

PROCTOR'S POINTS.

“PROCTOR” does not like to depart from the usual line of subjects embraced by the prospectus, and included in the scope of the reading matter found in the columns of the DOMINION MECHANICAL AND MILLING NEWS, but, having a sort of roving commission to write on whatever subject pleases him, he ventures to give your readers a few points on electrical matters, to pave the way for your “Jubilee and Exhibition Number,” which, from what he hears of it, will be a great “shock” to those Canadians who think it is not quite possible for Canada to produce a first-class mechanical paper.

The products and manifestations of electricity have advanced from the street corner show and the curiosity department of chemistry, into the active, vital and multiplied avenues of commercial life, until, in all the broad fields of human necessity, mechanical application and material development, no single element to-day holds so important a position as electricity. Let me illustrate, by a few points, some of these fields of usefulness. I can only touch some of them very briefly, and in fact cannot give in an article of this kind any more than a faint outline of the important relation of electricity to the subjects which I shall mention.

Electricity, as I shall discuss it, may be termed “that invisible or subtle force, existing in matter, and put in active operation or generated by friction or chemical decomposition.” The general science of electricity includes dynamical and statical electricity, or electric force in a state of motion or rest. For the purposes of these “points” at this time, I will treat more particularly of dynamical electricity, its uses and advantages. It would take up a great deal of space, and perhaps not be very interesting to a good number of your readers, for me to discuss the methods and constructions now in use for the generating of electric force, and so I shall not refer to the different kinds of dynamos, nor their individual advantages for certain kinds of work, but simply denote some of the uses and applications of dynamical electricity.

Electric lighting is no longer an experiment. Nearly all the important cities and towns in the civilized nations of the earth are lighted by electricity; and in Canada and the United States, smaller towns, and even villages, are now beginning to put in or prepare for putting in the electric light; manufacturing concerns and private enterprises of all kinds are hastening to adopt it in some or all of its varied forms, until it appears quite evident that it is destined to be, to a very large extent, the light of the future. In all the important elements that combine to produce a safe, useful, reliable and effective light, there is now no doubt in the minds of the men who know the most about it, that it is deserving of the very highest place. The chief difficulty in the way of its permanent and universal adoption at the present time, appears to be its cost, in the introduction and maintenance, but especially in the cost of plant, etc., for its production.

Transmission of power by electricity is already an important factor in the use of electricity. The completion and perfecting of the details of construction that will convey power from a great central force to a distance and divide it up to suit the necessities of the users, has so very nearly been accomplished, that the day is not far distant when large water powers can be utilized, by conveying their power to such locations as shall be adapted for shipping or manufacturing, and thus a considerable saving be effected in the maintenance of the necessary power in the purposes for which that power may be used. The field for the practical application of electricity here is almost unlimited—manufacturing, railroading, street-cars, mining, quarrying, canaling, besides a host of minor industries, including a number of the important operations of agriculture. “Proctor” is not a prophet, neither the son of a prophet, yet he ventures to assert that not many decades shall have passed over this continent before electricity shall have, to a considerable extent, revolutionized the transmission of power.

Storage of electricity: In this, until recently, unoccupied field, considerable progress has already been made. I do not mean static electricity when I speak of electricity stored up. I do mean electricity at rest, or packed away, in such a manner as to be available for use without the using of a dynamo, or the expenditure of power to put it in active operation again. It has been proved by practical experiment, that electricity may be

stored (literally packed away) for future use; that it may be conveyed in these accumulators any reasonable distance and used again. It has been used in this way to run street cars at Hamburg in Germany, with very gratifying results; it has been used to light railway trains, to run light powers, &c. The ways and means in which electricity may be used by storage accumulators are very great in number, and quite diverse in kind, and there is very little doubt but that the satisfactory character of the experiments carried on for the last two or three years, both in England and the United States, will lead to a very considerable development of this branch of electrical industry at an early date.

With electricity as used in telegraphy and telephony I shall not deal at this time, as the field is too broad to touch and make intelligible to the ordinary reader in the space of a few paragraphs in a short article; and, at any rate, this touches on another and a totally different field in the use of electricity.

PROCTOR.

MILL BOOK-KEEPING.

