

**A NEW MITER CUTTER.**

The accompanying engraving represents an improved miter cutter recently patented by Mr. W. R. Fox, of Rockfall, Conn. Its construction is so simple that it can be readily understood by a glance at the engraving. The cutters, which are made of the finest cast steel, are secured to a slide that moves in guides along one edge of the bed and the slide is moved by a pinion placed between the rack on its outer side and a rack on the bed, the pinion being provided with a long lever by which cutters may be moved in either direction with force sufficient for any work that the tool is capable of doing.

Upon the bed there are gauges and guide marks to which the work is adjusted. At each end of the bed and near the path of the knife there is a pivoted support for the end of the piece being squared.

This tool seems superior to the block plane, as it will do the work quicker and better. It is particularly useful in squaring across the end of the grain; when used for this purpose, the piece being cut may be backed up by another piece to prevent slivering.

This tool is strong and well designed, and well calculated to meet the wants of wood-workers.

**How to make a Bark Lodge.**

The Earl of Dunraven gives the following directions for making a hunting lodge, Canadian style: Having selected a level spot, make four low walls of two or three small pine logs, laid one on the other, and on these raise the framework of the camp. This consists of light thin poles stuck into the upper surface of the logs, and the upper ends leaning against and supporting each other. The next operation is to strip large sheets of bark off the birch trees, and thatch these poles to within a foot or two of the top, leaving a sufficient aperture for the smoke to escape. Other poles are then laid upon the sheets of birch bark to keep them in their places. A small doorway is left in one side, and a door is constructed out of slabs of wood or out of the skin of some animal. You next level off the ground inside, and strew it thickly with the small tops of Canada balsam fir for a breadth of about four feet; then take pliant ash saplings and peg them down along the edge of the pine tops to keep the carpet in its place, leaving a bare space in the center of the hut, where you make the fire.

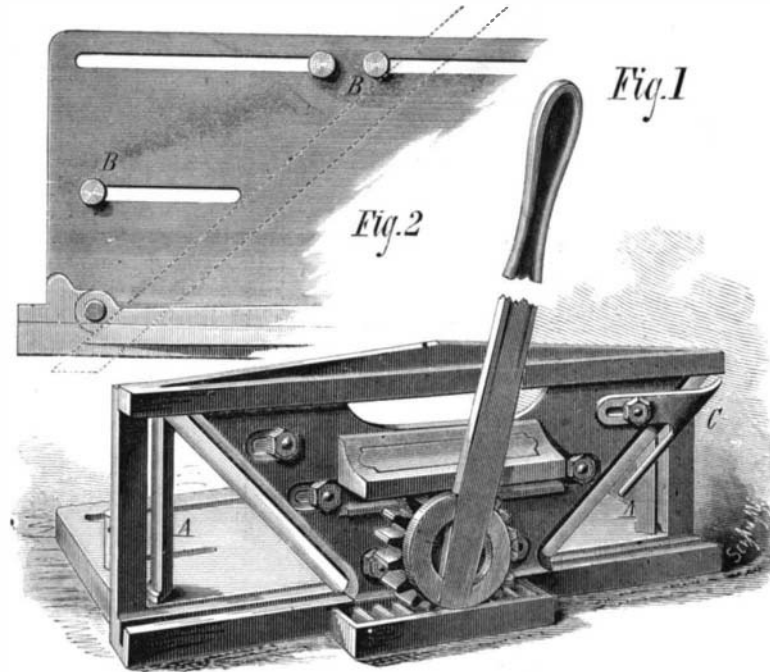
**SCREW SCAFFOLDING.**

The following is a description of scaffolding recently given in the *Building News* by Mr. Joseph J. Lish. We have prepared an engraving representing a section through the center of tower, showing the screw scaffolding in position. There are four scaffold screws, which bear the whole scaffolding of tower, one being placed in each angle of wall. Each screw works through three nuts, and has a collar carrying a saddle for the support of the ledgers and framing, from which the workmen's platforms or scaffolds are suspended by wrought-iron slings. The wheels of the bearers to outside scaffold travel up the face of the wall as the scaffold rises. Guard rails are fixed where required, to insure the safety of the workmen employed.

