

engines, but also some distinctive and advantageous features. The cylinders are four in number, arranged in two pairs at right angles to each other. This gives a very uniform and regular pressure on the crank, which has two throws, on each side of which operates one engine from each side, the throws being opposite one another.

This arrangement of cylinders brings the weight very low down and yet has no cylinder underneath the crank shaft, which can thus be fitted in an exceptionally low position in the vessel or launches. The compression pistons and connecting rods are of course used to enable the engine to run at a very high speed without noise of any kind. That is to say, all the cylinders are only single acting, and the work is thus all done by the alternate pressure of the steam on successive pistons. There is always sufficient back pressure or "cushion" on the exhaust stroke to keep the pistons and connecting rods home on the crank bearings.

"In this 'Vosper' engine each pair of cylinders is worked by one slide valve only of the ordinary 3 port or slide valve. One steam port leads to the nearest cylinder, the centre port is the exhaust, and the other steam port is carried round in a pocket to the second cylinder. This is a considerable economy of parts compared with a valve to each cylinder, and owing to their relative position, both slide valves are worked by the same eccentric, which is again a very simplified arrangement.

Owing also to the arrangement of the cylinders in pairs, and that each pair is operated by one valve, it is very easy to compound each pair, and thus, when their size is sufficient, to render them very economical in the use of steam.

It is well known that one of the chief objections to many of the multiple cylinder high speed engines has been the use of cone or plate valves, which in the case of the former never wear true, and in the case of the latter offer too much friction to rotation from the large area under pressure and the high speed of movement.

The application in the "Vosper" engine of the ordinary slide valve which has so little motion, and is known to wear so well, may be considered a special and distinctive advantage.

This engine is being brought out by Mr. C. R. Okes, of 39 Queen Victoria street, who is the sole London agent.

DRAWING-ROOM PAPER.

Walls to a room should be regarded only in the light of a frame-work to what the room contains, and should be decorated so as to bring into prominence and not eclipse the other parts of the chamber. Nothing destroys the effect of a room so much as a handsome but staring wall paper, or a wall so profusely ornamented as to strike upon the eye to the exclusion of the rest of the decorations, thus bringing forward what should be the background into the most conspicuous place. A modern drawing is always difficult to decorate artistically, because of the taste of its builders for heavy cornices, prominent mantelpieces, and rooms too lofty for their size; and as all these misnamed "embellishments" are too costly to remove by tenants, the only plan to pursue is to destroy their effects by exercising both taste and ingenuity. First, with regard to the ceiling, the ornamental boss in its center should be removed, and the ceiling tinted a color that harmonizes with the wall paper, as no harmonies can be hoped for when what produces them is surmounted with the glaring white of an ordinary ceiling. The tint used must be one that softens into the wall paper, not one that contrasts; thus, if the tone of the room is that of a soft grey blue, the ceiling should be a clear flesh pink; or should a grey green picked out with black be the chosen color, then it should be colored a subdued lemon.

Some people cover their ceilings with a whole colored paper, and border it with a stencilled pattern representing the thin garlands so familiar upon Queen Anne decorations, but this is a more troublesome plan than the simple coloring, which answers all the purposes. The walls, if they are lofty, require a high dado. These high dados give a look of comfort and "home" that is absent from the modern high pitched rooms papered with one uniform pattern. The dado is divided 3ft. to 4ft. from the ceiling, and the coloring of the lower portion must always be heavier than that used on the upper or a top heavy look will be given to the room. When many pictures are to be hung up the lower part of the dado should be of a whole color, either a whole colored paper or a painted wall, as pictures are only shown off upon such a background. Where a whole tint is used for the lower part of the dado, the upper portion should be decorated with a frieze paper of a good bold pattern, but of subdued

coloring and of tint that harmonizes with the lower. Thus, the color used about the frieze should be the same as that on the lower part, but of a lighter shade, intermixed with some other colors that form a harmonious link between the two shades. Contrasts must be carefully avoided, but pale pinks, blue and ambers, can be blended together above a subdued grey-blue ground. The two portions of the dado should be joined together with a light wooden (black or brown) railing, or with a line of paint.

The dado decorations can be altered by placing the pattern paper upon the lower part and leaving the upper plain-colored with or without a stencilled pattern upon it. This will suit a room where not many pictures are required, or that is already rather dark. Some part of the wall should always be in plain color, as the eye requires rest; and no pattern however subdued in hue, can give the relief to the mind that a bit of plain coloring affords, and this scarcity of ornament in one part of a room is amply repaid by the effect it gives to such parts as are bright and should be bright. The true theory of effect is to use but one or two bright colors in a room, and to surround them by soft and subdued tints that throw up and do not destroy their brilliancy; a number of bright colors placed together destroy each other, and leave no impression upon the mind but glare and vulgarity. Having settled upon your paper and ceiling, have the woodwork and cornice of the room painted either a shade lighter or darker than the walls, and shroud up the mantelpiece with curtains, etc., of satin sheeting embroidered with crewels, and instead of the usual looking glass over the fire-place, have a mirror surrounded with brackets holding china; or have a black wooden mantelpiece made with squares of looking-glass let-in. The back-ground, of your room being thus completed in a manner really to be a back-ground, your furniture will look twice as well as if it were stared out of countenance by the walls, and one need hardly add that all your friends will delight in a room that throws up and brings out their dresses and faces, instead of killing them by its glaring tints.

PANEL PAINTING.

Select woods for water color painting that are close of grain and texture. Ebony is the best, but as that is expensive, mahogany stained black is generally used as a substitute. Pear, mahogany, cedar and oak are all suitable. Greywood, which is merely white wood steeped in mineral water, can be employed as panels most effectively when decorating rooms where the general coloring is subdued in tone. Have chosen and good close wood; see that it is smoothly planed and remove any splinters or raw edges with fine sandpaper; also be careful that the grain of the wood runs length ways and is straight. Commence by sizing your panel with either a coating of patent size, or with two of isinglass that has been dissolved in hot water. This sizing prevents the water colors from sinking into the wood and losing their brilliancy, and also checks the paint running and becoming ragged at its edges. When the size is dry, draw the outline of your painting upon the wood. The best plan for this is to make your sketch upon a piece of paper and perfect it upon that, and then trace it upon tracing paper and transfer it to the wood by putting blue or red carbonized paper between it and the panel and going over the outline with a fine pointed pencil.

Should you be working upon dark wood, fill in the whole of your design with Chinese white before attempting to color it, and this is also a good method when painting upon light woods should you wish an illuminating appearance given to your design or desire to execute it in body colors. The Chinese white should always form the foundation color for fading leaves, grasses, etc., as the subdued tints necessary for these will not stand out upon wood without the under white paint. The Chinese white will also destroy any irregularities of surface caused by the grain of the wood; but many think it an improvement to the painting to allow the veins and marks in the wood to show. Paint as in ordinary water-color painting, but make your highest lights and deepest shadows brighter than usual, as the varnish will diminish the brightness of the coloring, so that it is better to slightly exaggerate the effects. Never work over a color until it is perfectly dry, and stipple in the deepest shadows. Should the colors not run freely, add a very little oxgall to them, but this medium is rarely needed when the wood has been properly sized.

Glare with a thin wash of a lighter color over a dark to give brilliancy to your painting, and mark out veins of leaves after they are finished by laying a foundation of Chinese white and putting the light color over it. Faded leaves and grasses improve a painting very much, and should always be used where possible;