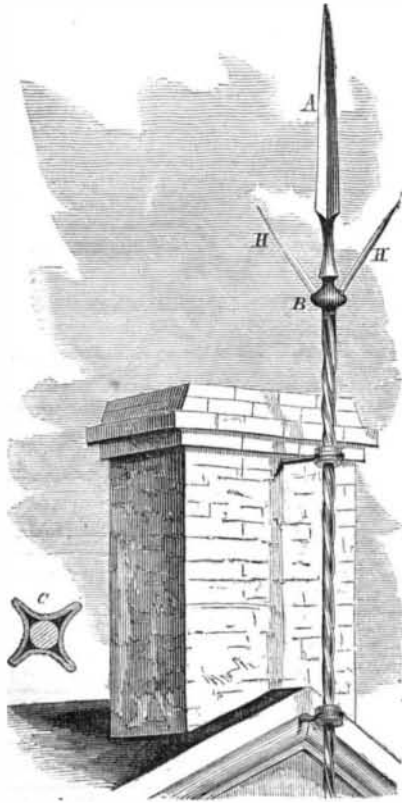


BALDWIN'S LIGHTNING-ROD.

If any man can satisfy the community that he has invented and is making a rod which is a more complete protection from lightning than any other, he may rely upon a very large business. L. S. Baldwin, of St. Louis, Mo., has devised a combination (here illustrated) which he deems better than any before known, and for which he received Letters Patent on August 9, 1859.



It consists, in combination with a peculiar point, of a round piece of iron surrounded by a square tube of sheet copper, which tube is fluted and twisted spirally. The size of the iron rod is such as to bring it in contact with the sides of the copper tube, as shown at C. The point, A, is a triangular dart, plated heavily with silver except the extreme point, which is plated with gold, the edges being made prominent by fluting the sides. At the base of the point, A, is the bulb, B which is filled with a steel magnet, and communicating with this magnet are three auxiliary points, H H, made of steel, and, of course, magnetic from their connection with the bulb. These points, H H, are opposite the middle of the sides of the main point, A. The inventor says that experiments have shown that the attractive power is greatly increased by this combination of the point with magnets, and that his combination of the iron rod with the copper tube forms a remarkably strong, efficient, cheap and easily-constructed rod.

Mr. Baldwin will furnish further information if addressed at 57 Washington-avenue, in the above-named city.

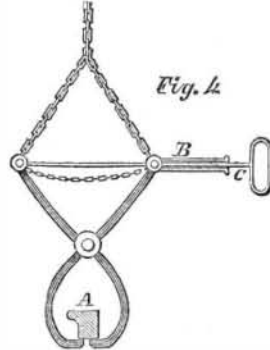
MOLDING FRUITS AND INSECTS IN METAL.

Small castings of iron, copper, or any other metal, may be made in molds composed of plaster-of-Paris. Such molds are easily made and are very suitable for such articles. Fac-similes of birds, flowers, fruit, and insects may be cast in plaster-of-Paris molds as follows:—Make a tight box of boards, with two or three wooden pins in it, and suspend in it, by a piece of strong linen cord, the objects of which casts are desired; then take five parts of plaster-of-Paris and one of brick-dust and make them into a paste of the consistency of cream, and fill up carefully the box so as to cover the objects without distorting them. The box—with the articles in the interior of the plaster—is now suffered to dry very slowly; then it is placed in a low fire, the heat of which is increased gradually until the box is consumed, and the plaster heated red-hot. This is now taken out of the fire, and the places where the wooden pins were inserted will form small holes opening into the interior. The place which was occupied by the leaves, flowers, or insects will be found to contain only the ashes of these, which are blown through the pin-holes with a pair of bellows, leaving a space inside of the form of the object to be cast. A small quantity of mercury is generally poured

in through the hole left by the burnt cord; it collects the ashes by shaking and then runs out of the pin-holes. The molten copper or brass is now poured in by a jet through the pin-hole, which may be enlarged for the purpose, and the air will pass out by the small opening left by the cord. When the metal is cold, the mold of plaster is broken and the casting taken from its interior. Groups of fruit, flowers, lizards and frogs have been cast by this process with an exact faithfulness to nature.

