



## CONTENTS

By the Sweat of Your Brow .....	9
Dr. Peter Wargo	
Vitreous Aluminosilicates .....	12
Joseph W. Malmendier	
The Use and Limitations of Plastics and Elastomers in Glass Laboratory Apparatus .....	21
D. F. Shriver	
Glass CO <sub>2</sub> Laser Qualified for Titan IIIC Launch Environment ....	29
George J. Bergen, Robert F. Harris and Harold E. Walker	
Fabrication of a Micro Columnated Source in a Conductive Coated Lens .....	42
Dane H. Anderberg	
The Glass High-gain Light Integrating Sphere for Laboratory Investigations of Chemiluminescence .....	48
Edwin E. Eckberg	
A Neophyte's Novelty Notes .....	58
Morris Liebson	
Gadgets and Tools for the Glassblower .....	66
James Morris	
Safety in the Glass Equipment Shop .....	71
John M. Reynolds	
Vycor and Improvements .....	80
Carlton T. Bedsole	
Glass in X-Ray Tubes .....	83
Edward E. Hafkemeyer	
The Engineering Function in Glass-working Operations .....	92
George H. Batley	
Insulator and Heat Exchanger for Ultra High Vacuum, High Voltage Discharge Chamber .....	97
W. J. Wheeler	
Thermal Expansion Mismatch and Stress in Seals .....	107
J. E. Hagy	
In Attendance .....	118