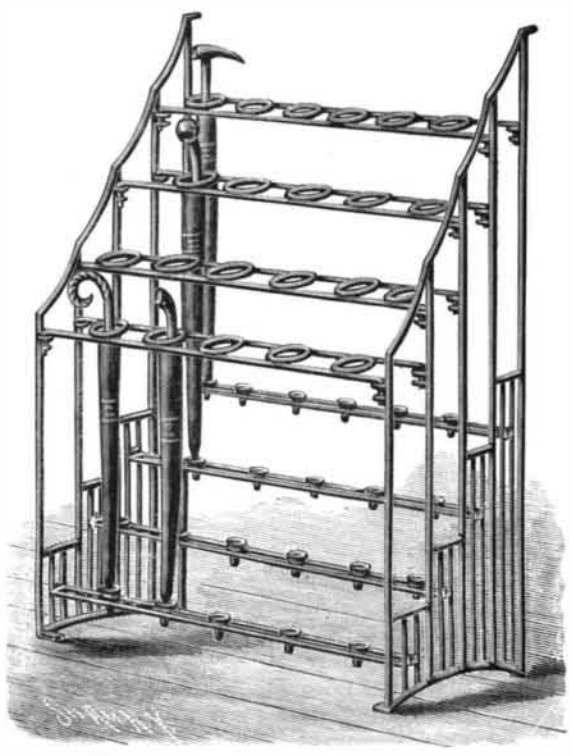
AN IMPROVED UMBRELLA OR PARASOL EXHIBITOR.

This is a light, strong and portable exhibitor for facilitating the display of a number of umbrellas, parasols, canes, etc., permitting free access to any of them, while the device may be quickly separated into



KNISELY'S UMBRELLA OR PARASOL EXHIBITOR.

parts which can be closely packed for transportation. It is a patented invention of Messrs. Abraham Y. and John P. Knisely, of Steelton, Pa. The device may be made in either rectangular or circular form, though the former style only is shown in the illustration. It has two similar side frame sections connected together at their lower ends by arched foot pieces, and at their graded upper ends by inclined top rails of undulating form. Between each adjacent pair of the upright bars are horizontal braces at graded intervals of height, the lowest braces being in front and the highest at the rear. From each horizontal brace two parallel guide strips are downwardly extended and attached by their lower terminals to the foot pieces, the guide strips receiving and supporting movable transverse socket-supporting bars, each socket bar being elevated above the one preceding, considered from front to rear. To afford support for the upper ends and lateral braces for the structure, composite cross bars are provided, each composed of two rods held in the same plane by a number of rings, each ring being located directly over a socket when the parts of the frame are assembled. The ring bars are attached to the frame by depending hooks fitting in eyes on the upright rods.

BOLT THREADING MACHINE.

The Wiley & Russel Manufacturing Company, of Greenfield, Mass., have recently brought out a bolt threading machine which we herewith illustrate. It is a machine for threading bolts and pipe and for tapping nuts, to which can be attached a cross slide and tool rest for cutting off stock. Fig. 1 shows the plain machine having back gears which can be thrown in or out as in a lathe, with a hollow spindle. The dies are carried in two equal wheels set side by side controlled by a right and left screw, each die being divided, the half in one wheel opposite the half in the other, so that a complete meshing die is made by bringing the wheels together, and the finished screw released by separating them, thus saving running back over the threads.

Fig. 2 shows the same machine with the cutting off attachment added, and has also a screw attached to the carriage passed through the bed underneath the head of a nut driven from the spindle by change gears. By putting on the proper gears, greater accuracy of pitch can be secured in cutting screws than is possible when dependence is placed on the die alone. An extra chuck on the back end of the spindle is provided for holding firmly long work, as in cutting off stock. The back of both machines forms a cupboard for the reception of dies, etc., not in use, and with both is furnished a countershaft with friction clutches.

