

AN IMPROVED TWINE HOLDER.

A device which provides means whereby a cord hanging from a holder will, when snapped, be automatically lifted from the table or counter, and which is equally adapted for use with either fine, medium, or coarse cord, is illustrated herewith, and has been pa-



HILL'S TWINE HOLDER.

tented by Mr. Jonathan Hill, of No. 238 East Fifty-second Street, New York City. A lifting arm or rod, preferably of wire, with its outer end bent and formed into an eye, its inner end also having an eye, and fitted near thereto with a rectangular sleeve having a series of apertures, is attached to a chain suspended from the ceiling by a hook entering one of the apertures of the sleeve. The twine holder is suspended by a rod and two or three links from the eye on the inner end of the lifting rod, thus holding the latter up at a pretty sharp angle. The twine is passed from its cup or holder, up through the last link of a short guide chain, through the eye on the outer end of the lifting arm, and down through an eye attached to the holder, so that its lower end will be in reach from the counter. In drawing the cord for use, the lifting arm is pulled downward, as shown in the illustration, but when the cord below is broken, and it is released, the weight of the holder upon the short arm of the lever causes the lifting arm to ascend, taking the end of the cord up with it and from off the counter.

AN IMPROVED FIRE ESCAPE.

A construction designed to form a permanent and efficient fire escape, whereby also the firemen may readily ascend to any floor of a burning building, and water may be supplied thereto through a stand pipe, is illustrated herewith, and has been patented by Mr. William McMullin, of No. 89 Madison Street, Chicago, Ill. A well is built partly in and partly outside of the wall of the building, preferably of common hard-burned brick, and has at its base a fireproof door, with othersimilar doors leading out upon each floor. The walls of the well are designed to rise about six feet above the roof, and be covered with a fireproof hood, with openings at its lower edges for the escape of smoke, as indicated by the arrows. A water pipe resting upon a solid base is vertically supported centrally within the well, with nozzles at each floor for hose connections, and a spiral stairway is constructed about the pipe, each step being more or less triangular in shape, and having at its inner end an integral eye, adapted to be entered over the central pipe. A platform is constructed for each floor landing, and the rise of the steps and platforms are both regulated by metal rings encircling the central pipe, the wide ends of the steps being supported in the



McMULLIN'S FIRE ESCAPE.

wall of the well, so that the steps serve as braces therefor. A railing is provided for each side of this spiral stairway, to facilitate ascent and descent, and the entire well or tower is constructed independent of the walls of the building, being designed to stand if the building should fall.

A Floating Sawmill.

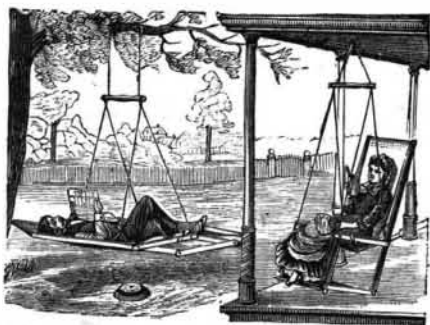
Along the bayous and lagoons of Florida grows some of the finest timber in the South, much of it in places considered entirely inaccessible until J. L. Maul & Son hit upon the plan of constructing a floating sawmill. This idea they carried into execution, and their mammoth mill, which now lies off the banks of Burton & Harrison's hammock, near Palatka, is, according to the *Southern Lumberman*, a marvel of mechanical ingenuity. It has a length of eighty and a breadth of forty feet, and is so solidly built that the motion of the machinery has no more effect upon it than if it were built upon the solid land. Although it stands five feet high out of the water, its draught is only about a foot and a half, which permits it to be taken into the shallowest lagoons, where timber could not be floated. It is equipped with the latest machinery, planer, box header, shingle saws, and a fine forty horse power engine and boiler. On the hurricane deck is the cabin and office for the proprietor, while the cook house, where the men board, is in a corner of the main deck, which is otherwise free for the piling of lumber, the machinery being all below it. This floating mill has so far proved eminently successful, exceeding the expectations of the proprietors in this respect, and is probably the pioneer of numerous craft of the same kind.

THE WHITE MOUNTAIN HAMMOCK CHAIR.

A strong and simple hammock chair, designed for use in the house, or on the lawn or in camp, is shown in the accompanying illustration, the smaller figure representing it suspended in a stand, as adapted for use in places where the usual mode of suspending it cannot be followed. Its construction is such that it can be readily balanced in all positions, without needing fastenings to keep it in place, and the foot rest can be adjusted to suit the tallest or shortest persons. The seat is made of strong canvas, and the chair will easily support the heaviest person, while it is so light that an invalid can easily carry it. This hammock chair, with its stand, can be readily removed from place to place, so that the occupant may always choose a resting place in the shade, while it can be quickly taken



HAMMOCK CHAIR STAND.



