

# PITMAN'S Engineering Books.

## ELECTRIC TRACTION.

By A. T. DOVER, M.I.E.E., A. Amer. I.E.E.  
A Treatise on the Application of Electric  
Power to Electric Traction on Railways and  
Tramways. 518 illustrations, 21/- net.

## The Practical Telephone Handbook and Guide to the Telephonic Exchange.

By JOSEPH POOLE, A.M.I.E.E. (Wh. Sc.).  
Sixth Edition, thoroughly revised and en-  
larged. 585 illustrations, 12/6 net

## Practical Trigonometry.

By HENRY ADAMS, M.I.C.E., M.I.M.E.  
For the use of Engineers, Surveyors and  
Architects. Third Edition, 3/- net.

## International Technical Dictionary in Four Languages (English, Italian, French, German).

By E. WEBBER, 921 pages, 14/- net.

## Direct Current Electrical Engineering.

By JAMES R. BARR, A.M.I.E.E. The in-  
struments and apparatus described indicate  
the best modern practice. 294 illustrations,  
12/- net.

## How to Manage the Dynamo.

By A. E. R. BOTTONE. Fifth Edition, re-  
vised and enlarged. A Handbook for En-  
gineers. Pocket size, 1/6 net.

Complete List Post Free on Application.

SIR ISAAC PITMAN & SONS, Ltd.,  
1 Amen Corner, London, E.C. 4.

# UNION BANK OF CANADA

INCORPORATED 1865.  
Head Office, WINNIPEG

Paid-up Capital & Reserves, \$8,800,000  
Total Assets exceed - \$153,000,000

The Bank has over 300 Branches in Canada  
from Atlantic to Pacific, and Agents in all  
the principal cities in America.

General Banking and Exchange  
Business Transacted.

Letters of Credit and Travellers'  
Cheques issued available in all  
parts of the World.

MONEY TRANSFERRED to and from  
Canada and the United States by CABLE,  
BANK DRAFTS, etc.

SAVINGS BANK DEPT.—Moneys may  
be deposited at Interest. Apply for particu-  
lars now to:—

London Offices:

6 PRINCES STREET, E.C. 2.  
26 HAYMARKET, S.W.1.

New York Agency - - 49 WALL STREET.

# FARMS AND FARMING

## Distribution of Pure-Bred Sires.

The "swat-the scrub" campaign is in full swing. Read what the Department of Agriculture has been doing since 1913. On returning to Canada aim to become a progressive member of any of the live stock co-operative associations. It's a business proposition to improve your stock with a pure-bred sire, with a cold cash benefit.—Ed.

The pure-bred sire, whether it be of horses, cattle, sheep, or hogs, is now considered to be a much more important factor in the profitable rearing of live stock than was the case ten years ago. Various investigations in the grading up of herds and flocks, as well as the good work done by the breeders of pure-bred stock in disseminating the blood of desirable families, has shown the very great advantage to be derived from the use of fixed type and breeding. It is quite true that many hundreds of nondescript sires are still in use throughout the country, but the pure-bred is making very satisfactory strides, and Departments of Agriculture, as soon as public opinion will permit, may be expected to provide more or less compulsory measures for the extermination of the scrub male.

For some years the grade or nondescript has been looked upon with a steadily increasing amount of disfavour and in certain provinces at least, acts have already been passed making it illegal for any but a pure bred of standard quality to travel a regular route. The scrub bull, ram, and boar, however, still remain a serious menace to the live-stock industry in Canada, and until the times come when it will be agreeable to the majority to eliminate them by legislation, a strong educational campaign must be carried on. Since 1913 the Live Stock Branch of the Dominion Department of Agriculture has been carrying out a policy of distributing pure-bred sires for the use of farmers who live in newly settled districts, or in older districts where sires of pure breeding are not available and where the farmers are not financially able to purchase good animals for their own use. These sires distributed by the Live Stock Branch are loaned, not given; and the loaning is done only after certain rules and regulations, laid down by the officers of the Branch, have been complied with. All the animals sent out are Canadian bred and purchased in Canada; as far as possible in the province where they are finally placed.

In a recent conversation with R. S. Hamer, Chief of the Cattle Division, a representative

of "The Farmer's Advocate" learned that there were, at the close of 1918, 1,289 pure-bred bulls owned by the Live Stock Branch of which 1,259 were in the hands of associations formed for the purpose of profiting by the distribution policy. The table accompanying gives the number of bulls of the different breeds, distributed by the Cattle Division to associations and their distribution in the various provinces. Since the inauguration of this policy in 1913, a total of 2,152 bulls have been purchased with an investment of \$295,125. In 1913 a total of 96 bulls were placed with local stock improvement associations; 413 were placed in 1914; 512 in 1915; 439 in 1916; 420 in 1917; 252 in 1918; and it is probable that about 500 will be placed during the present year. Applications are now coming in at the rate of about thirty a day. Stallions and bulls are loaned in the spring, and boars and rams are loaned in the fall.

Among the 1,289 bulls now on hand there are 41 per cent. of those purchased in 1913; 33 per cent. of those purchased in 1914; 47 per cent. of those purchased in 1915; 63 per cent. of the 1916 purchases; 82 per cent. from 1917, and 95 per cent. of those purchased in 1918. A clear illustration is afforded of the value of buying young bulls, especially by comparing the figures for 1913 and 1914, but the difficulty here arises according to Mr. Hamer, of preventing the associations from overworking a young bull. The Cattle Division does not make a practice of buying less than 18 months of age for this reason, and practically all of the purchases are from a year and a half to three years' old. Every bull bought is subject to the tuberculin test, and no bull that reacts to the test is accepted. "No bulls are bought at consignment sales, or any public sales," said Mr. Hamer, "for the reason that it is not fair for the Government to compete with the private purchaser who wishes to improve his herd by the purchase of a better sire."

Every group of farmers desiring the benefit by the loan of a bull of any breed must organize themselves into an association under a constitution and by-laws provided by the Live Stock Branch. A membership fee of one dollar is required. The annual meeting of the Association must be held in January and by the first of February of each year the Secretary must forward to Ottawa a full report of the business of the previous year. This report covers a list of members and their

## Number of Bulls Loaned to Associations.

Breed.	B.C.	Alta.	Sask.	Man.	Ont.	Que.	N.B.	N.S.	Pei.	Total.
Shorthorn	35	214	234	112	84	88	1	9	12	799
Ayrshire	13	2	2	0	5	186	13	14	6	241
Holstein	11	4	6	5	12	85	2	3	1	79
Hereford	2	23	23	5	3	3	0	1	0	60
A. Angus	3	9	13	10	0	0	0	0	0	35
Fr. Can.	0	0	0	0	0	26	0	0	0	26
Jersey	10	0	0	0	0	0	1	0	0	11
Guernsey	3	0	0	0	0	0	0	5	0	5
R. Polled	0	0	2	0	0	0	0	0	0	2
Galloway	1	0	0	0	0	0	0	0	0	1
Total	78	252	280	132	104	348	17	29	19	1259

Continued on page 3.