

outside beaded ceiling per day, or say, \$7.25 per 1,000 feet. A man will put down 100 feet of plain base in a day. A man will fit and nail 400 pieces of bridging per day, at one-half cent each. Two good carpenters will lay out and frame 50 pieces of  $2 \times 10$  joists 16 feet long in a day, or about 1,350 feet; or they will frame 100 pieces of  $2 \times 6$  studding 12 feet long in a day, or 1,200 feet; or they will frame 70 pieces of  $2 \times 6$ , 16 feet long, for rafters, in a day, or 1,120 feet; or they will frame 14 pieces of  $8 \times 8$  sills, 16 feet long, or 1,190 feet in a day. From these figures a pretty safe estimate of the cost of labor may be obtained for the working of the items named. These figures are the result of actual experience of average day's work.

#### Making a Frame House Warm.

IN this Canada of ours, particularly in country towns and villages, all the studding, joists, rafters and other timbers used are just from the mill, and are, therefore, consequently, in an unseasoned condition, and will be sure to shrink more or less, and if the building is finished while the timbers are in this condition, settlements and ruptures in the plastering will be sure to take place, and much trouble and annoyance will follow. The old-fashioned plan of putting up a frame building—or a brick one for that matter—putting on the roof and enclosing, leaving windows and doors out, during the month of May, and letting it stand in this state until the early days in September, is to be commended, inasmuch as this will give time for joists, studding and other timbers to become fairly dry, and but little shrinkage will ensue, and it is much better to have the bulk of the shrinkage done before the inside finish is put in place. Floors in all cases should be double. A layer of sheathing paper should be laid between them. The first floor need not be made of good quality of stuff, so long as it is sound and driven well and tight together. The second or finishing floor should not be laid until all the plastering work is done. This is imperative where the top floor is of hardwood. Wherever possible, the span between the joists on the walls should be filled in with coarse mortar or grout for at least five or six inches above the floor. This will prevent rats, mice or other vermin from working their way into the house, and will cut off all cold drafts from the outside. The outside studding should be boarded on both sides, and should be covered with building paper before being sided or lathed and plastered. If siding is employed for outside finishing, it should be well lapped and as well nailed. If honestly put on, a sided house may be made very warm, but, if appearances do not count against warmth, the owner will do much better by having his house rough-casted, as this latter is warmer, and its use lessens the danger from fire. Roof boards should be laid tight, and heavy felt paper—well lapped—laid on the boards before the shingles are laid. The felt paper, being a non-conductor of both heat and cold, tends to keep the house cooler in summer and warmer in winter. Strong building paper should be well wrapped around the studding at window and door openings before the frames are put in place, then strips of the same paper should be well tacked about the frames, in order to cut off any chance for wind to force its way into the house from the outside. Have a spare flue in each chimney, to be used for ventilation, make openings into the flue at the baseboard and cover with an appropriate register, and with proper management of doors and windows, per-

fectly pure air can be secured in every room. If the building is to be heated by a hot-air furnace, or by steam or hot-water, be sure to get the heater large enough. This should be at least one or two sizes larger than the heater man says will answer. It is always well to have reserve power in your heaters; it saves fuel and never fails you when called upon to do extra work. In plastering, do not use a "brown coat" of mortar. Two coats, when well done, are as good as a dozen poorly wrought. Put the finish coat directly on the "smooth coat." Time and money will be saved, and the work will be better, harder, and more durable. Do not make the ceilings too high. Ten feet is high enough for an ordinary house in the main storey, and nine feet makes a high enough storey for bedrooms, and if there should be a third storey, eight feet six inches will make a good height for that storey. It costs quite a little sum of money to heat space overhead that is not required. Doors and windows should in all cases be fitted snugly, and yet should work freely. Attention paid to these matters will convey for all time to the householder warmth, comfort, economy and happiness.

OFTEN the builder will find himself confronted with some odd problem in mitreing he has not met with before, and for a brief time be somewhat puzzled as to the proper way to go about the solution. In order to aid him in getting out of difficulties of this kind the annexed

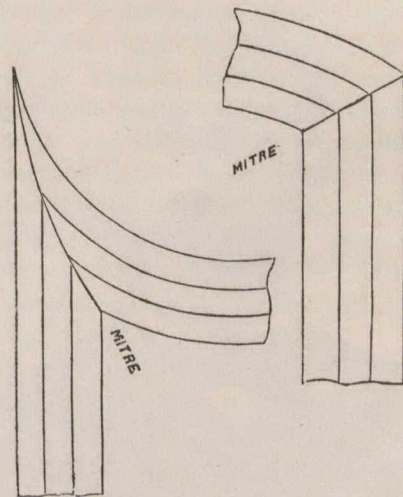


FIG. 2.

problems and solutions are presented. When a straight moulding is mitred with a curved one the line of mitre is sometimes straight and sometimes curved, as shown in Fig. 2, and when the mouldings are all curved the mitres are also straight and curved, as in Fig. 3. All

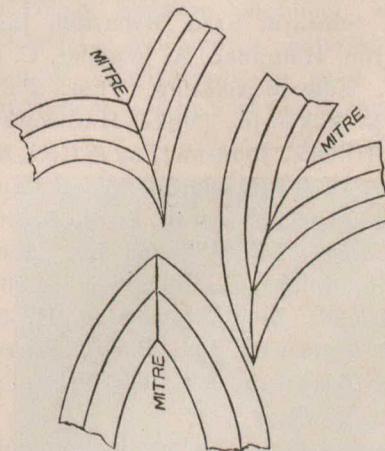


FIG. 3.

such work should first be laid out on a board as shown, and the lines correctly drawn, when the lines for the mitres can be pricked off and transferred to the mouldings. The diagrams are self-explanatory and should be readily understood.