the realm of applied thermodynamics. The work of the past year has been in this line of investigation and the results have sustained the view of Commodore Isherwood.

The schedule of proposed work for the year 1900 includes the study of the effect of 'throttling' steam, as proposed by Isherwood.

The publication of these documents for the use of the Congress of Applied Mechanics at the coming International Exposition at Paris gives all interested in this department of research and in this kind of instruction an opportunity to learn just what are the methods employed, the apparatus used and the character of the researches best adapted for laboratory work of this sort in the instruction of the young engineer and physicist, as arranged by a pioneer in this field.* The work reported has been extensive, important and admirable in method and in its execution. It has been conducted under circumstances of very great difficulty, patiently, carefully, persistently, and while few who have not kept in touch with it while in progress can realize what labor and sacrifice have been involved, every specialist in this department will recognize its value and elegance.

R. H. THURSTON.

*Documents sur le Laboratoire de Mécanique de l'Université de Liége, et sur l'Enseignement qui y est donné par V. Dwelshauvers-Dery, Professeur de mécanique appliquée et de physique industrielle. Liége, Charles Desoer, Editeur, 1900.

A NEGLECTED DEPARTMENT.

THE American Society of Mechanical Engineers is issuing to its members a circular, prepared by its Council, calling attention to the neglect of the Patent Office of the United States by Congress, to its importance to the country and to its hoppled condition as produced by the refusal of Congress to provide for either suitable accommodations or a sufficient clerical force and staff of examiners. Members of the Society are urged to force upon the attention of their members of Congress the necessity of "providing sufficient room, force and facilities for the prompt and proper execution of its work," that arrangements be made at once for "providing incombustible receptacles for the records," which records "largely constitute the legal evidence of title of so many of the larger industries of the country," that the library be kept up and properly cared for, that the Patent Office be given the entire control and use of its own building—now occupied largely by 'squatters' from other bureaux—and that its earnings be dedicated to its own purposes and improvement. The Patent Office is 'out of practical politics,' and is only prevented from doing its full duty to the country by its lack of space and of force. Yet, up to January 1, 1899, 693,979 patents had been granted, and 41,422 trade-marks registered. Last year alone 25,527 patents and 2260 trade-marks were added to the record. The accumulations of records and of exhibits has come to be so great as to put it quite beyond the power of the restricted force in its restricted space to properly store, arrange, classify and care for them. The library, which it is imperatively necessary to keep up to the highest state of efficiency, and which should be a complete collection of the technical publications of the world, and of all time, was last year only allowed $1500 for purchases of books. No funds at all were obtainable for the law library. The whole business of this department of government, upon which the success of our great industries is so absolutely dependent is trammelled, and every industry of the country is embarrassed, by its forced inefficiency. This inefficiency is entirely due to the indifference of Congress. The Patent Office has accumulated out of its own earnings a large amount of available capital—several millions of dollars—and it has not been even allowed to draw upon its own funds to meet imperative needs.

So indifferent, in fact, have been some Congresses that it is within the experience of the writer that important matters of business, involving large interests, have been delayed for weeks through the impracticability of securing a full meeting of a committee, repeatedly called.

R. H. THURSTON.

MUSEUM OF THE STATE OF NEW YORK.

DURING the winter season, the energy of the museum staff has been concentrated on an im-

portant series of publications. A bulletin on the clay industries of the State will soon be issued, being a second edition of one prepared in 1893. A report on the lime and cement of the State is nearly ready for the printer. Work is also rapidly progressing on the new edition of the geologic map of the State on the scale of five miles to the inch.

A NEW edition of the Economic and Geologic map published in 1894 is almost ready for the engraver. It is on a slightly enlarged scale and will contain a large amount of additional information. A relief model of Niagara River and the vicinity of the Falls on the scale of 1000 feet to the inch is being prepared by Mr. Edwin E. Howell, of Washington, D. C., for exhibition at the Pan-American exposition in Buffalo.

THE sixteenth annual report of the State geologist being the report of work done during the incumbency of the late Professor James Hall, has been issued. It contains a number of papers of importance, among them,

'Report on the boundary between the Potsdam and Pre-Cambrian rocks north of the Adirondacks,' by H. P. Cushing.

'The Naples fauna in western New York,' by John M. Clarke.

'The brine springs and salt wells in the State of New York and the geology of the salt district,' by D. D. Luther.

'The faunas of the Hamilton group of Eighteenmile creek and vicinity,' by A. W. Grabau.

THE department has received from Professor C. E. Beecher, of Yale University, a natural size restoration of the immense crablike crustacean *Stylonurus excelsior*, the largest invertebrate animal that has been found in the rocks of New York. It attained a length of about five feet, and its remains were found in the Catskill rocks of Delaware county.

Dr. J. M. CLARKE lectured on the 24th ult. in the Columbia University series on the 'Geological History of Parasitism' and will repeat the lecture before the Rochester Academy of Science.

A BULLETIN on early and recent sites of the Indian tribes of the State, illustrated by two maps, will soon be received from the printer.

IN zoology, the biological survey has been continued and volunteers have been organized to observe and report on the birds of New York. This is in continuance of the biological work originally begun under the natural history survey which led to the publication of the reports on zoology and botany in 1824, and which, though for some time suspended for lack of funds, was revived two years ago in the study and collection of fishes of Long Island by Dr. Tarleton H. Bean, and the preparation of a bulletin on the Mammals of New York, together with a key to their identification, now in press.

CURRENT NOTES ON METEOROLOGY.

THE RELATIVE HUMIDITY OF OUR HOUSES IN WINTER.

'The Relative Humidity of our Houses in Winter' is the subject of a paper by R. De C. Ward in the *Boston Medical and Surgical Journal* for March 1st. Observations were made by means of an ordinary sling psychrometer in a furnace-heated room during three weeks of last November. The mean relative humidity in the room for the whole period was 30%, while the mean relative humidity outdoors during the same period was 71%. The minimum relative humidity observed for any whole day was 24% and the maximum for a whole day was 40%. For purposes of comparison, the relative humidities of several stations in arid regions are given in the paper. For instance, the lowest mean annual relative humidity in the United States is that for Yuma, Ariz., which has 42.9%, and a mean monthly minimum of 34.7% in June. Sante Fé, N. Mex., has a mean annual of 44.8%, with a mean monthly minimum of 28.7% in June. Death Valley, Calif., was found to have a mean relative humidity of 23% during five months (May–September) of the year 1891, when a temporary meteorological station was maintained there by the Weather Bureau. Southwestern Siberia and Western Turkestan have a mean of 45–50% in July. Ghadames, in Tripoli, has 27% in July. In India, Lahore has 31% and Agra 36% in May. It thus appears that the air of the room in which the observations were made was drier than that of many desert regions.

DRUNKENNESS AND THE WEATHER.

SCIENCE for August 11th last contained an