

Fig. 15 shows the most common arrangement of the principal parts of duplex single-stage compressors. From the figure it is evident that a duplex compressor has ample room for a large fly-wheel, though whether a large fly-wheel is an advantage may be questioned. This compressor can not very well be made self-contained by putting all the parts on a box bed, as in Figs. 18, 20, 21 and 36. The frame is usually of the girder type, or partly of the girder type, but with tie rods between the cylinders, as in Fig. 19, which shows the Ingersoll-Sergeant duplex. Fig. 16 shows another arrangement for duplex compressors. The Blake and Knowles and the Clayton are about the only compressors of this type. The Blake and Knowles compressor of this type is a small compact affair designed for "racking off" beer. Fig. 36 shows the standard design of the Clayton compressor. Both firms mount this type on a box bed, making it self-contained.

Fig. 12 is shown as one of the oddities in compressor design. It is one of the types of the English firm of Schram & Co. As all the power is transmitted through the crank shaft, there is likely to be a considerable friction loss.

We now come to compound compressors. Of these there are but two general types, the tandem compound straight line and the cross compound duplex.

The air cylinder of a single-acting tandem compound compressor is shown in Fig. 24. There is usually an intercooler instead of the simple pipe E between the cylinders. The general arrangement is like Fig. 13, but with the two air cylinders in place of the one shown in the figure.

Fig. 20 shows a straight-line double-acting tandem compound compressor driven by a tandem compound engine. The construction will be readily understood from the cut. The whole machine is mounted on a box bed and is self-contained. The advantages of the tandem compound arrangement lie chiefly in the direct application of the power, and in the great momentum of the reciprocating parts.

Fig. 28 shows the general arrangement of the cross compound duplex. This is the kind generally used for producing large quantities of compressed air at a low cost. The engines are usually fitted with Corliss valves and run condensing, making the "five C" type, the Corliss Cross Compound Condensing Compressor. Fig. 27 shows a compressor of this type built by the Canadian Rand Drill