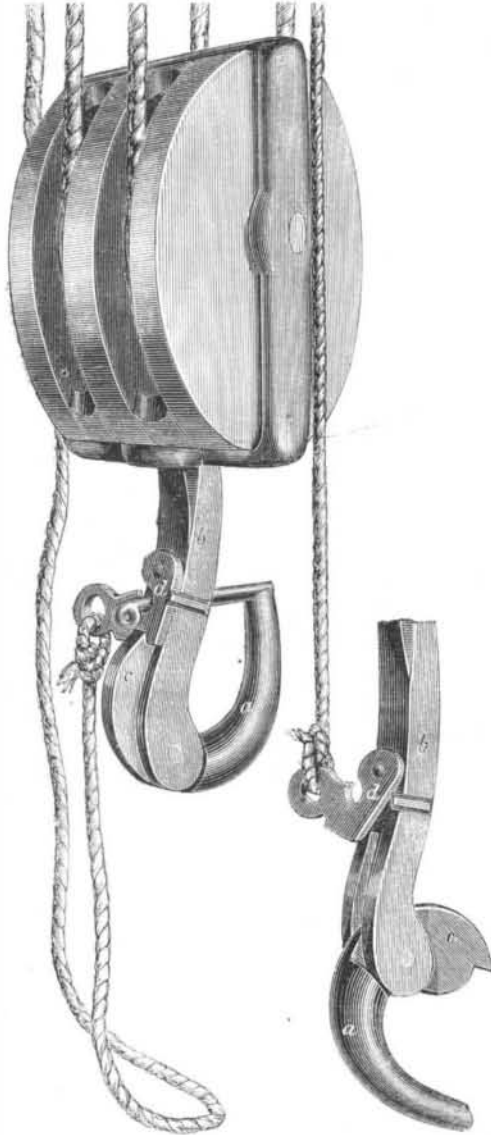


BIRDSELL'S SELF-OPERATING DAVIT AND CAT HOOK.

When a steamer is plowing her way through the ocean, no other cry can so quickly stir the sympathies of the little community on board as that of "a man overboard!" The wheels are instantly stopped, but the huge fabric drives onward a long way through the water before its momentum can be overcome. A boat is then lowered and rowed back in search of the missing man. The search is usually fruitless. The distance back is so great, and it is so difficult to ascertain the place at which the man fell, that generally before he can be found he sinks down into the depths of the sea. The writer of this has passed through one of these scenes, and probably no one who has had this experience has failed to wonder why some means cannot be devised for lowering boats more readily. In England a good deal of attention has been given



to this subject, though but very little in this country. We now, however, have the satisfaction of illustrating a simple and practical mode of accomplishing the object, in the invention of W. H. Birdsell, of Elizabethport, N. J., the patent being assigned to himself and E. Kellam, of the same place.

The boat is suspended from davits, as usual, by two hooks, one at the bow and the other at the stern. One of the hooks, with its block, is represented in Fig. 1 of the engravings. The hook, *a*, is secured to the shank, *b*, by a pivot pin, so that it may turn down in the position shown in Fig. 2. A shoulder, *c*, is formed in the back end of the hook to be caught by the latch, *d*, for holding the hook in the position represented in Fig. 1, in which position it supports the boat. It will be seen that by lifting this latch the hook is allowed to drop down in the position represented in Fig. 2; thus releasing the boat from its hold. It only remains to make provision for lifting the latch, *d*, automatically, at the moment when the boat reaches the surface of the water. This is done by attaching one end of a small line to the latch, and the other end to the davit above, the trip line being of just sufficient length to become taut as the boat reaches the water's surface.

Repeated trials have shown that with this apparatus a boat may be lowered with perfect ease and safety from the quarter of a steam ship, and cast off while the vessel is under full head way.

The pin is provided for "mousing" the hook, as it is technically called; which is securing it to the ring to prevent it from losing its hold in rough weather. The pin is inserted in the position shown, and turned partly round when the projection upon its side enters a recess in the inner side of the latch, *d*, and holds it in place. The inventor thinks that this mode of mousing, from its convenience and security, will come into very general use. He also suggests the use of this hook for supporting the anchor.

The patent for this invention was granted October 1, 1861, and further information in relation to it may be obtained by addressing E. Kellam & Co., at Elizabethport, N. J.

LANERGAN'S DECKLIGHT.

For lighting the saloons of vessels below the deck it is customary to cut small openings through the deck and fill them with blocks of glass. The ordinary glass decklight consists generally of an elongated block of glass. When inserted in the deck of a vessel it has been held in place by cement or by means of a frame of metal screwed to the deck and arranged so as to lap over the edges of the decklight. Breakage of a decklight is a very common occurrence on



shipboard, and beside, when the decklight is fixed in place by means of putty or cement the latter is likely to become either loosened or cracked. The consequence of either breakage of the decklight or loosening of the cement is leakage of water through the deck whenever it is washed. Furthermore, the securing of a decklight into the deck by means of putty or a metallic frame, or both, is a matter of much trouble and care. All these evils are overcome most completely by the simple device illustrated by the accompanying engraving.