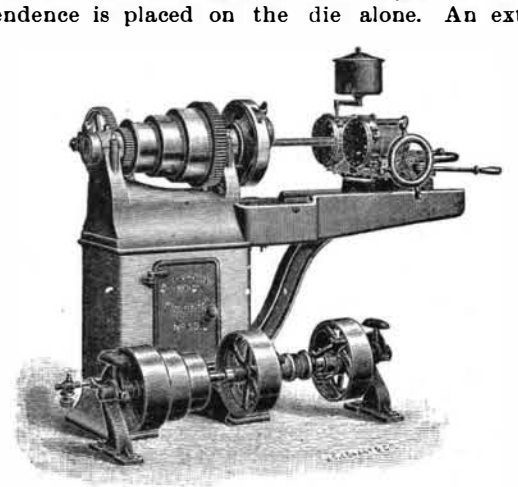
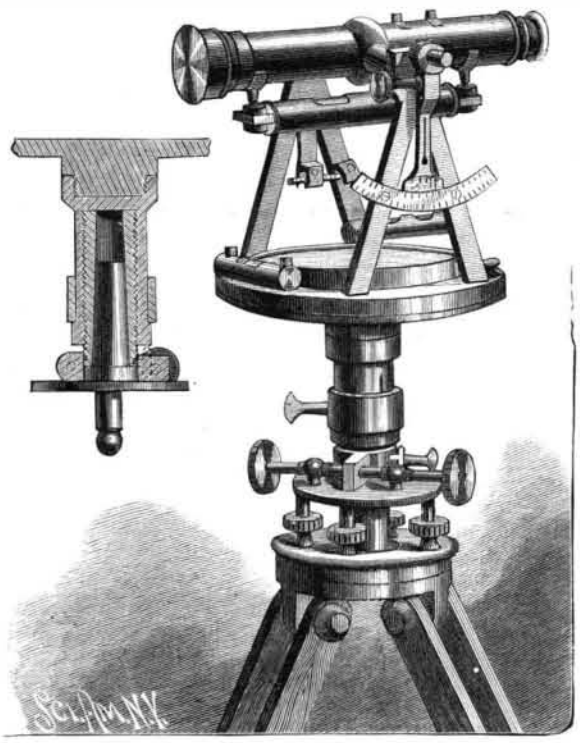


Fig. 1.—BOLT THREADING MACHINE.

AN IMPROVED SURVEYOR'S INSTRUMENT.

The accompanying illustration represents a readily applied improvement in the stands of theodolites and field transits, whereby the telescope can easily have its height adjusted after the instrument has been leveled. The invention forms the subject of a patent issued to Mr. John R. Hanlon, of Pennington, N. J. A boss depending from the limb or upper plate is recessed to receive the tapering upper end of the spindle, as shown in the sectional view. A cylindrical sleeve fits on the spindle below the boss, and turns thereon, a clamping collar surrounding the sleeve at its lower end, and a clamping screw engaging this collar by means of lugs or ears to bind the sleeve when necessary and prevent its turning on the spindle. A spring catch is also fastened securely to the clamp, and fits into a groove running completely around the inner sleeve, to prevent the possibility of the transit accidentally slipping from the spindle. The outer surface of the sleeve above the clamp is screw-threaded to engage the similarly threaded interior surface of an outer cylindrical sleeve, the upper end of which screws upon the boss depending from the upper plate. This outer sleeve has longitudinal slits extending upward from its lower end, surrounded by a clamping collar with clamping screw. When the bottom clamp is loosened the instrument can be turned laterally to any desired angle, and when the upper clamp is loosened the outer sleeve may be screwed up to any desired height on the inner sleeve. By this means the telescope has its height accurately adjusted after being leveled. It is not necessary that the spindle extend up into the boss, as the attachment can be made without altering the original spindle. the inventor having added the attachment to his



HANLON'S SURVEYOR'S INSTRUMENT.

own transit, and describing the working of the instrument therewith as very accurate and complete.

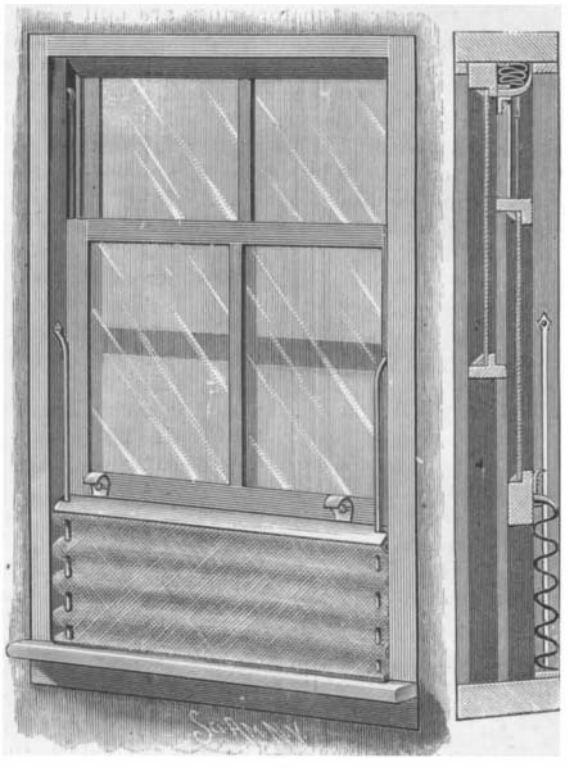
Paper in Japan.

