CLASS 22.—GENERAL HARDWARE.

31. **Vern, Henry Holton, 2 Avenue Place, Kilburn.**—Designer and Manufacturer.

**Improved bird-cages.**

32. **Koper, W., Surrey Canal, Oldham.**—Manufacturer.

Specimens of wire rope, in joints. Specimens of wire rope for suspension bridges; and fitted into pulley blocks. Wire rope jib stays. Specimens of wire rope, fitted with chainplates, &c. Specimens of flat wire rope and wire guides for pits. Galvanized wire stranded for fencing. Copper lightning conductors and such lines.

Specimens of submarine telegraph wire ropes. Round wire rope prepared for use. The improvement is stated to consist in preventing the wires and strands from being twisted on themselves, in the process of laying them round central cores of hemp, in giving an equal tension to each individual wire; and in preserving the interior surface from corrosion by saturating the cores of hemp with tar, &c.

33. **Wood, W., 1 Queen St., Southwark.**—Manufacturer.

Hooks and eyes, for military and naval uniforms, and drapery purposes. Brass chains for lamp and scales.

34. **Barnard & Brooke, Norwich.**—Manufacturers.

Ornamental Gothic hinges in wrought iron, with ivy leaf and stalk as a decoration. Fourteen specimens of galvanized iron wire netting.

35. **Fox, Thomas Henry, 4 Skinner Street.**—Manufacturer.


36. **Niswold, R. S., & Co., Gateshead, Newcastle-upon-Tyne.**—Inventors and Manufacturers.

Samples of wire-sheathed, used for fencing, signal cord, &c. Samples of wire ropes. Wire rope for suspension bridges; and cable laid wire rope. Wire ropes, showing the mode of splicing. Patent wire ropes for submarine telegraph; lighting conductor; copper window-soft cord and picture cord. Patent flat wire rope, and guide rope, for coal pits, &c. Rope which has been at work constantly for five years.

37. **Rees, John, Grove Campden Street.**

An ornamental wire flower table.

The accompanying illustration represents this table. The upper part is supported by three serpentines of wire, which unite to form the legs of the table.

38. **Flavel, Sidney, Lambeth, and 92 Avenue Street, St. James's.**—Inventor and Manufacturer.

**Patent kitchener's or cooking grates.**

This kitchener or cooking grate is remarkable for economy in fuel, having only one small fire placed in the centre, between two large ovens. These ovens can be converted into superior roasters by opening a small rebate on the top, when a current of air circulates through the oven, carrying off every portion of steam into the flues. The ovens at either end are applicable to keeping stocks hot when cooked, or they can be heated for baking pastry, bread, &c. The hot plate on the top is capable of boiling in full work several steam kettles, stewpans, &c., and boiling or frying can be done over the fire at the same time; roasting can also be carried on before the open fire. At the back of the fire is placed a 20-gallon wrought-iron boiler, capable of supplying hot water to the upper part of the house, the draw-off cocks in front, the scullery and stable department if required, and also of supplying a bath placed in any part of the premises. Another feature in this kitchener, is the extreme cleanliness with which the cooking is carried on.

They are manufactured of various sizes.
Extra strong wire-cloth, move by steam-power, for warmth, oven, or drying kiln floor covering mult-kiln floor with only two joints; for separating minerals, and various other purposes; for rice-polishing machines, &c.; made with flat warp, to increase its durability; for dressing rice, and for various other purposes.

40. GORE, THOMAS, Perth—Designers and Manufacturer.
Malleable iron garden chairs. Wire-setting, for excluding hares and rabbits from gardens or fields. Lead measuring chains with oval rings.

41. LEE, THOMAS, & SON, 25 Stanley Street, Rochdale—Patents and Manufacturers.
Patent circular double-blown bellows, in iron frame, complete and ready for work, equal in power to 22 long shape bellows, weight 165 lbs. They stand in half the room that long bellows do; effect a saving of twenty per cent. in fuel; every stroke of the lever produces a double quantity of blast; support a discharging pipe of double capacity; and iron and steel is brought into a state of fusion, without burning or injuring its properties, in about two-thirds of the usual time.
Improved circular bellows, complete, and ready for work; weight 150 lbs. Patent portable forge circular bellows, wrought-iron hearth, complete, weight 140 lbs. Patent and improved portable forge with long bellows, complete; intended specially for the use of emigrants and for exportation, weight 130 lbs. It can be taken to places and used in a few minutes.