A circular block of glass has a thread formed upon it in the mold so that it can be screwed into the plank of the deck. Above the thread the block is enlarged and left in the form of a smooth cylinder, to fill the hole perfectly and make a tight, smooth joint. Below the screw the glass is made hemispherical or convex, to disperse the light and diffuse it in the room beneath. At the lower end of the block is a polygonal projection, *e*, to fit a wrench for turning the screw into place. In case the block should become loose, from the shrinking of the deck plank, it is easily tightened by giving it an additional turn. In place of the polygonal projection, recesses may be formed in the block to receive projections on the wrench; but this plan is objectionable, as the recesses interfere with the dispersion of the light, and the glass about them is liable to crack.

We are informed that this decklight is meeting with the universal approval of mariners and shipbuilders, and that it is regarded as a more important improvement than, from its simplicity, it might at first sight appear to be.

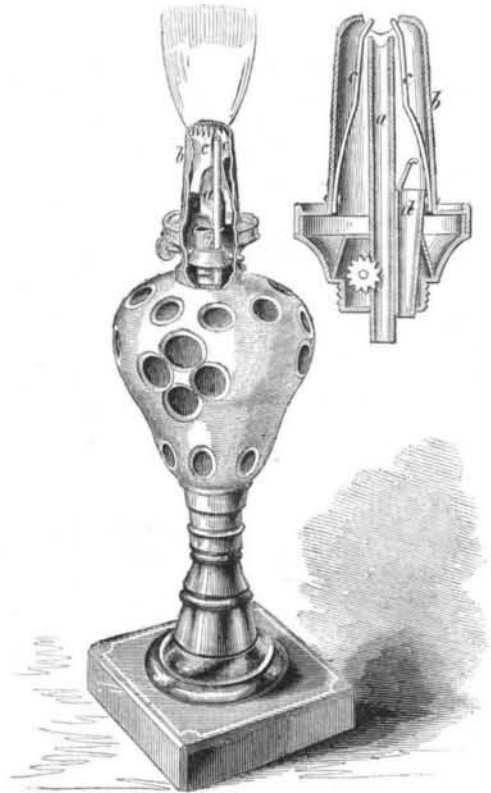
The patent for this invention was granted to the inventor, Henry Lanergan, Jan. 29, 1861, and further information in relation to it may be obtained by addressing Charles Smith (to whom it has been assigned), at No. 6 Central Wharf, Boston, Mass.

The new pumps for the Philadelphia Water Works are each capable of discharging 120,000 gallons of water per hour. They are of 18-inch bore and 6 feet stroke.

MOREHOUSE'S BURNER FOR LAMPS WITHOUT CHIMNEYS.

It is a common remark that so many lamp chimneys are broken as to make the chimneys cost more than the oil or fluid used. Many lamps and burners have been devised for the purpose of dispensing entirely with the use of chimneys, but, for some reason, none of them have come into very general use. The burner which is here illustrated is represented to be practically successful, burning the oil perfectly without smoke or smell, and producing an excellent light.

Fig. 1 is a perspective view of a lamp with the burner, the outer case broken away to show the interior, and Fig. 2 is a vertical section of the burner. The wick tube, *a*, is made longer than usual and of a flat or oval form. It is surrounded by the metallic case, *b*, which encloses two copper or brass plates, *c c*. The burner is perforated at its base so as to admit two currents of air, one upon the inner, and the other upon the outer side of the plates, *c c*. The wick is lighted at the top, and as the flame issues through the orifice in the top of the cap, it is fed by two currents of heated air, one on the inner side of the plates flowing up against the base of the flame, and the other impinging against its side near its base. The



office of the plates, *c c*, is to conduct the heat from the flame downward into the currents of air, and to spread these currents into thin sheets in the proper position to bring them in contact with the ascending vapors of the oil.

The tube, *d*, is provided for filling the lamp by merely slipping off the case, *b*; obviating the trouble of unscrewing the burner. It is closed by a hinged cover so that it may be opened with facility.

This burner is of small expense and may be applied to an ordinary lamp. It is manufactured and sold by the inventor, William Morehouse, at Buffalo, N. Y., who may be addressed at that place, care of Pratt & Co., in relation to the purchase of rights, or for any further information concerning the invention.

The patent for this invention was granted through the Scientific American Patent Agency, Nov. 19, 1861.

Beardslee's Magneto-Electric Machine.

This machine, illustrated in our last number, has been used for several months by the electro-platers, L. L. & C. H. Smith, 244 Canal street, this city, and they inform us that it is more satisfactory in every respect than the battery. It is not only more cleanly and convenient, but it produces a better plate. The Messrs. Smith recently deposited a copper plate for a large map, and when the plate was finished of sufficient thickness to print from, the back side was perfectly smooth, and exhibited the minutest lines of the map in relief. They say that in their many years' experience they never saw such a plate deposited by the battery.