

Per.

1691

CONTENTS

NUMBER 1, MAY, 1927

I. The Comparative Anesthetic Efficacy of Isoamylethyl Barbituric Acid and Diethyl Barbituric Acid. By Edward E. Swanson and Irvine H. Page..... 1

II. Phytopharmacology: The Effect of Digitalis Solutions on the Growth of Seedlings. By David I. Macht and John C. Krantz, Jr..... 11

III. An Improved Method for the Preparation of Colloidal Lead. By Fritz Bischoff and N. R. Blatherwick, with the technical assistance of Melville Sahyun..... 27

IV. The Pharmacological Action of Scillaren. By Premankur De..... 35

V. The Pharmacological and Therapeutic Properties of Alpha-Lobelin. A Comparison of its Action on the Respiratory Center with that of Other Respiratory Stimulants. By Victor H. Norris and Soma Weiss..... 43

VI. Crystalline Insulin. By John J. Abel, E. M. K. Geiling, C. A. Rouiller, F. K. Bell and O. Wintersteiner..... 65

Bd. A. K. 11
 Je. 1927

NUMBER 2, JUNE, 1927

VII. Chemotherapy of Bacterial Infections. II. The Relation between Chemical Constitution and Chemotherapeutic Action in Staphylococccic Infections. By Ernest Linwood Walker and Marion A. Sweeney..... 87

VIII. The Rat-Poisoning Substance in Red Squills. By F. R. Winton.... 123

IX. A Contrast between the Actions of Red and White Squills. By F. R. Winton..... 137

X. Electrocardiographic Studies of the Action of Alpha Lobelin and Epinephrin on the Mammalian Heart. By Richard W. Whitehead and David C. Elliott..... 145

XI. On the Fate of Morphine which Has Been Injected into the Animal Body. By Yutaka Teruuchi and Sotaro Kai..... 177

NUMBER 3, JULY, 1927

XII. Scientific Proceedings of the American Society for Pharmacology and Experimental Therapeutics..... 201

XII. A Clinical Standardization of Digitalis. By Louis E. Martin..... 229

XIV. The Effect of Insulin on Hypophysectomized Dogs. By E. M. K. Geiling, D. Campbell and Y. Ishikawa..... 247

NUMBER 4, AUGUST, 1927

XV. The Anesthetic Value of Nitrous Oxide under Pressure. By W. Easson Brown, G. H. W. Lucas and V. E. Henderson..... 269

XVI. On the Toxicity of Drugs after Hemorrhage. By Harry Gold.....	291
XVII. The Electromotive Action of Drugs as a Cause of Their Toxicity. 1. The Extension of Nernst's Theory of Excitation and the Experimental Demonstration of the Sensitiveness of a Certain Phase Boundary Potential towards Potent Alkaloids. By R. Beutner.....	305
XVIII. The Clinical Comparison of Three Preparations of Digitalis. By A. R. Gilchrist and D. M. Lyon.....	319

NUMBER 5, SEPTEMBER, 1927

XIX. VI. Further Studies on the Effect of Drugs upon the Tonus Waves in the Excised Terrapin Auricles. Charles M. Gruber.....	333
XX. The Preparation and Constitution of Soluble Bismuth Sodium Citrate, and of the Intermediate Products. W. F. Von Oettingen, Y. Ishikawa and Torald Sollmann.....	353
XXI. Colloidal Lead Phosphate. A Substitute for Colloidal Lead in Cancer Therapy. Fritz Bischoff and N. R. Blatherwick.....	361
XXII. Action of Essential Oils and of Some of Their Constituents upon the Formation of Methemoglobin in Vitro. Emmeline Dessemontet.....	377
XXIII. The Comparative Effect of Ethyl Cyanide and Ethyl Iso-cyanide on Biological Oxidations. O. H. Emerson and J. William Buchanan..	387
XXIV. Alpha-Lobeline. A Pharmacological Study. W. J. R. Camp.....	393

