

planets, and comets; the second, to be issued at an early date, will contain an account of astronomical instruments and practical astronomy; and the third will be devoted to the starry heavens. Each volume will have its own index, and will be sold, as it in truth will be, as a distinct book, though of course forming part of the series of three.

Of speculation there is little to be found within the covers. If one looks for discussion of the possibility of life on any of the planets aside from the earth, he is likely to be disappointed. But the book is full of straightforward statements of the facts so far as we know them, and it may be said that it is well brought up to date.

*Chambers's Encyclopædia.* New edition. Vol. IV. Dionysius to Friction. Philadelphia, Lippincott. 8°. \$3.

THIS volume contains a goodly number of articles of specially scientific interest. The list of American contributors is not large, nor is it to be expected that it should be. Oliver Wendell Holmes, perhaps, leads in importance in this list with an article on Emerson. The others by Americans are on local geographical matters and on Ben Franklin.

It is perhaps unnecessary to call attention again to the purpose of this encyclopædia, which gives authoritative matter well condensed in its short articles, which often come down to a single paragraph; yet many ask which is the best of the encyclopædias, and show that they are not acquainted with the characteristics of those offered.

In this volume we have short articles, devoid of all technicalities, on dynamos, electric light and railway, by Professor J. A. Ewing; earthquake, by Professor James Geikie; electricity, by Professor C. G. Knott; evolution, by Professor Patrick Geddes; exhibitions, by H. Roscoe Dumville; force, by Professor Tait. But we could fill a page with a list like this.

There are eight colored maps in the volume, — one of the District of Columbia, another of Florida, the others being devoted to Europe, England, and France. A colored plate shows the flags of all nations.

There is as much space given to electricity as to any other subject in the volume, the article sketching the phenomena of electrification, electric currents, and resistance, and the resulting electrolysis and thermo-electric effects. We do not find any reference to the lately developed Hertz effects, which were probably published too recently for insertion. The limitations in the scope of this main article are atoned for in the adjunct articles on atmospheric and medical electricity, electric fishes, electric light, railways, electro-metallurgy, and others to the number of a dozen or more.

The article on exhibitions is naturally examined at this time, and it is somewhat amusing to find the Paris exhibition of this year referred to in the past tense; which shows, however, a due amount of care in bringing the matter up to date.

*Hints to Travellers, Scientific and General.* Edited for the Council of the Royal Geographical Society by DOUGLAS W. FRESHFIELD and Capt. W. J. L. WHARTON. 6th ed. London, The Royal Geographical Society. 24°.

THESE "Hints to Travellers" had their origin in a report made to the council of the Royal Geographical Society as long ago as 1854. This report was drawn up by Admiral Fitzroy and Lieut. Raper of the Royal Navy, and aimed to answer the numerous queries addressed to the society as to the proper instrumental outfit for explorers.

This report, to which were added some suggestions by Admirals Smyth and Beechey, Col. Sykes, and Mr. Francis Galton, was published in the journal of the society, and republished in pamphlet form.

The exhaustion of this first edition led, in 1864, to a revision, in which Sir George Back, Admiral Collinson, and Mr. Galton, assisted; chapters on photography by Dr. Pole, and collection of objects in natural history by Mr. Bates, being added.

The editions of 1871, 1878, and the fifth, the date of which we do not now recall, followed. In each some wise development of the original plan, without any undue increase in the bulk of the volume, has taken place. The second edition was designed to

help a person proposing to explore some wild country, who would know what astronomical and other scientific outfit he ought to take with him, and what observations he might attempt, with a prospect of obtaining valuable results. In the fifth edition one object was to furnish such help as might be possible within the compass of a pocket-book to the explorer who had acquainted himself with the use of instruments, that he might win the more valuable geographical results during his wanderings. Geology and anthropology were added subjects, to which some attention was paid, and some medical and surgical information were introduced from the pen of Surgeon-Major Dobson.

The present editors have not attempted any change in the character of the book, the previous alterations and additions having met with general approval. Capt. Abbey has brought up to date the photography, and the meteorology has been revised by Mr. H. F. Blanford. Mr. J. S. Keltie has something to say on commercial geology.

*Coal and the Coal Mines.* By HOMER GREENE. Boston and New York, Houghton, Mifflin, & Co. 24°. 75 cents.