In proceeding to fix the scaffolding, where the scaffold screws are to work in the wall, all that is necessary is to place the screws in their proper position in the wall whilst the foundations are being put in, then plumb and build round them, clamping two of the nuts on each screw at the same level and at the required distances apart. If 2 ft. 6 in. of wall is to be built for each lift of scaffold, the nuts will require to be placed every 2 ft 6 in. in height.

The screws should next be turned until all the saddles are standing on the same level; the overhead framing, ledgers, and platforms should now be placed in position, the upper nut clasped on where shown, and the work of building from the scaffold begun.

If the platforms are placed about 12 inches below the top of the wall then built, sufficient space will be left between the top nut and the collar to allow of building up nearly to the collar, as required before raising the scaffold. The scaffold platforms will then be standing at about the best height for effective work, as the workman will, by such an arrangement, always be walling from just below his knee to about the level of his elbow, thus avoiding undue stooping and over-reaching.

**FOX'S MITER CUTTER.**

When the 2 ft. 6 in. of wall has been built all round, the workmen, whilst standing on their scaffolds, turn the screws (by a simple arrangement at the collar) and raise the scaffolding, walling materials, and themselves as well, a height of 2 feet 6 inches. The foot of the scaffold screw will then have passed the bottom nut, leaving it lying loose in the wall. This nut must then be drawn out of the wall (a hole opening to the inside being left for this purpose), and clasped on to the scaffold screw at the level of the upper collar, making it thus a top nut. When, after the next lift of scaffold, the foot of screw has passed up through the lower nut, this nut, in its turn, is lifted up and made a top nut; and so on successively until the full height of the wall has been built. It will thus be seen that a screw never rests in less than two nuts. As the screw by this system travels up with its scaffold, the same screws will do for any height of wall. It is not necessary to clear the platforms pre-

vious to raising. Before commencing to plaster, the nut holes in the body of the walls are filled up, and the holes left by the screws are well grouted.

For "cleaning down" the work the outside platforms can be lowered as required from the projecting ends of ledgers.

The scaffolding screws can be used in three separate ways:

- 1st. Working in the body of the wall.
- 2d. Against one of the faces of the wall.
- 3d. Independent of the wall.

The first method is shown in the engraving.

Where the screws are placed at long distances apart, it may be necessary to truss the ledgers or scaffold-bearers, and where the builder wishes to work with a minimum number of screws, trussed bearers will naturally suggest themselves.

To prevent the possibility of brickbats and building debris flying out into the roadway, a screen may be placed along the front of the building suspended from the scaffolding. This screen, which may be a kind of rope netting, will uncoil as the scaffold rises. If the whole of the material for a work of this kind is raised in the interior of the building, and the outside scaffold platform used for the purposes of setters merely (and not for walling materials), there need be but slight inconvenience, and little or no danger, experienced by the street traffic whilst building operations are carried on. As to the covering in of these scaffolds, all that the builder requires to do for this purpose is to stretch tarpaulings or covers over such portions of the ledgers as will afford the necessary protection to the working platforms and walls. These coverings may be placed in position when the scaffolding is first fixed, as they add but little to the weight, interfere in no way with the raising operations, and go up with the scaffold without further attention or alteration.

There is no valid reason why the whole operation of building should not be carried on under cover, and the "waller" be placed in as good a position for doing his work as the "stone-dresser."

The arrangement here applied to scaffolding could be made available for the extension of existing buildings by raising the roofs entire, and adding to the walls as the roof rose, in place of the tentative methods now resorted to when "roof-raising" is practiced.

