cause of the close resemblance of the curves obtained with hydrogenated ergotocin and yohimbine (our own recent determination with the latter is given in the above curve), they have drawn conclusions regarding the closely related skeletal structures of the two alkaloids. However, as we have shown above, in so far as the absorption curves of hydrogenated lysergic acid and yohimbine are concerned, such conclusions must relate only to the indole nucleus common to both. In their rejection of a structural relationship between ergotocin and the harmala (carboline) alkaloids because of the different absorption spectra obtained with harmol, harmine and harmaline, they did not consider the modifying influences of the double bonds present in the third carboline (pyridine) ring and which are conjugated with the indole ring system in these particular alkaloids. As we have shown above, in the case of the tetrahydrocarboline derivative, where such an influence has been removed, the curve is very close to that of dihydrolysergic acid. Furthermore, conclusions regarding the structure of lysergic acid which are based on an interpretation of data obtained with "ergotocin" we must regard as unconvincing until more complete data are furnished us regarding the hydrolytic products of this particular substance, for which the formula $C_{21}H_{27}O_3N_3$ has been proposed.[5]

Finally, lysergic acid was discovered and so named by us[6] a little more than two years ago. Since then the investigation of its structure as well as synthetic attempts have been in progress in this laboratory, and such work is being actively continued.

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SCIENTIFIC APPARATUS AND LABORATORY METHODS

A NEW APPARATUS FOR THE DAYLIGHT PROJECTION OF MICROSCOPIC AND LANTERN SLIDES

THE reflecting box (Fig. 1) which is here described was developed about a year ago in our laboratory after a brief period of experimentation with various types of reflectors and reflecting surfaces. We regard it as the most satisfactory apparatus for daylight projection which we have used.

It has proven to be very useful in demonstrating and describing the detail of histological or zoological slides to small groups of students during laboratory exercises. By means of this apparatus (Fig. 1) any structure on a microscopic slide can be pointed out, emphasized and described. It enables the instructor to be certain that each student actually sees the structures under consideration. It permits of a full discussion and demonstration of any given cell or tissue by manipulating the mechanical stage of the projecting machine so that the cell or tissue under consideration is placed at the end of an arrow which is drawn on the reflecting surface (S, Fig. 1).

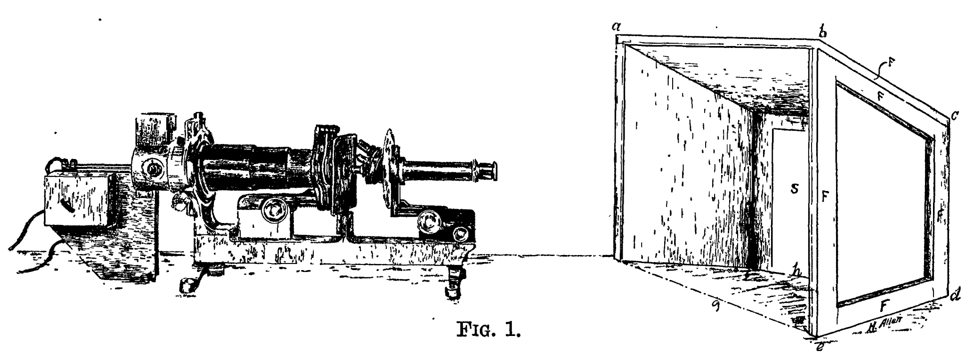

FIG. 1.

Ten or a dozen students can view the image to advantage at one time by standing around the table on which the projecting machine and reflecting box are placed.

This reflecting box can, also, be used to advantage in daylight projection of lantern slides with a delineascope. Photographs or plates from texts can, likewise, be shown in daylight with the delineascope; but they are not as clear as lantern slides.

The great advantage of this apparatus is that it can be used during the daytime in the laboratory, even with lights on and without shading the windows. For best results light should not shine directly into the box and the apparatus should be placed in the darkest portion of the room.

The basic idea of this reflecting box apparatus

[5] M. S. Kharasch and R. R. Legault, *Jour. Am. Chem. Soc.*, 57: 1140, 1935.

[6] W. A. Jacobs and L. C. Craig, *Jour. Biol. Chem.*, 104: 547, 1934.

(Fig. 1) is the projection of an image by a microprojector or delineascope onto a piece of glazed or aluminum coated paper (S, Fig. 1) which is affixed to the inside of the deep end of the reflecting box. The interior of the box is painted a deep black. The sides of the box are sloping, so as to give the observers a better opportunity to view the image.