In Japan, as is well known, it has long been customary to manufacture a multitude of articles, from overcoats and window panes to string and pocket handkerchiefs, out of paper, but the Japanese government, not content with these feats of national ingenuity, is just now bestowing great attention on the paper industries, and experimenting with pith, old silk rags, and many kinds of vegetable substances, with a view to other employments of paper in the arts. Mr. Liberty, in his recent paper read before the Society of Arts, London, describes a visit that he made to the government paper factory at Shiebu-Ogi, where he watched hundreds of intelligent little Japanese girls and women preparing the "mitsumata," or bark of the famous "paper mulberry tree," and arranging the snowy layers of pulp on the rectangular straining sieves. Toughness and a silk-like surface are the usual characteristics of Japanese paper, which, in spite of our recent progress in this department of the arts, still remains far superior to European paper.

THE Secretary of the Navy has ordered that the new war ship Baltimore shall be commissioned to convey the remains of the late John Ericsson to Sweden, his native country. The highest honors will be paid to the memory of the great engineer.

AN IMPROVED SCREEN ATTACHMENT FOR WINDOWS.

The accompanying illustration represents an improvement in that class of devices in which the screen proper is connected with the sliding sash, to be drawn out



HORTON'S SCREEN ATTACHMENT FOR WINDOWS.

and stretched when the sash is raised. It has been patented by Mr. William J. Horton. The lower edge of the screen is nailed or otherwise secured to the window sill on the inner side of the bead, the lateral edges of the screen being connected with and sliding on vertical rods on the inner sides of the jambs of the window frame. The upper edge of the screen is secured to the recessed under side of a wooden cross bar detachably connected with the lower portion of the sash by means of catches. The under side of the screen bar is recessed, and its front edge extended downward to adapt the bar to cover the screen when folded beneath it, whereby the screen will be concealed from view and protected from wear and injury, the bar also forming an unobtrusive and ornamental cap for the bead of the window sill. A similar screen attachment is provided for the upper sash, except that brackets are substituted for catches. The screens may be made of fabric or woven wire.

For further information relative to this invention, address Mr. John Menger, No 166 Hollis Street, Halifax, Nova Scotia, Canada.

Beetles in Furniture.

The long imprisonment of beetles within furniture is treated of in the last report issued by the New York State Museum of Natural History. It is suggested that when such cases occur, the conditions may bring about a lethargic state in which respiration and accompanying phenomena are almost or entirely suspended through the complete exclusion of air by the rubbing, oiling, and varnishing or other polishing the furniture has undergone. This instance of the imprisonment of a beetle *Science* cities from *The Illustrated American:* "In 1786 a son of Gen. Israel Putnam, residing at Williamstown, Mass., had a table made from one of his apple trees. Many years afterward the gnawing of an insect was heard in the leaves of this table, which noise continued for a year or two, when a large long-horned beetle made its exit therefrom. Subsequently the same noise was heard again, and a second insect, and afterward a third, all of the same kind, issued from this table leaf; the first one coming out twenty, and the last one twenty-eight, years after the tree was cut down."

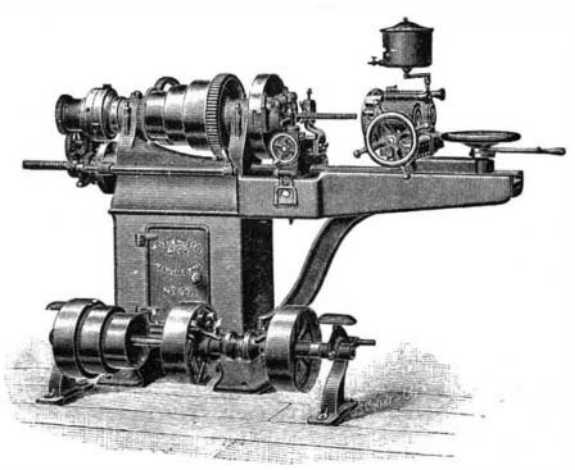


Fig. 2.—BOLT THREADING MACHINE WITH CUTTING OFF ATTACHMENT.