In reply to a correspondent *The Office* says: Milling, whether of flour, cotton, wool, silk or lumber, is manufacturing. The general principles of accounting in each of these several divisions of industry are common in outline but dissimilar in detail. In one sense the accounts of all branches of manufacture possess similar marked characteristics of outline. The industry consists in converting raw material into manufactured products. The elements which contribute to the cost of production are: 1st, Raw Materials; 2d, Labor; 3rd, General Expense; 4th, Wear of Plant; 5th, Interest on Capital.

Against all these we have on the other side the sale of manufactured product. There may be minor sources of revenue, but it is to the manufactures chiefly we must look for returns. In the case of country mills, especially flour mills, a revenue comes in the shape of tolls. But as the product of these tolls must be marketed as a revenue before they are available, it is equivalent to the purchase of the grain which is milled and the sale of the product, the same as in other departments of manufacturing. In our accounting we must first provide for a record of Raw Materials purchased. If these are grains, we must subdivide this account into the various kinds which enter into our stock in trade, as, for instance: 1st, a wheat book; 2nd, a rye book; 3rd, a corn book. In these books we should record not only the amounts of our purchases, but also the quantity purchased, that we may be able to know precisely the number of pounds of flour obtained from any given number of pounds of wheat, and the exact yield in meal from one pound to any number of pounds of corn. Then our records of sales should be properly classified. The sales book may be prepared so as to keep each class of product by itself, through a columnar arrangement, under one general title, like a common merchandise account, the account debited for all purchases, and credited for all sales; but this plan furnishes no convenient means for the manufacturer to arrive at important statistics of his work, which may guide him in future operations. It is as essential to the success of the industry to classify the various grades of material purchased and sold as it is to separate the cost of raw materials from that of labor or general expenses.

FEW UNDERSTAND IT.

Do common machinists, as a class, understand the principles of a running balance in mechanics?

A few days ago I had occasion to take out an exhaust fan for repairs, and among other things it needed balancing badly. I took the whole fan to a machine shop of good repute, which I knew put up good machines. When it came to the balancing part the man doing the job drilled the wing that needed the piece to be put on at one end, and on suggesting to him that it might not be right to put the weight on to the end, he said, “this is the lightest wing, isn't it?” “That's true,” I said, “but maybe that is not the light end of the wing.” “That doesn't make any difference,” he said, “what part of the wing it is put on to, as long as this is the wing to put it on.”

I tried to explain the difference to him, but if I had talked for a year and a day, all that could be got out of him was, “this is the lightest wing, isn't it, and here is where you want your balance.”

Here is what is called a good machinist, capable of building a steam engine from working drawings, and doing it well, too, and yet did not understand the difference between a standing and a running balance. I should suppose that a man learning the machinist's trade would be taught that as one of the first principles of his trade, and that it was essential to the well-being and good-working of all machinery.

From this fact I was led to suggest to myself the question: How many good machinists understand the true principles of properly balancing machinery, and how many among the great army of mechanics ever read up in any mechanical publication, or the discussions and comments continually made on this subject in mechanical papers?

Surely it is a mystery to me why even the commonest mechanics do not understand this thing.—“Q” in the *Wood-Worker*.



The Osborne-Killey Manufacturing Co., of Hamilton, Ont., are supplying 3 boilers of 130 horse power each and a pair of engines for a new pulp factory at Chatham, N. B.

The Beckett Engine Co., of Hamilton, are placing a new steel boiler in the tug Minnehaha, the property of the Parry Sound Lumber Co.

We are informed by the Messrs. Greey that R. Muir & Co. report two more contracts of roller mills in the North West, particulars of which we hope to secure for next month's issue.

The Hercules Manufacturing Company have established an agency at Winnipeg. The firm is represented by Mr. A. E. Hughes, Charlotte Street, who is establishing a general Northwest agency in that city.

Messrs. Inglis & Hunter have obtained from the Knickerbocker Co., of Jackson, Mich., the exclusive right to manufacture and sell in Canada the celebrated Cyclone Dust Collector, a cut of which appears in their advertisement in another part of this paper.