MELLEN BATTEL'S CANT-HOOK.

A simple little modification of cant-hook, for lifting hot railroad tires or other pieces of heavy iron, is represented in the accompanying illustration.



A, is a section of the tire or other iron grasped by the hook. The tube, B, is firmly fastened to one arm of the hook and the rod, C, to the other arm. A workman, by taking hold of the tube, B, with one hand and of the rod, C, with the other, is able to open and shut the hook while standing at a tolerable distance from the fire. By having two or three of these hooks attached to the crane, the tire may be quickly and easily raised from the furnace although bedded in coal.

Mellen Battel, of Albany, N. Y., is the inventor and manufacturer of these hooks, and for further information address as above.

DRAKE'S IMPROVED LAMP.



ALTHOUGH all classes of inventors, including the profoundest philosophers and the most thorough masters of science, have exhausted their ingenuity in the construction of lamps, it is far from certain that the best form has yet been discovered; at all events, it is probable that the manufacture of new varieties of oil will call for new modifications in the construction of lamps. The accompanying engravings illustrate a lamp which is the product of a series of inventions by John L. Drake; the cut at the head of this article being a perspective view, and Fig. 2 a vertical section which illustrates the several parts. The wick-tube, A, is a rectangular prism containing two flat wicks, a and b, of which the edges are shown; a, alone extending above the tube, and being lighted; b, merely serving as an auxiliary to aid in the supply of the oil. The cap, C, has a long rectangular slit in its top through which the wick, a, protrudes. Two or more pinions, h, for raising and lowering the wick, are fastened upon a shaft which passes through the side of the tip and is provided with a milled head by which it may be turned. Around the lower edge of the cap is the projection for supporting the chimney, being a flat ring with raised edges, which is struck with the cap from a piece of plate metal. This ring is perforated for the supply of air to the sides of the flame. The body, B, of the tip is a cylinder, perforated with numerous holes for the supply of air to the base of the flame, having a screw at its lower end by which it is attached to the lamp. Around the upper edge of the cylinder, B, is the projection, c c, being an annular plate. Above this projection is the disk, d, fastened to the wick tube. The object of these combinations is the supply of two currents of air to the

flame, one at its base and one at its sides. The air which enters through the perpendicular holes in the chimney-supporter, passes up into the chimney and comes in contact with the sides of the blaze, while the air which enters through the sides of the body of the tip is spread by the projection, c c, and the disk, d, in a thin hollow sheet, and brought in a warm condition in contact with the base of the flame. The cold air passing through the chimney-supporter keeps it cool so that it may be handled even while the lamp is burning, thus avoiding the ordinary delay for the lamp to cool before it can be trimmed or replenished. Nearly all the separate pieces of this tip being struck from pieces of plate metal, it may be constructed with great economy. This lamp is the invention of John L. Drake, of Cincinnati, Ohio; the patent for the wick tube having been issued May 17, 1859, and the one for the combination of the disk and cap, Sept. 20, 1859. Further information may be had by addressing J. L. Drake or C. P. Lindsay, No. 36 Beekman-street, New York.

AMERICAN CARNELIANS.—We have received a few specimens of carnelian stones from J. H. Chilcote, of New Paris, Ind., who gathered them from the shores of a small lake in the interior of Minnesota. He states they appear to have been formed from a soft substance, which had in some manner accumulated on the surface of the water, and became indurated during hot weather. Great quantities of these beautiful stones, of different sizes and forms, are found at this lake; and some of the specimens are exceedingly beautiful, and have been set in jewelry. The carnelian is one of the varieties of quartz belonging to the chalcedonic series. They are much used in common jewelry; and when cut and polished, the colors become deeper on exposure to the rays of the sun. The Japanese cut carnelians into beads of various forms, but most commonly into that of the olive-berry.

Further information may be had by addressing J. L. Drake or C. P. Lindsay, No. 36 Beekman-street, New York.

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