



CLASS XII.

NAVAL ARCHITECTURE, SHIPS' TACKLE, &c.

SUB-CLASS A.—*Ship Building for purposes of War and Commerce.*

[2646]

ASTON, JAMES J., 4 *Middle Temple Lane, London.*—Working model boat, fitted with Aston's patent disc propeller.

[2647]

AYLIN, J., R.N., *Wilton, near Brough, Yorkshire.*—Wedge-armed anchor, shackle, &c.

[2648]

BASIRE, JAMES, 4 *King Street, Westminster.*—Models of Brown and Harfield's patent capstans, and C. Langley's unsinkable ship. (*See page 2.*)

[2649]

BETHELL, JOHN, 38 *King William Street, London, E. C.*—Models of a new mode of building ships.

[2650]

BROWNING, HENRY, *Avon Cottage, Clifton Wood, Bristol.*—Patent composition for the preservation of ship's bottoms against the action of water or atmosphere.

[2651]

BURDEN, WILLIAM, *Hay Well, Great Malvern.*—Oblique paddle-wheel, without back lift, illustrating a new theory of motion.

[2652]

BURNETT, CHARLES J., *Edinburgh.*—Fan propellers, with shields and accompaniments.

The models exhibited are illustrative of improved steam ship propellers, with diagonal shields, offered to Admiralty 16th August, 1860. The current of water driven out centrifugally by a fan (or screw) is deflected into a straight line, by unbinging on a diagonal surface. An amount of power is thus rendered available

for propulsion, which would otherwise be, and in the ordinary screw propellers is, lost, or worse than lost, in consequence of its action on unequal, constantly varying masses of water below and above it, the unequal resistance of which strains and shakes both screw axle and ship.

[2653]

CAIRD & Co., *Greenock.*—Models of steam-ships and marine engines. (*See page 3.*)