

in the machine in regard to the position of the heart of the wood and the annual rings. The letters in the sixth column refer to these figures.

The maximum strength of the wood is sometimes reached before the block is compressed fifteen per cent. In fact the load begins to increase very slowly shortly after the three per cent. limit is reached, at perhaps about five per cent. compression. When the pieces are placed as in Fig. (a) the maximum load is always reached at a compression of less than fifteen per cent., the annual rings seeming to

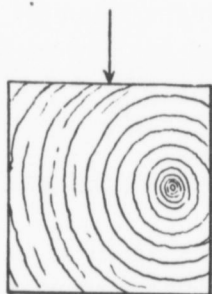


Fig. a

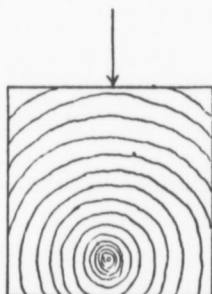


Fig. b

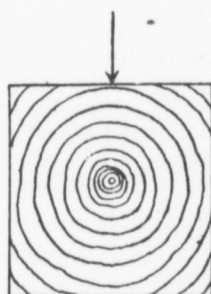


Fig. c



Fig. d

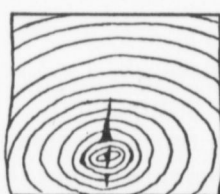


Fig. e



Fig. f

act somewhat like curved plates, the rings splitting apart and the side toward which they are convex bulging out, as shown in Fig. (d). When the blocks are placed as in Fig. (b) the rings simply become pressed closer together, and the load will continue to increase indefinitely. Failure is accompanied by splitting above the heart, which seems to act as a wedge, as shown in Fig. (d). When the heart is near the centre failure is accompanied by both splitting above and below the heart, and bulging out at the sides as in Fig. (f).