unification of engineering and architecture as component parts of one calling. Our contemporary considers that the engineer should have a preliminary training in architecture, and that the architect would be the better artist if he had studied something of the principles which underlie engineering, instead of going through the world content to hoe his own furrow irrespective of the general field.

Engineering for April 18 contains a very full illustrated description of the new Cunard liner *Aquitania,* which is being built and engined by Messrs. John Brown and Co., Ltd., of Clydebank. This vessel is the largest ship yet built for the express service to New York. The following are the principal dimensions :—Length over all, 902 ft.; breadth, 97 ft.; depth, 64 ft.; displacement, 49,400 tons; shaft-horse-power of the four-screw steam turbines, 60,000; 4230 passengers and crew are provided for. There are forty-one watertight compartments in the double bottom, and eighty-four watertight compartments in the moulded structure of the ship above the double bottom, formed by transverse and longitudinal bulkheads and watertight decks. The transverse bulkheads have been carried up to an unusual height. The conditions are such that should the fore part of the ship for the first five compartments, or the after part of the ship for the six after compartments, or the five centre compartments, be open to the sea, the ship would still remain in a perfectly stable condition. To render possible the launching and navigation of the vessel to the sea, it has been necessary to widen and deepen the channel of the River Clyde, a work which will be of lasting benefit to navigation. The ship was launched successfully on Monday last.

In the announcement of Canadian tide tables made in NATURE of March 27 (p. 95), it was implied that they are issued by the Government Printing Bureau at Ottawa, whereas, Mr. W. Bell Dawson writes to point out, they are merely printed there, and are prepared and issued under his direction from the office of the Tidal and Current Survey, Ottawa. It may here be mentioned that the Tide Tables are issued in two series, which refer to eastern Canada and the Pacific respectively, the tides of two oceans 3000 miles apart, on opposite coasts. The work of the Canadian Survey is thus very extended, and the limited staff which carries it on is beginning further investigation in Hudson Bay, an area much larger than the North Sea, and quite as complex in its tides.

OUR ASTRONOMICAL COLUMN.

THE SOLAR UNION AT BONN.—The fifth meeting of the International Union for Cooperation in Solar Research will be held in the Physical Institute of the Bonn University on July 31 next, and a preliminary programme for that occasion has now been circulated. On the evening of July 30 a reception will be held in the large hall of the reading and recreation society, and the mornings of July 31, August 1 and 2, and afternoons of the two former dates, will be devoted to the discussions. The afternoon and evening of August 2 and the whole day of August 3 will be taken up with a visit to Cologne, a reception being given in the hall of the Gürzenich at the invitation of the city of Cologne, and probable alternative excursions to (1) motor through the Eifel to the valley of the Mosel, and (2) tour in the Siebengebirge. August 4 and 5 will see the resumption of the meetings, and the afternoon of the latter date may be employed in a steamer trip on the Rhine. In addition to the above, Prof. Küstner will receive the members at the observatory on the afternoon or evening of August 1, Prof. Karl Hausmann invites them to visit the Technical High School at Aachen, and the Astrophysical Observatory at Potsdam invites members for August 11.

A CASE OF LARGE PARALLEL PROPER MOTION.—Dr. Ragnar Furuhjelm, of the Helsingfors Observatory, communicates to the *Astronomische Nachrichten* (No. 4642, p. 179) an instance he has found of two stars fairly wide apart having the same velocity and direction of proper motion. The stars in question are a double star, BD+45° 4408 and No. 12740 in Burnham's catalogue (8·3 m. and 8·3 m., α=0h. 0m. 23s., δ = +45° 15·5′, 1900·0), the proper motion of which was earlier known and measured, and a star of the magnitude 9·5 m., its distance from the above binary being about 5·5 minutes of arc. Dr. Furuhjelm gives in detail the measures he made of both these stars on several plates which he had taken at different times in that region, and deduces the value of 0·9″ for the proper motion of the system, and 327·58″ and 254° 13·7′ for the distance and position angle of stars. Finally, he directs attention to another similar case of large parallel proper motion as is exhibited in the stars A Ophiuchi and 30 Scorpii, which are about 12·2′ apart, and undergo a proper motion of 1·25″. In this instance also one of the stars is a double with a distance of 4·2″. Such systems form important objects for study.

THE SOLAR ROTATION IN 1911.—In the March number of *The Astrophysical Journal* (vol. xxxvii., No. 2) Messrs. J. S. Plaskett and Ralph E. DeLury describe and give the results of their very thorough investigation relating to the spectroscopic determination of the solar rotation. The work was carried out at the Dominion Observatory at Ottawa, the observatory having undertaken this programme of work on the lines determined by the International Union for Cooperation in Solar Research. The instrumental equipment at the Ottawa Observatory is of first-rate quality, and is all that is needful for the research which has been so successfully brought to an issue. The communication in question is of considerable length, and the authors describe and discuss the difficulties met with as regards personalities in measurement, instrumental errors, &c. The chief conclusions to which they ultimately reached were that the values they deduced for the solar rotation could be represented by formulæ which were in exceedingly good agreement with those obtained by Dunér and Adams (1908), except for a small and nearly constant angular difference. The absolute velocity of the solar rotation seems to be uncertain by a small amount, amounting to 2 or 3 per cent., due, as they suggest, to personal differences in the habit of measurement of the rotational displacements on the plates. No systematic differences of velocity were found for different elements, although they discussed 3000 residuals from different lines and elements. It is of interest to give here the different formulæ for the rotation as deduced by the authors and previous investigators :—

	Angular velocity.
Dunér	$10\cdot60° + 4\cdot21° \cos^2 \phi$
Halm	$12\cdot03° + 2\cdot50° \cos^2 \phi$
Adams (1908)	$10\cdot57° + 4\cdot04° \cos^2 \phi$
Adams (mean)	$11\cdot04° + 3\cdot50° \cos^2 \phi$
Plaskett (1911) ...	$10\cdot32° + 4\cdot05° \cos^2 \phi$
DeLury (1911)	$10\cdot04° + 4\cdot00° \cos^2 \phi$