

the relation of animal experimentation to medicine, hygiene and surgery, and the conquest of diseases in the animals themselves. Even though one has followed the principal discoveries in medicine as they have been made from time to time, the results when brought together can hardly fail to surprise one whose attention to such subjects has been only casual.

Some opulent philanthropist who wishes to do a service to the cause of medical science would do well to authorize the publishers to send copies of this little book to every state senator and assemblyman, and every member of the national congress, so that our lawmakers may obtain, without more effort than busy men can well afford, a comprehensive idea of methods of research, upon which they are so often importuned to pass restrictive or prohibitory legislation.

Mr. Rockefeller has recently endowed a magnificent institution for medical research. Out of it have already come, by methods which the sentimental zoophilists have so severely condemned, discoveries whose value to the world are many times greater than the cost of the institution. If the well-meaning opponents of animal experimentation had had their way these discoveries would not have been possible. The country would have saved several of its guinea-pigs and homeless dogs, but it would have lost more of its children.

We are never entirely safe from the good intentions of the opponents of vivisection, and it is hoped that Dr. Warbasse's book will be widely circulated and will serve as a corrective of the misinformation which has been so liberally furnished to the public.

S. J. HOLMES

#### SCIENTIFIC JOURNALS AND ARTICLES

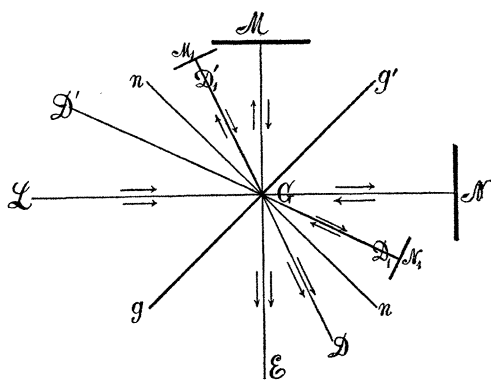
THE contents of the current number of the *American Journal of Mathematics* is as follows: "The Osculants of Plane Rational Quartic Curves," by H. I. Thomsen; "On the Primitive Groups of Classes Six and Eight," by W. A. Manning; "Minimalcurven als Orter von Krümmungsmittelpunkten," Von E. Study; "Minimalcurven und Serret'sche Flächen," Von E. Study; "On Steinerians of

Quartic Surfaces," by John N. Van der Vries; "On the Determination of the Ternary Modular Groups," by R. L. Börger; "Groups of Transformations of Sylow Subgroups," by G. A. Miller.

#### SPECIAL ARTICLES

##### ON THE GENERAL USE OF THE GRATING WITH THE INTERFEROMETER

IN a recent number of this journal<sup>1</sup> a method was described of bringing reflected-diffracted and diffracted-reflected rays to interference, producing a series of phenomena which in addition to their great beauty promise to be useful. In fact, the interferometer so constructed needs but ordinary plate glass and replica gratings. It gives fringes rigorously straight, and their distance apart and inclination are thus measurable by ocular micrometry. An adjustment may be made whereby ten small fringes occupy the same space in the field as one large fringe, so that sudden expansions within the limits of the large fringe (as in magneto-striction) are determinable. Lengths and small angles are thus subject to micrometric measurement. Finally the interferences are very easily produced and strong with white light, while the spectrum line used may be kept in the field



<sup>1</sup> From a lecture given to the Eastern Association of Physics Teachers, at Brown University, Providence, on May 21, 1910. See also C. and M. Barus, *SCIENCE*, March 11, 1910, p. 394, and a forthcoming number of the *Philosophical Magazine*.