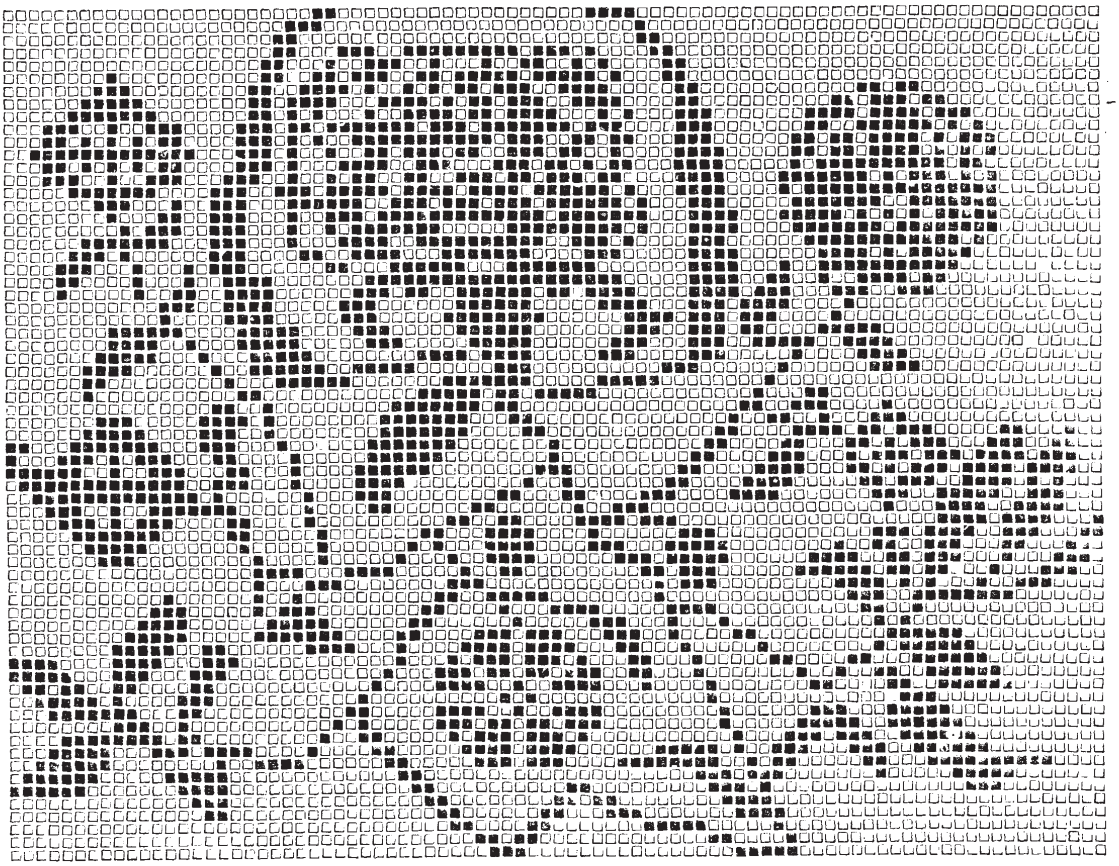
Next to this is the promptitude with which additional steam may be produced when required, and the independence of climatic changes whether in temperature or humidity of the air that is secured. The authors show that a plant of any size may work with a chimney no higher than the building, if provided with forced draught. The reader must, however, remember that although this is quite true, factories are generally obliged to have a chimney of a certain height in order to discharge the products of combustion at a sufficient elevation in the air to avoid nuisance or to conform with local regulations. There is still a very wide field for the application of forced draught, and those who would learn more of the details of its application will find them amply described and illustrated in Chapter XII. with numerous references to plants in operation.—(*Mechanical Draft*, B. F. Sturtwant Co., Boston, U.S.A.)

Weaving Design.

This design is suitable for Damasc. The particulars are 20's warp, 20's weft, 50 p. c. size ; 50's reed, 50 picks ; leave as many warp ends and weft picks as required round the group.



A Course in Mechanical Drawing.—The chief feature in the numerous books which have lately appeared on mechanical drawing is that they are the work of men whose experience as teachers keeps them free from many of the errors of their predecessors. Mr. John S. Reed, Instructor in Mechanical Drawing and Design, Sibley College, begins his course of instruction with an examination of the qualities of the draughtsman's tools and their proper management. No really good work can be done with bad instruments. The instructions for sharpening ruling pens are good. They should suffice for youths of ordinary intelligence. We should like to see a little more under this head. Unless most carefully cleaned after use the pens corrode on the inner side, and if there is no hinge to the blade a very thin stone must be provided to grind the surface clean. A few words might be said about the qualities of a good joint, and an imperfect one ; also on the testing and trueing up of square blades, drawing boards and set squares ; all these when new are frequently wrong. We have found it useful to give a letter to each irregular curve and to put numbers at spaces of about 3 inches all round them. The numbers and letters are noted on the drawing, so that when inking in comes to be done the proper curves may be found, even if the inking should be done by another person. The author's Standard Conventional Sections have already received the general approval of the technical press. They are equally useful for coloured drawings or for tracings to be reproduced by the ferro-prussiate or other process. There are other conventions not of such wide application as these, but still worth knowing on account of their rapidity. Various patterns of bookbinders' cloth are glued on to cards and given distinctive names. A blunt nosed pencil of lead not less than 3-16ths of an inch square is then used on the tracing, while the "convention" is below, until an impression of the salient parts of the stamped cloth appears on the tracing. A brown crayon or pencil is also good for this work. In addition, any pattern of brick, rubble, etc., may be drawn on a thick card with a stylus and used. At times a double and even treble