NUMBER 6, OCTOBER, 1927

XXV. The Action of Certain Quinine Derivatives with Special Reference to Local Anaesthesia and Pulmonary Oedema. W. E. Dixon and Premankur De.....	407
XXVI. Studies in Chemotherapy. II. Internal Antisepsis by Means of Sulphato Compounds. Myer Coplans and Arthur G. Green.....	433
XXVII. Detoxification of Rattlesnake Venom by Sodium Ricinoleate. Emmett B. Carmichael.....	445
XXVIII. The Relative Physiological Properties of Certain Trialkyl and Dialkyl Barbituric Acids. A. W. Dox and A. M. Hjort.....	455
XXIX. Effect of Certain Dyes upon Blood in Vitro. H. Wales, J. C. Munch, and E. W. Schwartze.....	473
XXX. A Note on the Action of Diamino-Acetone. J. H. Wadia.....	481

ILLUSTRATIONS

Thermographic record of experiment performed January 13-14, 1925, from 4 p.m. (A) to 4 p.m. (B) (Fig. 1).....	16
Phytopharmacology (Fig. 2).....	18
— (Fig. 3).....	21
Isolated frog's heart; perfused with scillaren; shows death in systole (Fig. 1)	36
— rabbit's heart; perfused with Locke's solution; shows the effect of perfusing with scillaren 1:2,500,000 (Fig. 2).....	38
Cat; urethane; showing fibrillation after intravenous injection of 0.2 mgm. scillaren (Fig. 3).....	39
Graph showing effect of scillaren on rate of flow through surviving rabbit's limb (Fig. 4).....	40
Section of the kymographic record obtained in experiment 92 (Fig. 1).....	48
— of the kymographic record obtained in experiment 70 (Fig. 2).....	50
Sections of kymographic tracing obtained in experiment 102 (Fig. 3).....	52
Section of the kymographic tracing obtained in experiment 57 (Fig. 4).....	54
Sections of kymographic record obtained in experiment 71 (Fig. 5).....	56
— of pneumographic tracing of patient A. C. suffering from cerebral hemorrhage with manic psychosis (Fig. 6).....	58
— of pneumographic tracing of patient M. W. suffering from fatal veronal poisoning complicated by terminal pneumonia (Fig. 7).....	58
— of pneumographic tracing of patient N. N. (Fig. 8).....	59
Titration curve showing pH values of a mixture of 40 cc. of brucine acetate solution (1 gram of brucine alkaloid dissolved in each 18 cc. of 0.132 N acetic acid) and 10 cc. of 1.317 N acetic acid upon the addition of pyridine and ammonia (Fig. 1).....	75
Chemotherapy of bacterial infections (Fig. 1).....	88
Hydroxymercuriphenol-p-sulphonic acid (Fig. 2).....	117
Phenol-p-sulphonic acid (Fig. 3).....	117
Hydroxymercuri-o-aminobenzoic acid (Fig. 4).....	117
o-Aminobenzoic acid (Fig. 5).....	117
Crystal violet (Fig. 6).....	118
Leuco-crystal violet (Fig. 7).....	118
Mortality of rats after administration of red squills per os (Fig. 1).....	128
Action of alpha lobelin on mammalian heart. Lead I (Fig. 1).....	151
— of alpha lobelin on mammalian heart. Lead II and Lead III (Fig. 1).....	152
— of alpha lobelin on mammalian heart. Lead II (Fig. 2).....	153
— of alpha lobelin on mammalian heart. Taken from Lead II (Fig. 3).....	153
— of alpha lobelin on mammalian heart. Lead II (Fig. 4).....	155
— of alpha lobelin on mammalian heart. Taken from Lead II (Fig. 5).....	155
— of alpha lobelin on mammalian heart. Lead II (Fig. 6).....	156
— of alpha lobelin on mammalian heart (Fig. 7).....	156

