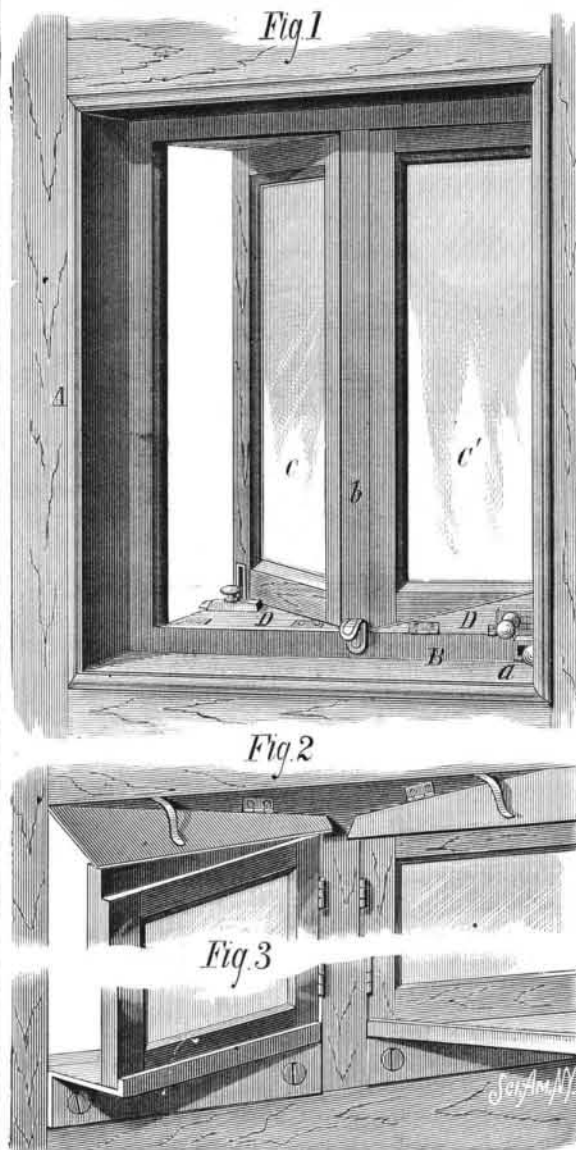


SNAPP'S SPROUT PULLER.

engraving represents an improved puller patented by Mr. James W. Snapp, of Jasper, Tenn., and designed to avoid the imperfections of its predecessors. It has two rounded jaws, which are concaved laterally on their grasping surfaces to prevent cutting or breaking the sprout. One of the jaws is curved and attached to a fulcrum block having a rounded bearing surface, which is large enough to furnish a steady support. The manner of using the tool is clearly represented in the engraving.

## IMPROVED CAR WINDOW.

The car window shown in the engraving is especially designed for sleeping and drawing-room cars, but it is equally well adapted to ordinary passenger cars. It makes an effective ventilator, and at the same time prevents the entrance of smoke, dust, cinders, and rain without in any way obstructing the view.



MACKALL'S CAR WINDOW.

Fig. 1 is a perspective view of this improved car window; Fig. 2 shows the upper portion of the window, and Fig. 3 is a modified form of the device shown in Fig. 1.

The car window frame, A, contains the sash, B, provided with a vertical center bar, b. To this bar are hinged two sashes, C C', opening in opposite directions. These sashes may be closed flush with the sash, B, so that the entire window may be raised in the usual way. To the sash, B, at the lower end of the openings of the sashes, C C', are hinged the plates, D, which are thrown down as the hinged sashes are opened, and thus close the space between the main sash, B, and the sashes, C C'. Instead of the hinged plates, D, the inventor, in some cases, uses a fixed bent plate, as shown in Fig. 3.

The tops of the sashes, C C', are covered by triangular water shed plates which are hinged to the sash, B, and open outwardly when the hinged sashes are opened. They are pressed against the sashes by springs secured to the sash, B.

These water shed plates may be constructed like Fig. 3, and are then stationary and fastened to the car window frame.

In going in a given direction only the hinged sashes furthest from the front end of the car are opened. By means of this arrangement the foul air is exhausted from the car as it proceeds, without the entrance of dust or cinders.

Further information may be obtained from Mr. Douglass Green, Columbus, Ga.

## Fire-proofing Cotton Fabrics.

In a paper on some conditions of inflammability, read before a sanitary convention in Michigan, Dr. Kedzie, of the State Board of Health, said that cotton clothing could be prevented from taking fire by the use of borax in starching—a teaspoonful to each pint of starch after the water has been added. The borax can have no injurious effect upon the cloth or upon the wearer, and is so cheap that all can afford to use it.

