and of cases referred by the Institute or approved by the Committee, was 59, slightly above that of the preceding year.

The number of cases in which reports were made, or which were otherwise disposed of, was 47, which is somewhat less than that of the preceding year.

There have been awarded and recommended, of Elliott Cresson Medals, 2; of John Scott Legacy Premiums and Medals, 6; of Edward Longstreth Medals, 2, and of Certificates of Merit, 2. There have been made 9 reports without awards, and 7 advisory reports, and 3 reports on special subjects.

As this Committee may recommend annually many more than the above number of awards, several different efforts have been made during the year to bring a larger number of apparently meritorious inventions before the Committee. The most recent of these, and the one that promises to be most permanently successful, is the appointment by the Committee of a special committee of its members, to discover and recommend suitable subjects for investigation. The members of the Institute are again requested to co-operate in this respect.

The Committee hereby expresses its appreciation of the valuable service rendered by several members of the Institute who assisted in the work of its sub-committees. Very respectfully,

L. F. RONDINELLA,

Chairman Committee on Science and the Arts.

(Adopted at the Stated Meeting held Wednesday, January 4, 1899.)

ANNUAL REPORT OF THE COMMITTEE ON MEETINGS FOR THE YEAR 1898.

To the President and Members of the Franklin Institute.

GENTLEMEN:—The Committee held ten stated meetings during the year, and arranged for the presentation of twenty-six papers and communications, a number of which will be found printed, at length, in the *Journal*. The general standard of these contributions has been high, and the attendance at the meetings of the Institute exhibited an increasing interest in these events among the members.

Respectfully submitted, on behalf of the Committee.

WASHINGTON JONES, *Chairman.*

PHILADELPHIA, January 1, 1899.

REPORT OF THE COMMITTEE ON CABINET OF MODELS FOR THE YEAR 1898.

To the President and Members of the Franklin Institute.

GENTLEMEN:—The Committee on Cabinet of Models reports further progress made during the past year, in connection with the revision of the collection of models.

The work of selecting for preservation, the models of value and interest, and disposing of the others, has been completed; and the enumeration,
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labeling and display of those retained is steadily going forward under the Committee's general direction. Already the most valuable of these have been arranged and attractively displayed in the Reading Room, and some of the larger ones in the vestibule. The work will be entirely finished early in the present year.

HENRY HOWSON, *Chairman.*

PHILADELPHIA, January 1, 1899.

ANNUAL REPORT OF THE CHEMICAL SECTION, 1898.

To the Committee on Sectional Arrangements.

GENTLEMEN:—I have the honor of submitting herewith my annual report as President of the Chemical Section for the year 1898.

Meetings of the Chemical Section have been held regularly during the year, except in the months of June, July and August. At most of these meetings, the attendance was very good, and at some numbered more than a hundred.

The present membership of the Section is 95.

So active has the Committee on Papers and Communications been, since the fall of the year, that it has become necessary, besides the regular stated meetings to hold special meetings.

The number of communications which they have secured is still so large, that it will probably necessitate the holding of special meetings during the remainder of the season. At the date of writing, the committee is in possession of fourteen papers, which have been promised for presentation before the Section.

During the past year, the following communications, lectures and addresses were presented at the various meetings.

Prof. William C. Day. "Action of Carbon Dioxide on Sodium Aluminate and the Formation of Basic Aluminum Carbonate."

Prof. F. A. Genth. "The Detection of Salicylic Acid."

Mr. Edward H. Earnshaw. "The Chemical Composition and Technical Analysis of Water Gas."

Mr. G. M. Eldridge. "A Method of Applying a Money Standard to the Nutritive Values of Feeding Stuffs."

Mr. Paul R. Heyl. "On a Supposed Change of Weight with Change of Temperature."

Mr. A. Hamburger. "Recent Developments in the Textile Industries."

Prof. William C. Day. "A Method of Analyzing Commercial Phosphorus."

Dr. Robert H. Bradbury. "On Chemical Equilibrium."

Dr. Harry F. Keller. "The Synthetic Preparation of Organic Hydroxy-acids."

Prof. William C. Day. "The Synthesis of Gilsonite."

Mr. Hudson Maxim. "Modern High Explosives and Smokeless Powders, and Their Application in Warfare."

Mr. Charles A. Hexamer. "Chemical Fire Extinguishers."

Dr. William H. Wahl. "An Improved Artificial Stone."