recognized place in the building trade. On quitting the dry goods trade Mr. Boas made over his agencies and connections to Hermann H. Wolff & Co., Montreal. He died in Edinburgh, Scotland.

PRIZES FOR IMPROVEMENTS IN THE TEXTILE INDUSTRIES.

We have previously commented on the encouragement given on the Continent to textile and other inventors, and have given, from time to time, lists of the prizes offered by the Industrial Societies at Mulhouse and Rouen. A selection of prizes was recently offered by the Industrial Society at Amiens, whose headquarters are at 29 Rue de Noyen in that city, and who certainly show great thought and much practical knowledge in the compilation of the list. Gold medals were offered for the best self-acting temple applicable to the manufacture of all kinds of cotton velvets; for the best means of preventing the weft from becoming stained before its insertion by the shuttle into the warp; for the best improvements in warp-sizing machines and in the jacquard mechanism, whether in connection with hand looms or power looms, for improvements in the automatic loom; for any material improvement in spinning or doubling machinery; for the invention of a new cloth (the value to be proved by the sale of a certain quantity); for the best product for giving lustre to woolen threads; for the introduction into the Department of the Somme of a new textile industry connected with spinning or weaving; for improvements in bleaching wool, silk, hemp, or jute; for a chemical composition which may be applied by means of printed characters to the headings of woolen or cotton pieces, and which shall be still visible after scouring and dyeing; for a means of embossing Utrecht or cotton velvet so as to withstand rubbing and water; for improvements in the machines and chemicals used in dyeing and lustring cotton velvets; and for a practical method of mercerizing yarns, cotton fabrics or mixtures, especially for cotton velvets. Silver medals were offered for a simple process for getting rid of mineral *oil stains in the bleaching of cotton goods, and a good dis*infectant for glue size and bone-glue which should arrest the fermentation of gelatines. Money prizes were offered for any improvement in loom parts or accessories; for improvements in knitting machines; and for improvements in the tools for cutting the pile on cotton velvets. The competition was open to everybody, whether French or not, but mechanical appliances must have worked for at least three months before the final date in some mill at Amiens or within sixty miles of that place. It is needless to comment on the impetus given to invention by these prizes, for not only are the competitors themselves affected, but the fact of having the appliances working in some local mill infects other people with the desire to improve something or other. In addition, the trial of these new mechanisms is an education to all who come in contact with them, and one of the surest means for dispelling old-fashioned ideas. It is needless, also, to comment on the advantage of having inventive talent directed in the right channel instead of being wasted on foolish and unpractical fancies.—Textile Manufacturer.

—Official returns to the Ontario Government show that on the 1st July, 1904, the number of sheep over one year old in the Province was 772,730, under one year 682,752, making a total of 1,455,482, as against 1,642,726 in 1903. The wool clip of 1904 was estimated at 4,972,042 pounds.

ELECTRICITY IN TEXTILE MILLS.

Charles Robbins, 5 Nassau Street, New York City.

The importance of constant speed in spinning and weaving is well known. Good work and a maximum production depend upon constant speed, and it is the universal opinion that should the smallest variation in speed take place in the engine or shafting it will seriously affect the operation of the spinning and weaving departments.

When the first alternating current generators, for use in connection with existing steam engines, were built and operated, it was found that a single machine would operate with entire satisfaction, when, however, it became necessary to operate two machines together for increased capacity, or in what is technically known as "in parallel," there developed conditions which caused a periodical transference of the load from one generator to the other. Electrically speaking, this is known as "hunting." After carefully investigating the causes which produced this result, it was found that the engines had a periodical variation in rotative speed during each cycle of operation. This trouble was due to the angularity of the connecting rod and to the extreme variation of torque upon the shaft at each piston stroke. This condition led to the study of the subject by engine builders so that at the present time they are able to furnish an engine for driving electric generators which do not vary more than 1-30 of a degree from absolutely uniform rotation, which engines are usually heavier and of a higher speed than found ordinarily in mill work. This "hunting" in a mill engine is similar to a see-sawing process, a surging forward and backward, which is still further amplified by belting, and when transmitted to the spinning frame has a tendency to break the threads resulting in a decreased production of yarn.

It is evident, therefore, that an engine or turbine for operating an electric generator will furnish a more uniform and steadier speed than the regular mill engines, and if this uniform speed is available at the spinning frames and looms then an increased production with a more uniform quality of work must result. In so far as observation goes this is true. Electrically driven mills undoubtedly turn out more work and of a better quality than those driven by mechanical means.

The ideal power plant is one that is so laid out that each unit is working at its maximum efficiency at all times, requires a minimum amount of attendance, occupies the least possible space, and is at the same time of such a design that it may readily be extended and when so enlarged have any or all generating units supplying power to any and all points, irrespective of location of power, demand or distance. This condition is best met by electric transmissions.

If electricity is adopted as a method of transmitting power, the plant may be installed at the most convenient point, which may or may not be attached to the buildings or it may be placed any reasonable distance from the mill, thus permitting the mill to be located at a point which is most desirable on account of land, transportation, help, light, etc., whereas the power plant may be installed with a view to its location as a power generating station, irrespective of the point where the power is to be used, thus rendering available many water power developments which could not otherwise be used commercially.

The units used in an electric power plant may be installed of the right capacity to do the work in hand and all future extensions may be made when required without altering or in any way disturbing the original installation, and future additions will work together, each unit operating its share of the load

*A paper read before the New England Cotton Manufacturers' Association.