the preparation of stained materials, it was necessary to change reagents without contamination. It was also necessary to avoid loss, or injury to the fragile protoplasmic parts after decalcification. The pipette illustrated (A) has given several years of satisfaction

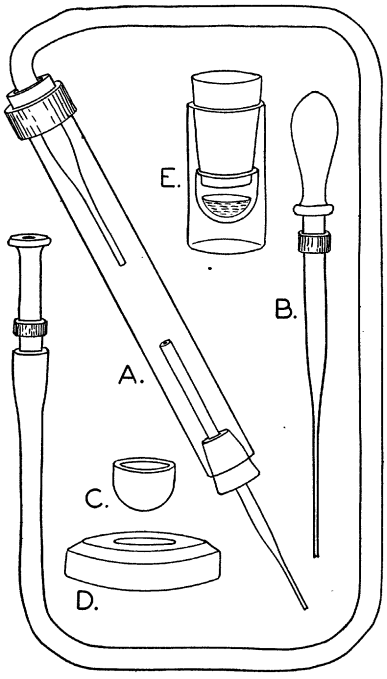

FIG. 1

and is to be recommended for the manipulation of living or fixed organisms of the magnitude mentioned.

The barrel is as convenient in size and weight as that of a fountain pen. Small organisms are drawn into the pipette by capillary attraction controlled by releasing the pressure of the tongue which is held against the end of the mouthpiece. The pipettes require a minimum of material, time and skill to prepare, and can be easily replaced in the barrel. Sterile pipettes of graduated sizes may be conveniently stored in test-tubes. Coating the pipette with paraffin prevents rhizopods and other adhesive organisms from sticking to the walls of the pipette.[1] While changing reagents the barrel constitutes a trap with a capacity of about 8 ml and may be held in any position without contaminating the mouthpiece, or filling the pipette with the contained fluid. By holding the barrel in a vertical position, pipette uppermost, the pipette stopper may be removed and the contents emptied.

At least three holders were necessary in my work. These were marked with bands cut from rubber tubing as follows: white for living material, red for general reagents and black for anhydrous solutions. It is very convenient to mark hand pipettes (B) in the same manner. A rack of suitable height and capacity for the pipette holders, attached to a ring stand or built above the microscope table, is very convenient.

Small or rare organisms were handled to advantage in containers made from the bottoms of bacteriological test-tubes (C) cut with a hot wire and ground flat on top with a carborundum stone. Supports (D) for these containers were made of plaster of Paris similar to the illustration. For storage these containers may be stoppered and placed in shell vials (E) as illustrated. Large or more abundant organisms may be collected in embryological watch glasses.

The following materials are necessary in the construction of the described pipette and holder: 5½ inches of 14 mm glass tubing; 10 inches 7 mm glass tubing; 18 inches ¼ inch rubber tubing; several 00 rubber stoppers; 4 mm thin-walled soft glass tubing is essential for the pipettes.

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MICROSCOPE LAMP FOR BIOLOGICAL LABORATORIES

THE lighting units used on the students' tables in the elementary botanical laboratories of the Life Sciences Building at the University of California have occasioned so much comment from visiting botanists and zoologists and have brought so many requests for specifications that publication of a brief description of these lamps seems advisable. Besides having proven so completely satisfactory as sources of artificial illumination for microscopic and other laboratory

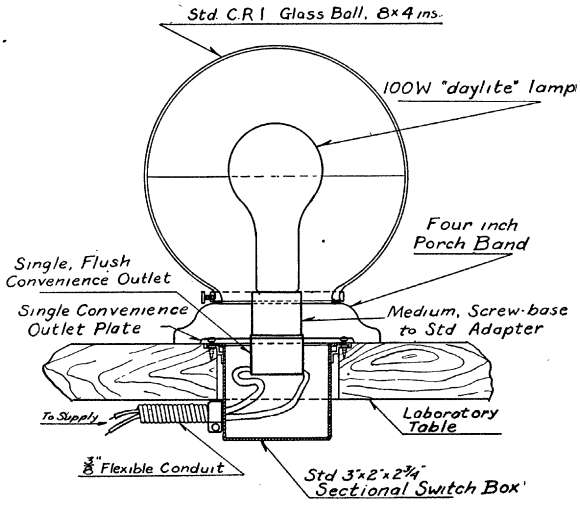

FIG. 1

[1] Suggested by Dr. Kofoid.

work, the cost of these lights is only a fraction of that of the table lamps supplied for similar purposes by the optical and laboratory supply companies.

