

by the Society; formerly a correspondent in London or Paris, &c., sent a general account of chemical work published in the country from which he wrote. The abstracts of the German Society are on the whole shorter than those which have for many years made the *Journal* of our own Chemical Society of such great value to the student; they are, however, published at a shorter interval after the appearance of the original paper.

Brief accounts are given of recent chemical patents, but little space is devoted to purely technical chemistry. Is not the *Journal* of the Chemical Society sometimes overburdened by abstracts which might better find a place in a book professing to collect receipts for the purely "practical man"?

The German Chemical Society in 1877 appointed Dr. C. Bischof of Berlin to prepare a general index for the first ten volumes of the *Berichte*. The arduous task has been admirably fulfilled. Fellows of the Society have now in their hands not only an index to the *Berichte*, but a volume which is really a general guide to the chemical work published during the period 1868-1877.

The "Generalregister" extends to 1020 pp.; of these, 162 pp. are devoted to an index of authors, 732 pp. to an index of subjects, 42 pp. to an index of patents, and 84 pp. to a systematic classification of the carbon compounds referred to in the index.

Under an author's name are given, not the exact title of his paper, but a very succinct statement of the leading points in the paper. The same method is pursued in the subjects-index. Taking, for instance, such a general subject as "Dissociation," one finds, first, references to work on the general Theory of Dissociation, *e.g.* connection between dissociation and temperature, tension, &c.; then follow special instances of dissociation, inorganic compounds preceding organic. In the case of individual elements or compounds, the references begin with those papers on the existence of the substance in question, then follow its preparation and formation, its properties, its action on other substances, the action of other bodies on it, its estimation, &c., &c.

A systematic nomenclature is adopted, more especially for the carbon compounds: the principles which guided the compiler are stated in a few introductory pages.

The "Generalregister" cannot but be of the greatest value to chemists generally. Almost every chemist is a Fellow of the German Society; many possess the *Berichte* complete up to date; with the *Berichte* and this admirable guide which Dr. Bischof has supplied, they can find almost everything that has been done in experimental chemistry within the period 1868-1877. M. M. P. M.

#### IRISH ESPARTO GRASS

IT is now over two years ago since attention was called in our pages to the importance of the purple *Molinia* (*Molinia caerulea*) as a material for making paper. Mr. Christie of Edinburgh sent a small quantity of it to be operated on by Mr. T. Routledge of Sunderland, and the report on this was most favourable. In January, 1879, a notice appeared in the *Times* also calling attention to the subject, and referring to the above favourable report; it expressed the hope that some effort would be used to have this grass collected on an extensive scale. It would seem to be ripe for gathering in the early autumn, when some hands could be spared for such work, and as the ground on which it flourishes—wet or partially drained bogs—pays, at least in Ireland, little if any rent, the crop would cost little over the expense of reaping it. Since the first notice appeared in our columns, the Spanish and African Esparto grass has been getting more difficult to obtain, and the demand for it has been steadily on the increase. It is said that the greater part of what is gathered in Morocco finds its way to the *Times* paper-mills, and its value for paper-making is now known in

America. Several analyses of specimens of the dried hay made from this grass are given in a paper by Dr. Cameron, "On the Composition of a Crop of Hay" (*Proc. Roy. Dub. Soc., n.s., vol. ii. p. 101*); we select one of these, which yielded as follows:—

100 parts contained—	
Water	27.95
Albuminoids	7.49
Fats	2.70
Non-nitrogenous substances	30.00
Woody fibre	31.26
Mineral water	0.60
	<hr/> 100.00

And of this the ash contained—	
Lime	28.86
Magnesia	4.76
Potash and soda	42.17
Phosphoric acid	12.36
Sulphuric acid	5.98
Oxide of iron and alumina	1.00
Chlorine	4.32
Silica	0.55
	<hr/> 100.00

This freedom from silica of the purple Melic grass is very remarkable.

From a paper by Mr. W. Smith in the recent number of the *Proceedings* of the Royal Dublin Society, we learn that a very successful trial has been made in the county of Galway to grow this grass in some quantity. As a native plant it is found in every county in Ireland, both on wet heaths and boggy pastures. It flowers in July and August, and its seeds are ripe early in September; it would seem to grow well on partially drained bogs, and if the surface of these has been burnt, the purple Melic grass grows thereon most luxuriantly. It seems fond of growing in tufts, of somewhat large size, and it does not form a sod like so many other grasses. It would appear that in Ireland alone there are over 1,000,000 acres at the present moment not worth sixpence a year each for any agricultural purpose; each acre would easily grow half a ton weight of dried Melic grass, which at its lowest value would be worth 2*l.* Would not this crop, in time, more than compensate for the loss of the potatoe? It seems a pity that the manufacturer should have to go to the Port of Mogador for what he might get with so much greater ease at the Port of Dublin.

#### SIBERIAN METEOROLOGY

UP to the present time Yakutsk, in North-east Siberia, has often been cited as the place of our earth where the winter is coldest, while the minima observed during Arctic expeditions are believed to be the lowest known. Neither the one nor the other is true. In Maak's book, "Olekminski Okrug," I find many data which prove that the coldest winter as well as the lowest well-authenticated minima were observed at Werkhojansk, to the north-east of Yakutsk. The name of the author gives us some guarantee that the observations are trustworthy. I give below the minima at some places cited by Maak, and compare them with those observed in Central and Western Siberia, and the Arctic Archipelago of America:—

North-East Siberia	
Serdze-Kamen.	67° N. 173° E. (Nordenskjöld) - 50.3 F.
Yakutsk	62° N. 130° E. (Maak) ... - 77.3 F.
Wiljuisk	64° N. 122° E. (Maak) ... - 76.3 F.
Werkhojansk.	67½° N. 134° E. (Maak) ... - 81.0 F.
Central and West Siberia	
Yenisseisk	58½° N. 92° E. ... - 73.5 F.
Barnaul	53½° N. 84° E. ... - 61.4 F.