Effect immediately following epinephrin injection (Fig. 8).....	158
Action of alpha lobelin on mammalian heart (Fig. 9).....	158
— of alpha lobelin on mammalian heart (Fig. 10).....	159
— of alpha lobelin on mammalian heart (Fig. 11).....	159
— of alpha lobelin on mammalian heart (Fig. 12).....	161
— of alpha lobelin on mammalian heart (Fig. 13).....	161
— of alpha lobelin on mammalian heart (Fig. 14).....	162
— of alpha lobelin on mammalian heart (Fig. 15).....	169
Clinical standardization of digitalis (Chart 1).....	241
— standardization of digitalis (Chart 2).....	241
— standardization of digitalis (Chart 3).....	242
— standardization of digitalis (Chart 4).....	244
The electromotive force of this system is about 0.08 to 0.09 volt. The addition to the fluid in the beaker of traces of a potent alkaloid depresses the E.M.F. considerably (Fig. 1).....	308
Data from cases treated with digitalis A, B and C respectively (Figs. 1 and 2).....	323
— from cases treated with digitalis A, B and C respectively (Fig. 3).....	324
— from cases of auricular fibrillation only (Fig. 4).....	326
Regression lines from figures 1, 2 and 3 charted together for comparison (Fig. 5).....	328
Comparison of records from normal and nonfibrillating subjects (Fig. 6).....	328
Graphic representation of results obtained from patient Stuart who suffered from auricular fibrillation (Fig. 7).....	330
Theoretical diagram to show effect of blocking dose of digitalis (Fig. 8).....	331
Effect of drugs upon tonus waves of auricles (Fig. 1).....	336
— of drugs upon tonus waves of auricles (Fig. 2).....	337
— of drugs upon tonus waves of auricles (Fig. 3).....	340
— of drugs upon tonus waves of auricles (Fig. 4).....	341
— of drugs upon tonus waves of auricles (Fig. 5).....	343
— of drugs upon tonus waves of auricles (Fig. 6).....	344
— of drugs upon tonus waves of auricles (Fig. 7).....	345
— of drugs upon tonus waves of auricles (Fig. 8).....	346
— of drugs upon tonus waves of auricles (Fig. 9).....	347
— of drugs upon tonus waves of auricles (Figs. 10 and 11).....	348
— of drugs upon tonus waves of auricles (Fig. 12).....	349
Action of essential oils and of some of their constituents upon the formation of methemoglobin in vitro (Fig. 1).....	384
Normal dog. No anesthesia. Effect of 9 mgm. of alpha-lobeline injected at \perp on respiration (Fig. 1).....	396
Chloral anesthesia. 2 mgm. alpha-lobeline injected intravenously A. Vomiting at point B (Fig. 2).....	397
Chloroform anesthesia. 2 mgm. alpha-lobeline injection at \perp (Fig. 3).....	398
Light ether anesthesia. Alpha-lobeline injected at \perp (Fig. 4).....	399
Deep ether anesthesia. Alpha-lobeline injected at \perp (Fig. 5).....	400
Ether anesthesia. 20 mgm. of alpha-lobeline injected at \perp (Fig. 6).....	401
No anesthesia. Effect of 2 mgm. of nicotine on respiration (Fig. 7).....	402
Influence of alpha-lobeline on frog heart (Fig. 8).....	492

ILLUSTRATIONS

vii

Cilioscribe tracing (Fig. 1).....	411
Shows the effect of applying various quinine derivatives to rabbit's isolated intestine contracting automatically in Ringer's solution (Fig. 2).....	412
Frog's heart perfused in situ through the hepatic vein at a constant pressure of Ringer's solution (Fig. 3).....	416
Isolated rabbit's heart (Fig. 4).....	417
Cat. Urethane (Fig. 5).....	420
— Urethane. Blood pressure (Fig. 6).....	423
Pithed frog. Record of heart beat (Fig. 7).....	423
Cat. Urethane. Intestinal movements (balloon) and blood pressure (Fig. 8).....	424
— Urethane (Fig. 9).....	425
— Urethane. Blood pressure (Fig. 10).....	426
Effect of eucupinotoxin on pulmonary vessels (Fig. 11).....	426
Cat. Pulmonary pressure and blood pressure (Fig. 12).....	428
— Urethane. Left auricular pressure and blood pressure (Fig. 13)....	429
— Urethane. Lung volume and blood pressure (Fig. 14).....	429
— Urethane. Lung volume and blood pressure. Artificial respiration (Fig. 15).....	430
Effect of certain dyes upon blood in vitro (Fig. 1).....	474
1, Blood and light green; 2, reduced hemoglobin (Fig. 2).....	477
1, Light green SF yellowish; 2, amaranth; 3, tartrazine (Fig. 3).....	478