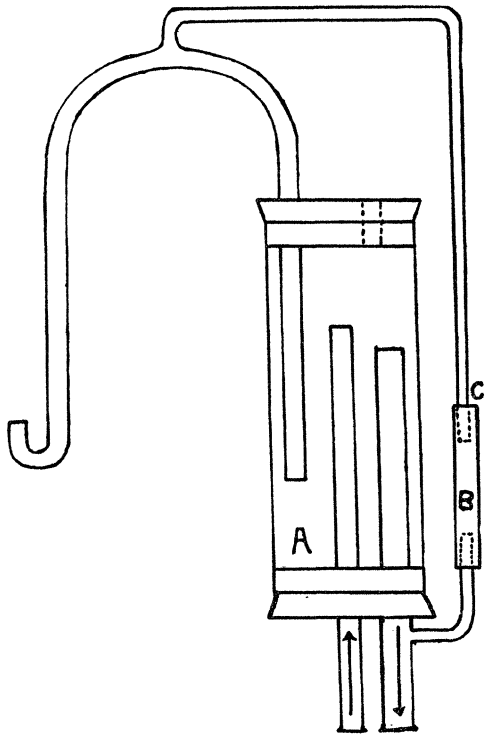
impart the spirit of creative inquiry. The latter would lose his contacts with the great intellectual tradition, with his colleagues in allied branches of knowledge, and with students who furnish both criticism and discipleship. The university is the proper center of scholarly endeavor, where are focussed the influences of history and culture, and where the achievements of maturity are renewed by the enthusiasm and forward-look of youth.

It is quite true, as asserted in the declaration of the National Research Endowment, both that facilities for research are inadequate, and that the demands of teaching and administration in American universities are excessive. It is to be hoped that both the problems will be met at the same time, and that the public interest in promoting research will be so directed as to improve the lot of those whose duty it is to teach and administer.—*Harvard Alumni Bulletin.*

SCIENTIFIC APPARATUS AND LABORATORY METHODS

A MODIFIED CONSTANT-LEVEL REGULATING DEVICE

ABOUT a year[1] ago a satisfactory device for maintaining a constant liquid level in any open vessel



such as a beaker was described. Employing the same principle the construction may be simplified so as to require a minimum of glass blowing. The accompanying figure elucidates this adequately. Tube A is one inch by three inches and the outlet tube is somewhat larger than the inlet. Tube C is of small bore. To start the regulator the small bore rubber tube B is removed and suction applied at C. Once the siphon is started the rubber tube is replaced.

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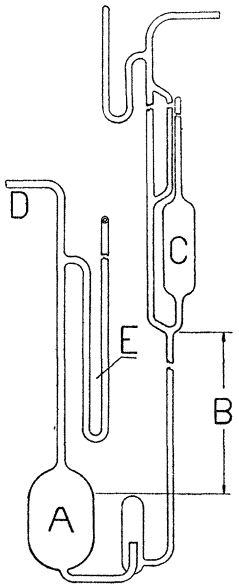
[1] *Journal of Industrial and Engineering Chemistry*, 17, 466 (1925).

AN IMPROVED MCLEOD GAUGE

THE writer recently had occasion to install a McLeod gauge in a production unit. Having, in the past, experienced some trouble with the usual flexible tubing type and having learned from experience that the average workman is incapable of handling the Bailey[1] model, a modified form was made. This gauge has the advantage of being all glass, does not require an aspirator and is simpler to operate than certain other models.

Referring to the figure, the gauge proper is of the usual construction. A is a reservoir containing sufficient mercury to completely fill the gauge. The distance B is made about thirty-one inches, slightly more than atmospheric pressure.



In operation, the mercury is forced into the chamber, C, by the application of air pressure through a three-way stop-cock (not shown) attached to pipe D. In the present instance the low pressure air supplied in the factory was used with a reducing valve. In order to preclude any possibility of mercury being forced into the system being exhausted, open arm manometer E was designed to act as a safety valve.

[1] Austin Bailey, *Phys. Rev.*, Vol. 15, No. 4, page 314, April, 1920.