Along the middle line of each of the laboratory tables, which are 9 feet, 10 inches by 42 inches, and 30 inches high, and which are designed to accommodate three students on each side, three such lamps are fixed. For the installation of each lamp the following parts, which can be secured from any jobber of electrical supplies, are needed:

1 Single flush convenience outlet.
1 Single convenience outlet plate.
1 Medium, screw base to standard adapter.
1 Sectional switch box.
1 Four inch porch band.
1 C. R. I. (crystal rough inside) glass ball, 8 x 4 inches.
1 100-watt "daylite" lamp.
2 1-inch round head brass screws.

Connection of the lamps to a wall outlet is through a wire attached to the under surface of the table top; current is supplied to the convenience outlets, which are sunk in holes in the table top.

The total cost of these items per lamp at the time of our installation was slightly less than $2.75. We have found the illumination sufficient for the use of the binocular dissection microscope and for standard compound microscopes for all magnifications up to that supplied by the 2 mm oil immersion objective and ocular 10. If the diffuse illumination coming directly to the user's eyes from the upper part of the lamp proves unpleasant, which in practise it seldom does, the upper part of the ball may be painted on the inside surface with white, opaque paint. If for any reason it is desired to remove the lights so that the table, entirely free from obstructions, may be used for other purposes, it is only necessary to remove the two wood screws from the "porch ring" and slip the adapter with the daylight bulb out of the receptacle.

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SPECIAL ARTICLES

INFECTION IN MICE FOLLOWING INSTILLATION OF VESICULAR STOMATITIS VIRUS

WE have previously stated[1,2] that intracerebral inoculation of anesthetized white mice with the virus of vesicular stomatitis of horses uniformly induces characteristic lesions in the organs of the central nervous system. Recently Webster and Fite[3] have succeeded in transmitting a fatal infection to mice by means of intranasal instillation of louping-ill virus.

Regular transmission to mice of a lethal infection has also followed nasal instillation of the Indiana and New Jersey[4] strains of vesicular stomatitis virus. The cerebral tissue, aseptically removed from mice succumbing to the experimental infection induced by intracerebral injection of the virus, was ground in a sterile mortar with hormone broth of pH 7.5 to a 1:10 suspension and filtered through a Seitz disk, and instilled intranasally in doses of 0.04 cc by means of a tuberculin syringe fitted with a blunt needle. The nasal tissues were not injured.

Within four to six days, the animals developed hyperesthesia, tremors, incoordination, spastic paralysis most marked in the posterior extremities and prostration, followed by death on the fifth to eighth day. The series of nasal infections was carried through twelve passages—in each transfer the brain of nasally infected mice having been used as the inoculum.

The pathological changes are similar to those occurring in guinea-pigs and mice[1,4] inoculated intracerebrally with neurotropic vesicular stomatitis virus. The nerve cells of the hippocampus in the brain and the anterior gray matter of the cord contain typical intranuclear inclusion bodies, such as are found in the epithelial cells of the guinea-pig pad inoculated with the virus of vesicular stomatitis or of foot-and-mouth disease and in the nerve cells of the guinea-pig inoculated intracerebrally with the virus of vesicular stomatitis.

In addition to the effective brain tissue in dilutions as high as 10^7, the virus in the 26th generation of tissue cultures[2] in dilutions of 10^6 and in the filtrates of affected guinea-pig pads was found to be active when instilled nasally in mice. The question arises whether in the field vesicular stomatitis may be conveyed by nasal inhalation of the incitant.

It appears, therefore, that the virus of vesicular stomatitis is strikingly active in a minute quantity (1 to 10 million dilution) in the nasal passages of mice and that the uninjured nasal mucosa is as sensitive to infection as is the injured brain or pads of animals.[5]

These experiments suggest that the closely related

[1] H. R. Cox and P. K. Olitsky, *Proc. Soc. Exp. Biol. and Med.*, 30: 654, 1933.
[2] H. R. Cox, J. T. Syverton and P. K. Olitsky, *Proc. Soc. Exp. Biol. and Med.*, 30: 896, 1933.
[3] L. T. Webster and G. W. Fite, *Proc. Soc. Exp. Biol. and Med.*, 30: 656, 1933.
[4] H. R. Cox and P. K. Olitsky, *Proc. Soc. Exp. Biol. and Med.*, 30: 653, 1933.
[5] All operations were done under ether anesthesia.