

be carved if expense be no objection. The brackets on the lintel and on the pillars of jambs are shown at H.

It will be noticed that the keynote of the ornamentation is an incised scroll. The dentils are quite plain and square. The plinth, marked A, is put together separately and fixed firmly to the floor. It is made out of thick wood, and is wrought out in a deep hollow and small square; it is mitred round the column and jambs and interior and exterior architraves, as shown on plan.

The pillar of the jamb is 6in. thick, and is turned as in detail G, the cap and base and shaft being carved. The shaft must first be turned in the lathe, the carving will have to be done by hand, and will require carefully marking out before it is cut; it will be advisable to make a cardboard pattern for the carving of shaft, and this pattern will be a little narrower at the top and bottom ends than in the middle, owing to the swell of the shaft. The scrolls of the square have been previously explained. The moldings marked O should be turned in black wood, and a corresponding trench turned to receive them in the pillar, they can then be split and glued in. The scrolls shown at the end of the lintel are incised deeply and blacked. The mantel-shelf is built up as shown in section at H, the central front member being ornamented with bars and pateræ; the pateræ may be turned out of black wood, and the petals indicated with the V-tool.

The upper part of the mantel is framed in one piece, as shown at section I K, and is secured to the grounds, K. The central panel is intended for silvered plate-glass, and will be rebated accordingly, the molding, I, running round the top and sides only. The glass will be covered with a pad at the back, and secured by a framed pine back, the whole of the upper part being secured to the ground by screws, so that it can easily be taken down if the glass becomes damaged. The side-panels are narrow, raised, and surrounded with back moldings, as at I; these may also be carved, if desired. The long, slender pillars are twisted in reverse form to the usual pattern, instead of showing the pattern of a stranded rope, they will appear similar to a twisted bar of square iron, as shown at F E. The part of the work can be readily done in the lathe. Turn the shafts plain round first, then make a long parallel cardboard strip, and, having twisted it round the shaft, mark it with a pencil, put it in the lathe, and set the latter very slowly in motion. Follow the center between each pencil line with a gouge as it revolves in the lathe; if the latter goes too fast, take the power off and turn the lathe with the left hand, giving the gouge the proper direction with the other. Once the gouge has made a gutter from end to end, it will be easy enough to finish, as the gouge gutters will guide the gouge itself. The caps and bases are shown at F. The brackets are scrolled as below, and secured with dowels. The shelf D is also hollow, and runs from end to end, the flat round being enriched as at detail D, the triangular space between each pateræ being sunk. The caps and bases of the small pillars at the top must be of the same strength as those of the twisted ones, the pillars being thicker in the shaft (see enlargement at C). The upper and lower parts of the shafts will be carved, and the caps and bases left plain. The panels at the back will be planted with black molding, as shown in section I. The cornice is enlarged at B; the frieze can be enriched with a scroll pattern if desired; it is made hollow, as shown in section B K. The line I in the elevation is not the center line, the width being regulated by the chimney-breast and size of the stove.

The plan K shows the architrave running round the corner of the chimney-breast; this should also run up to the ceiling, and terminate in a suitable cap under the cornice of the room, partaking of the color of the cornice, from the top of the cornice B and upwards.

The absolute strength of a well-glued joint is given as follows:

	POUNDS PER SQUARE INCH.	
	Across Grain end to end.	With Grain.
Beech	2,133	1,095
Elm	1,436	1,124
Oak	1,736	568
Whitewood	1,493	341
Maple	1,422	896

It is customary to take from one-sixth to one-tenth of the above estimate to calculate the resistance which surfaces, joined with glue, can permanently sustain with safety.—*American Cabinet Maker.*

Miscellaneous.

NEW METHOD OF SPACING AND LETTERING SIGNS.

The engraving represents a new method of spacing and outlining the lettering for signs lately patented by Mr. John C. Callow, of 56 Beech St., Cleveland, O. With this device the spacing of letters in sign work can be easily and rapidly executed by unskilled persons with all the facility of practical sign painters, and letters and other forms can be readily traced around the edges preparatory to filling in with paint, and accuracy in spacing is secured.

This improved method consists in stretching a cord or wire at the proper point, and attaching thereto the appropriate pattern letters either by means of hooks or by passing the wire or cord through eyelet holes formed in the letters. In laying out a sign where several letters of the same kind occur more than once, it is only necessary to substitute any other letter of the same width temporarily, replacing it afterward with the outline of the proper letter.

The alphabets are cut from tough, heavy boxboard, and the letters are of modern shape and style, such as are used by the best sign painters. The letters themselves when painted, grained, gilded, flocked, or otherwise ornamented, and tacked upon a suitable backing, form a handsome and durable sign. The lettering outfit furnished by Mr. Callow enables any one, without previous practice, to proceed and produce a good sign.

NEW MACHINE FOR PRESSING AND PACKING PRINTED SHEETS.

The novel and interesting machine which we herewith illustrate is designed to perform the operation known among printers as dry-pressing, which consists of removing from the printed sheets the indentations made by the type, and obtaining a smooth surface on the paper. This new device which is the invention of Mr. J. W. Jones, of Harrisburg, Pa., State Superintendent of Printing presses printed and folded sheets without offsetting, or blurring the page, and does away with the necessity of placing glazed boards between the sheets, which has to be done in the cold-pressing process usually employed.

The operation of the machine is as follows: The pressure is applied with two powerful hydraulic pumps, driven by hand or power. The pumps are provided with a safety valve, which is so nicely adjusted that it can be set for any pressure that may be required. When that is obtained an automatic gong instantly sounds an alarm. The motion of the plunger or ram is very quick, traveling its entire length in thirty seconds, when for practical use it is required to travel about two-thirds its length, or twenty seconds. About five hundred folded sheets, taken immediately from the folders, are placed in the trough of the machine, with a board at each end. The operator places his foot on the treadle; this throws the machine in gear and starts the pumps, which press the plunger or ram at a rapid motion upwards. When the desired pressure is obtained the automatic gong gives the sound, the foot is removed from the treadle and the pumps are stopped instantly. The pressure on the ram is retained until the bundle is tied with cord or other suitable tying material (a chain tie has lately been adopted which gives better results and has the advantage of permanency.) The cords which come around the bundles of paper from the mill answer well the purpose. The machine is so arranged with slotted ways, both in the heads and in the sides of the trough, that the hands can pass freely around the bundles in the process of tying, which requires about forty seconds, the bundles being tied while under pressure. A valve is opened, letting the water out of the cylinder, the plunger then travels back and closes the valve automatically, the bundle is removed and set aside for gathering, the pressure being retained by means of the tie. The operation is then repeated with fresh sheets. A bundle of about five hundred sheets is put up every three to five minutes.

From 6,000 to 7,500 sheets an hour can be dry-pressed by the machine, which can be readily run by a boy of average intelligence. To completely dry-press the sheets, so that they will be free of all indentations, and perfectly smooth, the bundles need remain only from twelve to twenty-four hours under the retained pressure of the ties, and this time can be considerably lessened by applying heavier pressure and employing stouter cords or chain ties.

It is claimed that the work of dry-pressing, as done by the new process, takes one-fifth less space, crumples and tears no sheets as by the old method of tying and storing the sheets, and possesses many other minor advantages.