

AMATEUR MECHANICS.

SOME THINGS IN BURNISHED BRASS.

The old and commendable fashion of making ornamental objects from solid hand-wrought metal is being revived to a wonderful extent. Steel, iron, brass, and copper are wrought into a thousand beautiful and useful forms, and the gilded and tinsel objects of recent days are now set aside for substantial and elegant solid cast and hand-wrought ornaments. It will require only a suggestion to set the amateur mechanic at work at this sort of thing, when his dwelling will soon be adorned with articles that will be the more valuable for having been produced at home.

Brass tubing and rods of round hexagonal and octagonal section, plain and perforated strips of different widths and thicknesses, half round and semi-hexagonal strips, and brass buttons, knobs, and nails of various shapes, may be purchased, so that the amateur will readily find available materials for the kind of work suggested. Half-inch square tubes, strips of brass half an inch by one-sixth of an inch, a few brass buttons, and a few knobs, are required for the easel shown in Fig. 1. The tubes may be draw-filed, then finished with the different grades of emery paper with oil, or they may be polished on an emery wheel, and the final finish may be imparted by using the finest French emery paper with oil.

When two tubes cross each other they may be halved together precisely as in wood-work, and may be fastened by soldering with soft solder.

When the end of a tube abuts against the side of another tube it may be fastened solid enough for all practical purposes by soft soldering by means of a blowpipe. Of course the joint may be brazed or soldered with silver solder, but as great strength is not required it is unnecessary to take that amount of trouble.

A very good way of fastening is to solder a plug in the end of the tube that abuts against the side of another tube, and to put a screw laterally through one into the plug in the other. In this case it is well to leave a slight feather on opposite sides of the abutting tube to engage the corners of the tube to which it is attached.

The scrolls should be attached by means of small screws. The panels consist of thin pieces of board covered with velvet or plush of any suitable color.

They are inserted from the back, and are provided with a number of large convex nails. The support for the picture is movable up and down on the side pieces of the easel, and may be secured at any desired point by the milled screws.

The frame shown in Fig. 2 will require no special description. The main portion of it is made of square brass tubing. The side bars are made of round brass rods with turned end pieces, as shown. The mat of thin wood is covered with velvet or plush. The picture and glass are placed behind the mat; the latter is provided with small brass ears, which are fastened to the back of the frame by screws. The knobs at the top, bottom, and sides of the frame and easel are turned and attached with solder.

Fig. 3 shows a tripod stand for a nautilus shell, with an ornamental shell placed below it in the center of the plate,

forming the triangular base. Fig. 4 shows a clock case, consisting of an ordinary box of suitable size covered with plush or velvet, and inclosed in a frame of brass.

The frame is built up in the manner already described from square brass tubing split lengthwise through diagonally opposite corners. The lower portion of the frame consists of a wide band of brass, having a light bead soldered to its upper edge and a heavy bead soldered to its lower edge. A number of the brass nails are placed at regular intervals and soldered at the back of the brass base. The rail at the top is made of hexagonal brass tubing, and the small balusters are turned from brass rods. The palette and brushes are sawed from a plate of brass, and attached by

All of these articles may be lacquered, but they present a more elegant appearance if the metal is left unprotected and cleaned occasionally with rottenstone and oil.

There is hardly any limit to the number of elegant and useful articles that may be made of such materials, with the expenditure of little thought and labor. M.

NEW INVENTIONS.

Mr. Richard B. Ireland, of Trenton, N. J., has patented an improved switch signal. The object of this invention is to give notice of open or misplaced switches and draw-bridges by an alarm on approaching engines, and thereby obtain security against accident additional to the usual signals. The improvement consists in the combination, with the switch-operating mechanism, of a turning dog located near the rails, and used in connection with a gong-operating lever on the engine.

