

**Chemical Constitution of Wool.**—P. Schützenberger has published analyses of various samples of wool, from which he deduces the chemical formula  $C_{230}H_{381}N_{70}O_{77}S_6$ .—*Comptes Rendus*. C.

**Temperature of the Sun.**—F. Rosetti has published the results of an extensive series of investigations, from which he estimates the temperature of the sun at between  $12,000^{\circ}$  and  $20,000^{\circ}$  ( $21,632$  and  $36,032^{\circ}F.$ ).—*Il Nuovo Cim*. C.

**Metallic Packings.**—J. Strieder, of Elberfeld, uses tubes of lead or some soft metallic alloy, filled with hemp, cotton or some other suitable vegetable material. These tubes can be prepared of great length and cut to fit any given requirement. The ends may be either soldered together or forced into close contact. The convenience, durability and cheapness of this packing are especial recommendations.—*Dingler's Pol. Jour*. C.

**Pyrometers.**—F. Fischer publishes the results of some comparisons of his small calorimeter with Steinle and Hartung's graphite-pyrometer, Siemens' electric pyrometer and Geissler's normal quick-silver thermometer. The instruments all agreed satisfactorily for temperatures below  $450^{\circ}$  ( $842^{\circ}F.$ ). Above that point Siemens and Fischer agreed, but the graphite indications were higher. When Siemens' marked  $623^{\circ}$  ( $1153^{\circ}F.$ ) the graphite gave  $755^{\circ}$  ( $1391^{\circ}F.$ ). The graphite, however, was more sensitive than the electric pyrometer.—*Dingler's Journal*. C.

**Excavations and Foundations in Sand.**—M. Plocq has published an interesting note upon the recent harbor improvements at Dunkerque and Gravelines. There are ten sluices for controlling the fresh and salt waters of the districts, for various purposes of maritime and domestic economy, as well as for the wants of the military service and for defensive operations in time of war. The sluices are built in a soil which is wholly made up of a pure sand, of flour-like fineness, reaching to a depth of 15 or 20 metres ( $16.4$  to  $21.9$  yds.) below the lowest tidal levels. The works were all executed by the help of coffer dams, in preference to dredging, and the preparations were so thorough that it was always easy to work in dry sand even at the lowest foundation levels. The total cost was less than half what it would have been by the old method of dredging, and the saving of time was in about the same ratio.—*Ann. des Ponts et Chauss.* C.