have seen how the "rim" itself is built up and finished off. After the sounding board pin-blocks and bridge have been glued on to the rim, the next operation is the attachment of the plate. The plate is secured down by means of bolts and set screws and consists of a strongly ribbed and carefully designed casting made of special iron alloy. The plate has to perform the important function of carrying along its lower end the pins upon which the strings are strung and of bracing at its upper end the pin-block into which the tuning pins are driven. The plate is called upon to stand a tremendously heavy strain amounting in the aggregate to several tons but as before mentioned the back or rim assists to a certain degree in bearing this great strain. As we are chiefly concerned with the wood-using end of the industry it will not be necessary to enter into a detailed description of the design and construction of the iron plate.

The Strings.

These are essentially the sound producing mechanism yet were the greatest of care and skill not used in the selection, seasoning and putting together of the various woods that are used the strings would not produce that singing quality for which these pianos are noted. A highly-specialized grade of wire is used and the operation of "stringing" a completed "rim" calls for a high degree of skill and workmanship.

The Piano Action.

In these days of standardization and specialization the majority of piano manufacturers find it more profitable and satisfactory to import the "piano actions" they use which are made to their requirements and specifications by companies who specialize entirely in constructing same. Wood is used largely in the manufacture of the "piano action," such as in the hammers and the keys themselves and the principal species in general use for this purpose are maple, basswood, ash, cherry and cedar. As lightness is very essential consistent with strength, the wood is so cut that the grain shall, in each member, lie in the direction which is most suitable to the strain which that particular piece must endure.

The Keyboard.

In the early stages of their manufacture keyboards are formed in one piece consisting of a board of white pine which in turn is composed of several widths glued together with the grain so arranged that it shall run approximately in the direction of the finished keys. The board as first glued up, dressed and finished to size is about one inch thick by two feet wide by six feet long. Along one of the long edges is glued a thin strip of ivory. The board is then spaced off into the proper number of keys and after the keys are accurately lined upon the board they are sawn out by a band or fret saw and the ebony keys are glued down on the proper members.

Making the Case.

The body of the piano case is of ash to which the thin strips of mahogany and walnut are glued. Four strips of veneer are used in each finished section of the case to one layer being glued on with the grain running opposite to the next. Cut No. 2 shows the powerful presses that are used in the glueing operation. From the veneered pieces the case is built up and the already completed back action and key-board are fitted. Next comes the polishing operation which is a slow and costly one. The outside portions of the case such as the doors, the sides, the cover, etc., are given seven distinct coats of varnish. A coat of varnish is first put on with a brush. The brush marks are then rubbed off with pumice-stone, the pumice-stone marks are removed by rotten stone and finally the rotten stone marks by hand, there being no polishing agent equal to the human skin. These steps are successively carried out for each of the seven coats after which the case presents the desired grain and lustre.

The piano is then very thoroughly inspected, such details as regulating for touch, tuning and tone having been previously looked after. The Forestry Magazine is indebted to the President of the Martin-Orme Piano Co., of Ottawa, for assistance in gathering information for this article and for courtesies shown during visits to the company's factories.