Dr. Kedzie showed by experiments that muslins and tarlans, the most inflammable goods, when treated with borax starch, could not be made to burn with a blaze. If all cotton dresses and underclothing, and especially the clothing of children, were treated in this way, a great number of lives and much suffering would be saved every year.

Dr. Kedzie said he expected that one of these days some shrewd fellow would use this receipt, mix starch and borax, and sell it as "asbestos starch," or with some other catching name, at 500 or 600 per cent profit, and get rich out of it. The people could just as well do their own mixing and save the profit.

## Cotton Factories in the South.

Mr. Francis Fontaine, Commissioner of Land and Immigration for the State of Georgia, asserts that no cotton mills in the world have been so profitable as those of Georgia during the past decade. The Chattahoochee River, at Columbus, furnishes one of the best water powers in the world; and at this point are 60,000 spindles in operation. One company at Columbus has a mill employing 1,800 operatives, all natives except the foremen, and manufacture over one hundred varieties of goods. They use 13,000 bales of cotton per annum and 800 lb. of washed wool daily, and pay out \$600,000 per annum.

The total number of spindles in the Southern States—687,200—are distributed as follows:

States.	Spindles.
Arkansas.....	1,700
Alabama.....	63,000
Georgia.....	187,000
Kentucky.....	11,254
Louisiana.....	6,200
Mississippi.....	70,000
Maryland.....	113,000
Missouri.....	26,000
North Carolina.....	93,300
South Carolina.....	92,000
Texas.....	9,300
Tennessee.....	49,500
Virginia.....	52,000

## The Climax of Invention.

The Bridgeport News very cleverly describes an invention, credited to a Bridgeport Yankee, to prevent marketmen from palming off old eggs for fresh ones. The inventor proposes to arrange a rubber stamp in the nest of every hen, with a movable date. This stamp is arranged with a pad that is saturated in indelible ink. When the hen lays an egg, as is well known, she kicks slightly with her hind leg. An electric disk is arranged so that her foot touches it, and the stamp turns over on the ink pad, and then revolves, stamping the date on the egg. The hen then goes off about her business, the farmer's hired girl removes the egg, and replaces the stamp, which is then ready for another. On each evening, after the hens have retired to their downy roost, with the roosters, the date of the stamp is altered for the next day, and the work goes on. In this way there can be no cheating. You may go to the grocery and ask for fresh eggs, and the grocery man tells you he has some eggs of the vintage of January 29, 1880, for instance. You look at them, and there are the figures, which cannot lie.

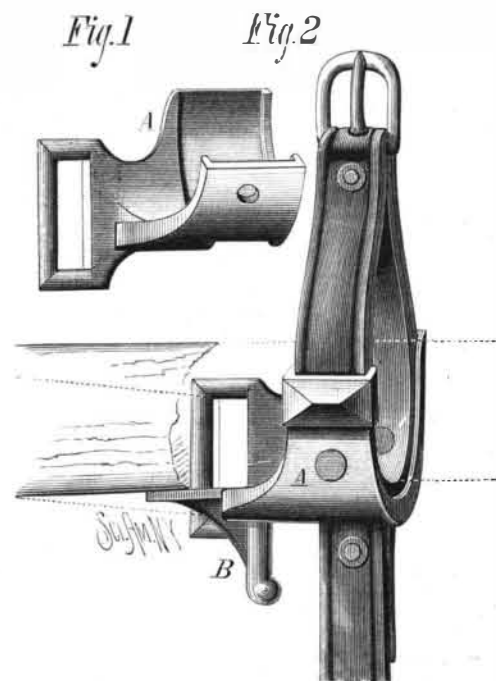
## Flooring for Brooklyn Bridge.

The contract for the under flooring of Brooklyn Bridge has been awarded to the proprietor of the Hayford process for the preservation of wood. There will be required about 1,100,000 feet of yellow pine, which will first be thoroughly dried and then charged with creosote under pressure.

## NEW HOLDBACK FOR HARNESS.

The accompanying engraving represents an improved holdback lately patented by Messrs. J. Knight and H. Hilliard, of Musquash Parish, New Brunswick, Canada. It consists of a curved metal plate or shell, A, having inwardly projecting flanges forming a seat for the thill strap and having an eye for receiving the holdback strap. The shell has a mortise for the thill strap to pass through, and the rear edge of the shell has a notch for receiving the hook, B, attached to the thill.

This device takes the wear and pressure of the thill and thill hook, and relieves the strain on the girths. It insures



KNIGHT &amp; HILLIARD'S HOLDBACK FOR HARNESS.

the fastening of the breeching, and in case of the breakage of the breeching it prevents the vehicle from running forward against the horse. It gives the horse greater control of the load than the ordinary holdback, and greatly facilitates harnessing and unharnessing the horse. These and many other advantages will be apparent to those familiar with the requirements.

Further information will be furnished by the patentees, whose address is given above.