air compressors of smaller sizes pump so little air that they are likely to be inadequate for future requirements. Compressors of sufficient capacity to meet probable future needs are expensive. With the thought that it will later be replaced by a large compressor or by one such as that described in this journal,[2] an aerating system made as follows has been found very satisfactory. Its chief appeal is its very low cost. Most of the necessary equipment may be found in the laboratory and in the junk yard.

A Kellogg pump which was regular equipment on an old model Cadillac car (SJ series) was mounted on a heavy wooden frame. A twelve-inch V belt pulley was substituted for the gear on the pump. This together with the standard size three-inch pulley on a ¼ H.P. electric motor gave the pump a speed of about 400 r.p.m. A three-gallon spray tank was mounted on the same frame immediately above the motor. In order to reduce friction and avoid breakage of a metal tube, a heavy cloth-reinforced rubber hose was used to carry the air from the pump to the tank. The outlet from the tank connected with suitable reducers to a two-inch pipe twelve inches long filled with cotton—as a precaution against oil getting into the solutions.

This compressor,[3] which was assembled without expenditure for technically skilled labor and at no cash outlay except for the belt and the twelve-inch pulley, has supplied for three months continuous aeration for 120 containers (ranging in size from three quarts to three gallons) with pin-punctured rubber tube aerators. When fewer solutions are aerated the air pressure is regulated by the simple expedient of by-passing air through a rubber tube partially closed with a screw clamp.

Because the pressure in the entire system is dependent on all the lines remaining intact, it has been found desirable to use five-sixteenths-inch glass T tubes with grooved ends for one-quarter-inch rubber tubing used in the air lines.

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A CONVENIENT METHOD FOR OBTAINING BLOOD SERUM

SERUM is used for a number of chemical analyses and is usually obtained by permitting a tube of blood to clot. The serum is obtained after freeing the clot from the walls of the tube by a thin knife or fine glass rod, which is insinuated between the clot and the walls of the tube and then passed around the clot. The tube is then centrifuged or allowed to stand until the clot shrinks sufficiently to liberate enough serum.

In carrying out these manipulations, the clot is frequently injured and the serum is often contaminated with cells, either intact or hemolyzed. The following method avoids all trauma to the clot.

A test-tube or centrifuge tube of suitable size is waxed on its inner surface by filling it with molten wax and pouring out the excess. The tube is allowed to cool while rotating it so as to spread the wax uniformly on its walls. After the wax has solidified, a small pledget of dry cotton is placed at the bottom of the tube by means of a glass rod. The tip of the tube is then placed in the Bunsen flame momentarily. The wax melts and secures the cotton to the bottom of the tube.

The tube is filled in the usual way. The cotton serves to initiate clotting and to fix the clot to the bottom of the tube. Then, as the clot shrinks, it will be well away from the surface of the blood, since it does not stick to the waxed walls. The serum can be pipetted away from the clot or poured into a suitable vessel, the clot remaining in the tube.

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[2] H. W. Beams, A. T. Casteel, R. L. King, SCIENCE, 86: 428, 1937.

[3] The pump was furnished by F. W. Barrett, and the assembly was made by C. J. VanEtten.

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