42. GIBBS, AMRAM, 27 Upper George Street, Edgecumbe Road—Inventor and Manufacturer.
Protective apology chimney-pot, for the cure of smoky chimneys, intended to create a draught, and prevent the wind blowing down the shaft. Applicable to any chimney.

43. DAVIES, JAMES, Norfolk Street, Sunderland—Inventor and Manufacturer.
Domestic mangle, which is said to possess the following advantages;—great simplicity of construction, not liable to be damaged, power and efficiency in working, and diminished cost.

45. BAYNES & SONS, Rose Street, Edinburgh—Inventors and Manufacturers.
An index dial bell, with eight indicators, made upon a new and simple plan, by which one bell only is required for any number of apartments.
A manifold bell-pull, constructed upon an entirely new plan, by which one pull is made to ring bells in any number of rooms. When the pointer is placed opposite to any name on the dial plate, and the knob pulled out, the bell is then rung in the room indicated.
An improved circular telegraph bell, having two dials, numbered in the same manner, by means of which eight different clerks or workmen may be called.

An air signal mouth-piece and bell. By blowing into the mouth-piece the bell is rung, at any distance less than 1,500 feet. This is an improved method of ringing a bell in places too distant or not suited for working cranks and wires.

A single voice tube mouth-piece and bell-pull. When drawn out, the tube orifice is opened, and the signal bell being rung, the attendant is called to the other end of the tube.

A revolving mouth-piece for voice tubes, with bell-pull combined. Conceived so that one mouth-piece connects with six or any greater number of voice tubes, and at the same time with a similar number of bells.

Specimen of a self-closing-valve mouth-piece for voice tubes; and of a spring covered mouth-piece for voice tube.
A bank-side lock. The peculiarity of this lock consists in an extension of the key after it is inserted in the lock, and a secret connection between the interior of the key and two of the players. The two inclined planes on the under side of the wards open or shut the extension of the key as it passes over them; the part of the key thus extended operates on the players placed beyond the reach of picklocks; while, at the same time, the main part of the key works other two players, which are again operated on by the secret apparatus in the interior of the key. This secret apparatus can be removed at pleasure, and the proper key then becomes unfit to work the lock, and all
Stenea with Miller’s New Regulation Lights.

The following statement has been published by Cape, Dumett, F.R.S., which shows statistically the importance of these regulations.

Consequences of collision at sea to British steamers and sailing vessels, 1841 to 1845.

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Damaged</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Slight</td>
<td>Considerable</td>
</tr>
<tr>
<td>Steam Vessels</td>
<td>9</td>
<td>190</td>
</tr>
<tr>
<td>Sailing Vessels</td>
<td>270</td>
<td>140</td>
</tr>
</tbody>
</table>

Showing a total of 3,064 cases involving more or less life and property at sea, apart from loss sustained by bad navigation and stress of weather, but chiefly attributable to want of lights and look-outs.

Helm, cabin, and deck lamps, various. Carriage-roof lamp, with an improved reflector; and a tripoles hand lamp. Railway, tail, and side lamps. Engine and buffer lamps. Wheel, search, and water-gauge lamps. Steam platform lamps (registered). Double semaphore lamp, a substitute for two lamps.

Table, bedside, and lock lamps. Reading lamps. Gig and dash-iron lamps. Hand and night lamps and lanterns. Fold, pocket, and reflecting lanterns, for reading at night, and other purposes. Improved stable lamps, for suspending from the ceiling or wall. Wax illuminators. All of a peculiar construction, having short separate wicks, instead of ordinary cottons.

640 Cannon & Soo, 57 St. Paul’s Churchyard—Inventors, Patentees, and Manufacturers.

Specimens of the exhibitors’ patent detector locks and keys, for various purposes. The cut represents the interior of one of these locks and key.