The reflecting box was constructed out of a preparation board (wall board), $\frac{1}{4}''$ thick, and was made with tight joints inside. The framing (F, Fig. 1) is all outside and was made of $\frac{5}{8}'' \times 2\frac{1}{2}''$ pieces with lapped corners, nailed. (It could be so constructed as to fold up when not in use.) The inside dimensions of the box, which can be varied, are as follows (Fig. 1): front width, open end, ab, 30″; back width, closed end, df, $19\frac{5}{8}''$; front height, open end, be, $24\frac{5}{8}''$; back height, closed end, cd, $19\frac{5}{8}''$; direct open depth, gh, $17\frac{1}{4}''$; de, 18″; bc, $18\frac{1}{2}''$. The drawing is not made to scale and the dimensions, as given, are all inside, even though some letters are placed outside the box for facility in drawing.

It might, also, be possible to modify the plan of this box and the method of observation of the image by building two boxes similar to the one described above, except that the two boxes, which would be placed back to back, would have a common partition between them. Then, by cutting an aperture in the common partition between the deep ends of the two boxes thus placed, and by covering this aperture with a translucent linen screen or with other translucent material, it might be possible to view the image through the open end of the box which faces away from the projector.

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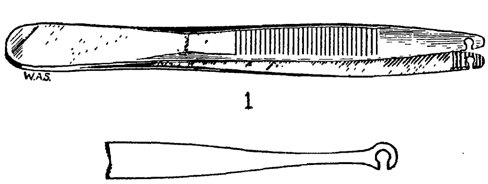
FORCEPS DESIGNED FOR SKIN SUTURING[1]

IN suturing together skin edges after incisions for operations on laboratory animals such as guinea pigs and albino rats, it is often extremely difficult to penetrate the skin with the needle. When the skin edge is caught in the ordinary forceps, the skin tends to be pushed around the side of the forceps and the needle can not thus retain its right angle approach. It has been our custom to use Keith needles, which must be very sharp to pierce the tough dorsal skin in flank operations on the rodents mentioned above.

In using the forceps described herewith (see cuts), either one or both edges of the skin may be caught and the needle put through with ease, after which the forceps can be easily removed, the needle passing through the opening leading outward from the needle hole. Fig. 1 depicts an adaptation of an ordinary forceps, which has been found to work perfectly well. Fig. 2 is the proposed design of forceps of this type for the trade.



1

2

FIG. 1.

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A NOTE ON LEVEL CONTROL IN FUNNELS

IN a recent issue of SCIENCE, Wean[1] has described, with an excellent illustration, a flow control system which is almost an exact replica of an apparatus used by the writer during the world war for control of level in a funnel in filtration of solutions made from $Ca(OCl)_2$ suspension and Na_2CO_3 in preparation of Dakin's hypochlorite solution. The apparatus was demonstrated to classes at the War Demonstration Hospital on the Rockefeller Institute grounds in New York City, but was made obsolete for the purpose by the chlorine gas method. While in no way wishing to detract from Wean's contribution, it may be worth while to record this other use as such need may occur again. The device has been used also in the writer's laboratory to control level in water thermostats. It is particularly valuable where suspended matter might clog a float-operated valve. The use of a Hoffman clamp on the return air-line for adjustments is sometimes helpful to minimize surges.

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[1] R. E. Wean, SCIENCE, 82: 336, 1935.

BOOKS RECEIVED

BLACKHURST, J. HERBERT. *Humanized Geometry. (An Introduction to Thinking)*. Pp. 272. Illustrated. University Press, Des Moines, Iowa.

MAJOR, RALPH H. *Disease and Destiny.* Pp. xiv + 338. 47 plates. Appleton-Century. $3.50.

MARTIN, THOMAS. *Faraday's Diary; Being the Various Philosophical Notes of Experimental Investigation Made by Michael Faraday. Index.* Pp. 64. *Vol. VII: Nov. 24, 1855–Mar. 12, 1862.* Pp. xvii + 465. Illustrated. G. Bell and Sons, Ltd., London. £12-12-0, net, per set of 7 Vols. and Index.

PEARSE, A. S. *The Migrations of Animals from Sea to Land.* Pp. x + 176. 4 figures. Duke University Press. $3.00.

ROBBINS, WILFRED W. and JEROME ISENBARGER. *Practical Problems in Botany.* Pp. ix + 402. 230 figures. Wiley. $2.00.

U. S. Geological Survey Water Supply Paper 771: *Floods in the United States; Magnitude and Frequency.* Pp. 497. 22 figures. $1.00. Paper 772: *Studies of Relations of Rainfall and Run-Off in The United States.* Pp. 301. 89 figures. $0.25. U. S. Government Printing Office, Washington, D. C.