A SELF-ADJUSTING HAMMOCK CHAIR.

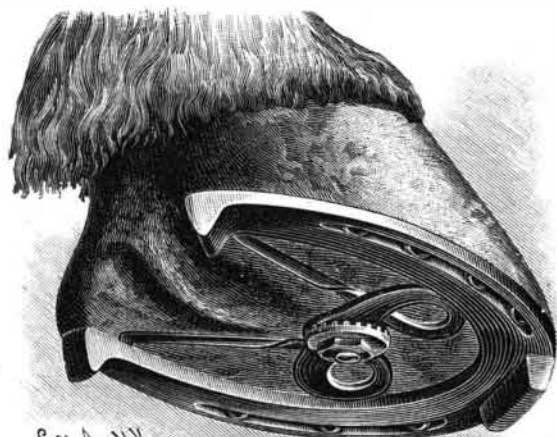
apart and folded in a compact, portable package for transportation. The Alford & Berkele Co., of No. 77 Chambers Street, New York City, are the manufacturers' agents, and will supply any additional information desired.

The Gramophone.

At a recent meeting of the Franklin Institute, Philadelphia, Mr. Emile Berliner, of Washington, read a paper on his lately invented apparatus for recording and reproducing musical sounds and speech, called the "gramophone." Mr. Berliner gave a historical sketch of the progress of invention in this field and a detailed description of his own method and apparatus. The speaker illustrated his paper with the aid of the lantern and by the exhibition of the apparatus. He demonstrated its capabilities by recording on one of his prepared zinc plates several songs and speeches, etching the plate, and reproducing the songs and words then and there. Several etched record plates, prepared previous to the meeting, were likewise presented, and the reproducing apparatus faithfully emitted the songs and spoken words recorded upon them. The reproduction was loud enough to be distinctly audible all over the lecture room. The music could be easily recognized. Speech, though not so clearly rendered, was for the most part intelligible.

AN IMPROVED HOOF EXPANDER.

A device adapted to be placed within the hoofs of horses, inside the shoes, to prevent the contraction of the hoofs and to expand them, is illustrated herewith, and has been patented by Mr. Lawrence Monahan, Jr., of Morris Plains, N. J. It has a thin head, adapted to be received between the toe and the shoe, a pair of spring legs fixed to the head and arranged to be seated on opposite sides of the frog, with laterally projecting prongs to be forced into the sides of the heel by the tension of the spring legs. Instead of making hoof ex-



MONAHAN'S HOOF EXPANDER.

panders in various sizes to fit different hoofs, as heretofore, the device covered by this invention can be readily adjusted to suit a hoof of any size, the legs, with their respective spring curls, forming two separate sections, on the inner extremities of which are reverse toothed clutch disks, made to interlock with each other, and having central pivot holes with a pivot bolt having a clamp nut on its threaded end. The expander is applied by introducing the spring curls between the toe of the hoof and the shoe, when the legs are sprung to allow the prongs to enter the sides of the heel, and the clamp nut is screwed up to lock the two clutch disks together and hold the pronged legs in position.

AN IMPROVED WINDOW VENTILATOR.

A guard and sash rest, to be applied on the lower portion of a window casing, enabling the lower sash to be supported at such height as will give efficient ventilation through the then separated sash rails, has been patented by Mr. Charles R. Long, of Louisville, Ky., and is illustrated herewith, the arrows indicating the incoming air currents. A pair of weather strips or sections are adapted to rest by their bottom edges on the edge of the window casing, just inside of its grooved sashway, one of these sections having an outwardly extended rib or strip, with dovetailed tongues and grooves designed to engage corresponding dovetailed tongues and grooves in the other section, and permit the longitudinal sliding of one strip upon the other, for extension or contraction, to correspond with the widths of various windows. This strip extends into the vertical plane of the sash, and serves when in position as a support for the sash, the upper edge of both weather strips extending above the rest strip. Lying against the outer face of the weather strips at their end portions, and projecting slightly beyond the ends, blocks about the width of the sash groove are adjustably attached, to permit of being raised or lowered sufficiently to bring their lower edges to the bottom of the grooved sashway when the weather strips are resting on the edge thereof, such adjustment being effected by thumb screws. By still further lowering these end blocks in relation to the weather strips, the latter may be held to support the sash and leave a space along the bottom edge of the strips through which air may enter.



LONG'S WINDOW VENTILATOR.