Messrs. Hutton, Price & Carr, of Wingham, Ont., are again increasing the capacity of their mill, and improving its efficiency, and have ordered from Messrs. Wm. & J. G. Greey improved roller mills, flour dressers, aspirator and cleaners, necessary for accomplishing their purpose.

The Hercules Manufacturing Company have shipped the following machinery during the month: No. 3 combined scourer, to Wheeler Bros., Cataract, Ont.; No. 1 scourer, R. M. Easton, Merrickville, Ont.; No. 1 scourer, S. Rennie, Hensall, Ont.; No. 2 combined scourer, Wm. Farrish, Rockwood, Ont.; No. 1 combined scourer, J. & R. Kidd, Tilbury Centre, Ont.

Donald McLeod, of Woodville, Ont., after making some improvements on the stone process and finding them unsatisfactory, has decided to change to the full roller process of about 50 barrels capacity, and has placed his order for the whole of the work with Messrs. Wm. & J. G. Greey, of Toronto, who are going to put in one of their 50 barrel roller plants.

The mill-furnishing works of Messrs. Wm. & J. G. Greey present the busy appearance of a bee-hive, 150 men being employed in getting out roller flour mill machinery, and their new buildings being fully occupied. Their new 100 h. p. Corliss engine keeps the machinery humming. About \$4,000 worth of new iron and wood-working machinery has lately been added. The Messrs. Greey have shipped 10 full car loads of machinery the last three weeks, besides hundreds of smaller shipments.

The J. B. Dutton Manufacturing Co., Detroit, lately shipped the following machinery: Blish Milling Co., Seymour, Ind., two No. 3 Dutton's improved automatic feed scales; W. H. Kidder & Sons, Terre Haute, Ind., two No. 3 feed scales; W. C. Fuhner & Co., Mount Vernon, Ind., two No. 3 feed scales; Igleheast Bros., Evansville, Ind., one No. 1 and one No. 3 scale for grain; Blanton, Watson & Co., Indianapolis, Ind., one No. 3 feed scale; Carberry Milling & Brewing Co., Carberry, Man., one No. 1 grain scale.

The old stone grist mill at Port Albert, Ont., is about to be supplanted by something more modern, in the shape of a full roller mill of 75 barrels capacity. The property is owned by Mr. Jas. Mahaffy, who has improved the water power and erected new and commodious mill buildings for the new machinery. Mr. Mahaffy took a trip to Toronto last week, and while here placed his order for the complete outfit with Messrs. Wm. & J. G. Greey, who will furnish all machinery, plans, specifications and flow sheet, and superintend the work.

R. Muir & Co., the Winnipeg agents of Messrs. Wm. & J. G. Greey, of Toronto, have secured the contract for a 100 barrel full roller mill from Messrs. Mitchell & Bucknell, consisting of No. 1 cleaning machinery, 6 double 9x18 roller mills, 6 scalping reels, 2 purifiers, 4 dust collectors, centrifugals, flour dressers, packers, wheat heaters, scales, etc. The local draughtsmen of Messrs. Muir, Winnipeg, are busy preparing the plans, specifications, etc., and as soon as ready a large force will be employed and the work rushed to completion. The very satisfactory operation and light, easy running of the mill lately built by Messrs. Muir at Shoal Lake, Man., was an important element in securing this order for them.

Messrs. McKenzie Bros., of Kirkfield, Ont., have decided to change their flour mill to the full roller system, with a capacity of 75 barrels per 24 hours, and in order to accommodate the new machinery, will add to their mill building another full storey. They have placed their contract for the whole job with the well-known mill-furnishing firm of Wm. & J. G. Greey, of Toronto. The order for machinery consists of No. 1 oat and weed separator; No. 1 cockle separator; No. 1 improved smutter; No. 1 adjustable brush; 6 magnets; 2 double 9x15 and 4 double 9x18 Greey's improved roller mills; 2 No. 3 and 1 No. 5 improved velocity purifiers; No. 1 aspirator; two No. 1 improved centrifugals; 8 No. 1 flour dressers; No. 1 bran duster, No. 1 shorts duster, No. 4 mill dust exhaust; five scalpers, flour packer, 4 bag fillers, etc. Messrs. Greey are busy preparing plans and machinery, and expect to have the mill in operation sometime during September.