that the actual loss by condensation would not decrease slightly with earlier points of cut-off, so that in selecting 32 expansions for the proposed engine, it is done with the idea of using the least permissible number that will even approximate the best economy. Having determined that 32 expansions will be obtained in the proposed engine, and that "*A. B_2. C_2. C. D.*" of Fig. 3, will be the diagram of low pressure cylinder, we will next proceed to investigate the intermediate and High Pressure cylinders.

Beginning with the intermediate, Fig. 2 represents a series of possible diagrams between the pressures that have been allotted to this cylinder, and Fig. 5 represents the economy of each of these points of cut-off under the two extreme conditions of condensation that were assumed in Fig. 4. The method of locating the points on the curves of Fig. 5 is exactly the same as that of Fig. 4, merely substituting the areas of Fig. 2 for those of Fig. 3, and need not be again explained. Following the curves of Fig. 5, it appears that for the smallest condensation the best economy is at or near cut-off "B_1", while with the largest condensation the best result is with cut-off somewhat later than "B_2." Between these two points then we must probably look for the desired point of cut-off, and as before stated, if the exact condensation for each point was known it could be very quickly determined. As between this cylinder and the low we may assume that the condensation will be somewhat less in the smaller cylinder because of its smaller area of surface. This would be favorable to earlier cut-off, and the practical limitations as to size of cylinder do not interfere, as is the case of the low cylinder. On the other hand, free expansion is not a total loss in either the high or intermediate cylinder, as its superheating effect re-evaporates a certain quantity of the moisture in the steam, thus delivering to the receiver an appreciably greater volume of steam than that accounted for by the indicator at exhaust opening if much "drop" occurs. For this reason, "drop" is less objectionable in these cylinders than in the low, where no such redeeming feature is found. After due consideration of these modifying influences, it is not improbable that about midway between B_1. and B_2. will approximate the best point of cut off for this cylinder, and to continue the illustration of the proposed method, the dotted curve $B_{1\frac{1}{2}}$ $C_{1\frac{1}{2}}$ will be selected as the desired curve.