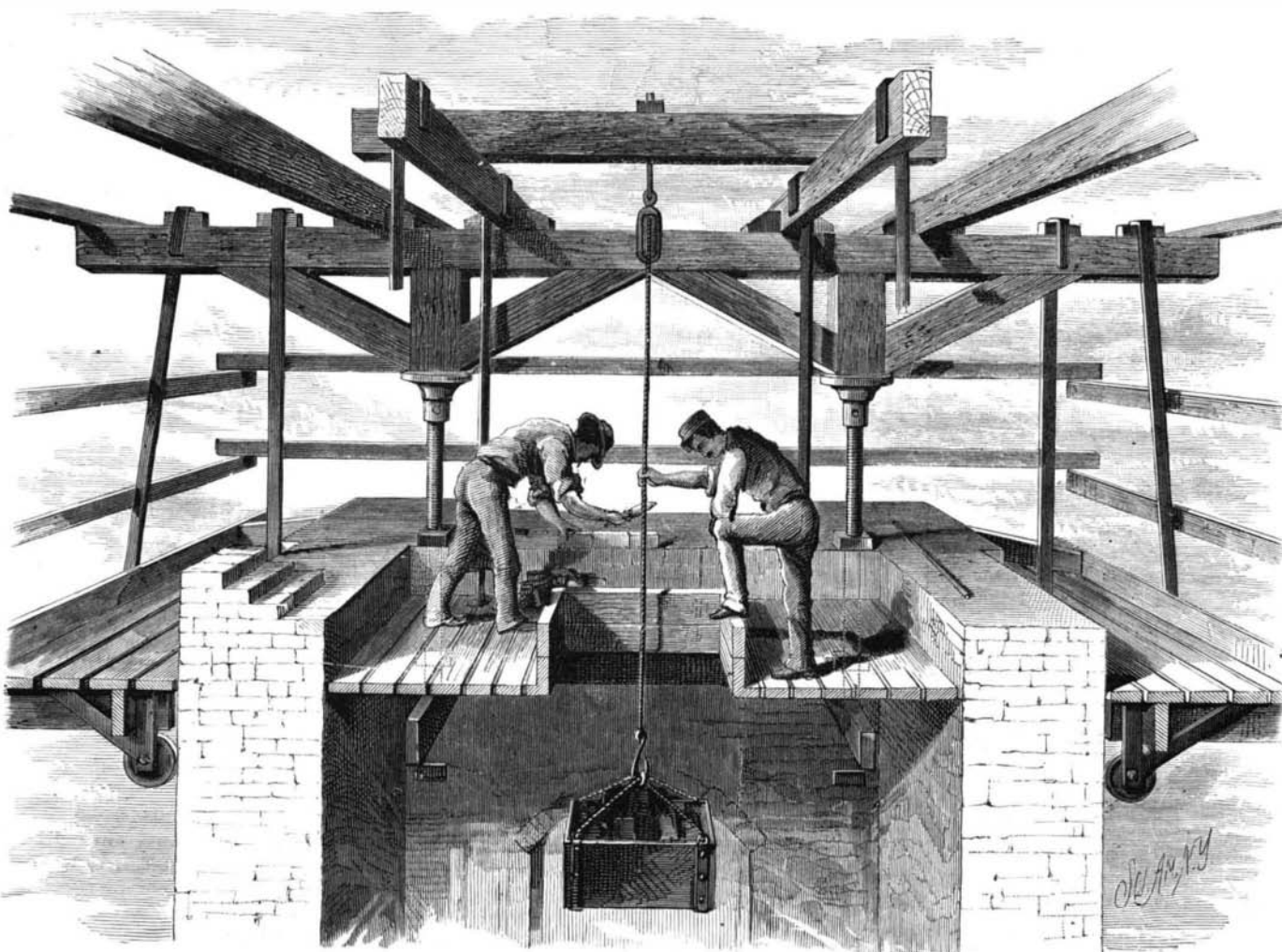
**MISCELLANEOUS INVENTIONS.**

The combination, with wooden strips on bottom and sides of a basket, of metallic strips running under the bottom, up the sides of basket to rim, and overlaid upon the wooden strips, and a horizontal strip running around the body of the basket next to the bottom, has been patented by Mr. Elmer D. Ballou, of Becket, Mass.

Mr. James Hoover, of Gratis, Ohio, has invented an improved electric motor, in which a revolving armature wheel is made use of in connection with fixed electro-magnets arranged in a circle around the armature wheel. The construction is such that by the use of one battery the full power of the magnet is obtained every time the circuit is closed. One magnet only being in circuit at once there is only the resistance of that one magnet to the current, while the effect is the same as it would be were all the magnets energized at once with the stronger battery which would then be required.

A wood type having a face formed by a veenering of rubber or analogous material, and the body and sides of the letter composed mainly of wood, has been patented by Mr. Peter Gfroerer, of Terre Haute, Ind.

An oil press hoop with beveled shoulder and movable beveled perforated bottom, has been patented by Mr. William V. McKenzie, of Rahway, N. J.

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