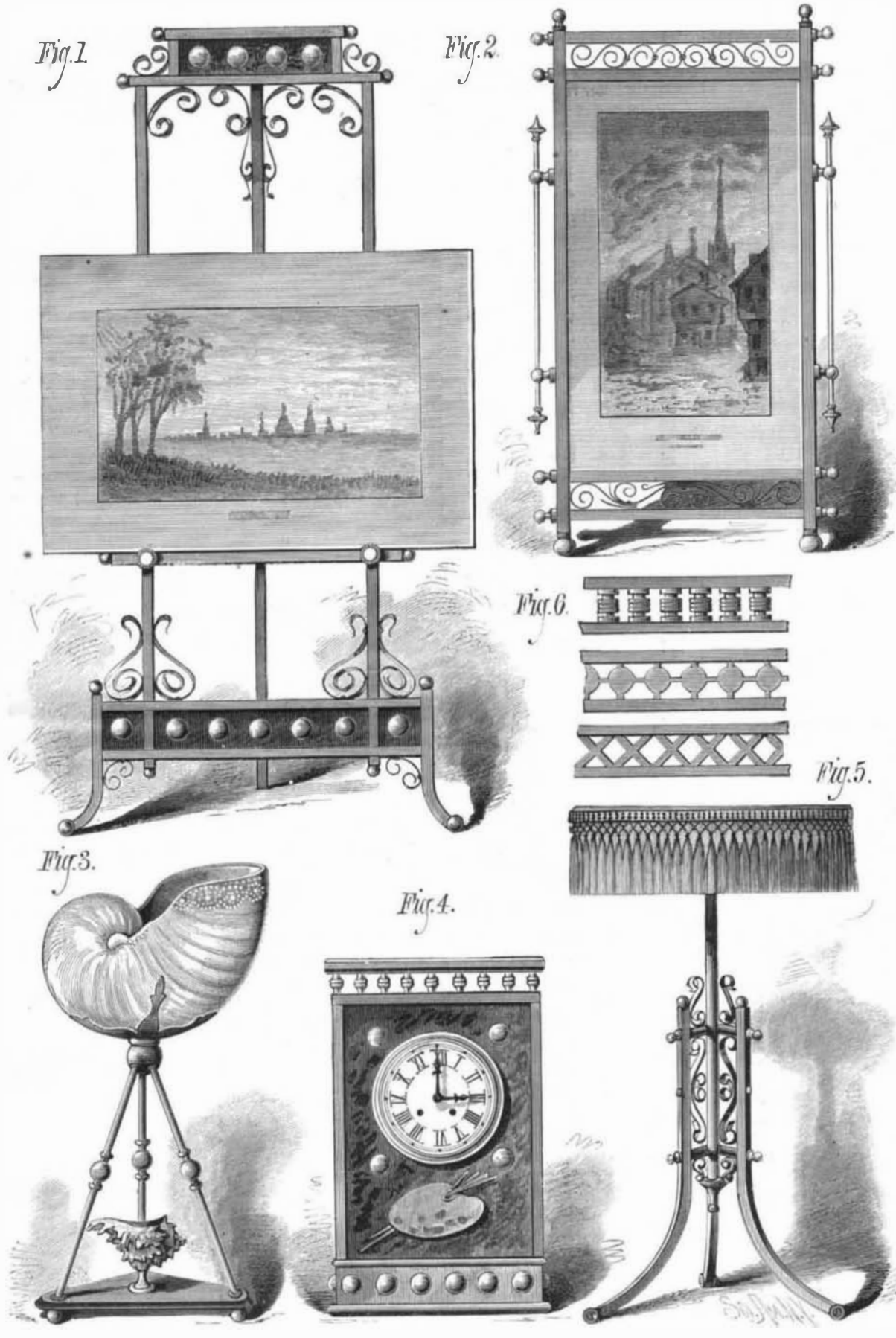
Mr. John A. Hudgens, of Pine Bluff, Ark., has patented an improved hub, having a tapering metallic axle box provided with a circular shoulder near its inner end, against which the inner hub collar abuts when the wheel is put together. The portion of the periphery of the axle box which receives the hub collars or flanges and spokes, is made polygonal in form, and the remaining outer portion of the axle box is made cylindrical and screw-threaded on its outer surface to receive the nut which holds all together.

Mr. Augustus P. Nance, of Batesville, Ark., has patented a cotton cultivator by which several rows or drills of cotton may be cultivated at a time, whereby unnecessary expense of time and labor may be saved. The invention consists in two parallel horizontal beams, supported upon two double runners arranged near their ends, and a series of knives and plows which are adjustably secured to the two beams. The beams for general use will be about forty-four inches in length, and are secured to the tops of the runners and connected with each other by clips. The runners are so constructed that they will rest upon the ground only at their forward and rear ends, the intervening space being occupied by the knives and plows.

An improved grain-cleaning machine has been patented by Mr. Baxter Wright, of Marshall, Minn. This invention relates to cer-

tain improvements in grain-cleaning devices of that type in which one or more inclined sieves are provided with a series of check boards, which, reaching nearly to the sieve, retard the passage of the grain and facilitate elimination of the cockle and small seed, by causing them to pass through the said sieve, while the clean grain passes out at the end of the screen.

A valuable improvement in electric lamps has been patented by Messrs. Edwin M. Fox and Ludwig K. Böhm, of New York city. This improvement relates to electric lamps in which vacuum chambers are employed, and its object is to facilitate the insertion and removal of the carbon, as well as the operation of drawing the vacuum, and to dispense with the usual operation of sealing the drawing nipple by melting. For these purposes the invention consists in the



ORNAMENTAL ARTICLES IN BURNISHED BRASS.

tacks soldered to the back. The patches of color are produced by different colors of sealing wax. Four brass nails are inserted around the dial to relieve the blank spaces on the plush. The clock and its plush-covered case may be removed from the brass frame when it is desired to clean the latter.

The table shown in Fig. 5 is of the same general character as the other articles, and will not, therefore, need particular description. The central portion is of three-quarter inch round brass tubing. The legs are of five-eighth square brass tubing. The top is of wood, plush-covered and fringed, and provided with a border of perforated brass.

Fig. 6 shows different kinds of panels. The balusters in the upper one are turned in the two lower ones; they are cut from sheet metal.