THIS is one of the Riverside Library for Young People. The object of this series is to furnish books which shall contain reliable information written in language likely to be intelligible and attractive to young people without a descent to "childese." This special number is not so long as to be likely to weary a young person attempting to read it, and it is published at a low price; so that it is the more likely to fall into the hands of those for whom it is intended.

Young folks are not young folks long; and each of us, as he has passed through that stage, has needed, among other things, the books suited to a year, or at most two or three years, then to be thrown aside for others. So in "Coal and the Coal Mines" the publishers have made no attempt to show the capabilities of their art, except in making a book that opens well, and is clearly printed. Every feature is in good taste, but there is no evidence of lavishness in wide margins and heavy calendered paper. It is an attractive and serviceable book for the use it is to have.

We say "it is to have," for we judge that "Coal and the Coal Mines" is sure to have a good many readers, — young readers, and very likely old ones. There is to be found within the covers a straightforward statement of how coal was discovered, how it was found that it could be used to best advantage, and how, when at last it was needed for use in large amounts, ingenuity was set at work to get the coal from the earth.

All this could be told so that little human interest should exist in the telling. But Mr. Greene has lived among the miners; and he carries his reader with the miner down to his hazardous work, letting him know wherein it is hazardous and wherein alluring, and carries him through to the end of a day of profit, or possibly of destruction. Some of the tales he has to tell are intensely exciting, and make one look on a shovelful of coals with a feeling of interest in the human skill and courage that have placed them at our disposal, and wonder whether we are quite justified in throwing them heedlessly on the fire.

Yes, we think those who take up "Coal and the Coal Mines" will finish it, and that they will be the better-informed men or women, boys or girls, for the reading of it.

#### AMONG THE PUBLISHERS.

THE Worthington Company will publish on Nov. 1 "A Study of Ben Jonson," by Algernon Charles Swinburne.

— De Wolfe, Fiske, & Co. have ready "Essentials of the Metric System," by George Jackson, with explanation of its principles, and examples for practice.

— The Writers' Publishing Company, New York, have just issued "A Directory of Catholic Colleges, Academies, and Leading Schools in the United States for 1889 and 1890."

— J. W. Bouton is soliciting subscriptions for the "Salon of Paris" for 1889. Like its predecessors, it will illustrate the principal works by the photogravure process, one hundred plates being promised in various colors, and the majority of them full-page.

—Dodd, Mead, & Co. will publish immediately "The Diary of Philip Hone," edited by Bayard Tuckerman. Philip Hone, an old Knickerbocker, was mayor of New York, and for many years high in the councils of the Whig party, and closely identified with the leading interests of New York City in the early part of this century. His diary extends from 1828 to 1845, and is rich in reminiscences of the political and social life and events of that period. "The Life of John Davis, the Navigator," by Clemens R. Markham, the first of a series of great explorers and explorations, is also nearly ready.

—Charles Scribner's Sons published last week a "History of the United States," by Henry Adams. Mr. Adams's work, when complete, will cover the period embracing the two administrations of Jefferson and the two following of Madison, from 1801 to 1817. The two volumes now ready are devoted to the first administration of Jefferson, and to the political, financial, and international questions that arose after the transfer of the control of the government from the Federalists to the then-called Republican party. The first half-dozen chapters are given over to a review of the economic, social, and intellectual status of the country at the beginning of the century, the domestic and foreign policy of Jefferson's administration being then taken up.

—The sixth edition of the well known "Treatise on Dynamics of a Particle," by Professor Tait and the late Mr. W. J. Steele (New York, Macmillan), has been issued. The work was begun by Professor Tait and Mr. Steele towards the end of 1852, and first appeared in 1856. "At Mr. Steele's early death," says Professor Tait in the preface, "his allotted share of the work was uncompleted, and I had to undertake the final arrangement of the whole. In the subsequent editions it has derived much benefit from revision, first by Mr. Stirling of Trinity in 1865, then by Mr. W. D. Niven of Trinity in 1871, and by Professor Greenhill of Emmanuel in 1878. It last appeared after a general revision by myself, with the assistance of Dr. C. G. Knott and of my colleague, Professor Chrystal. The present edition has been prepared by me, with the assistance of Dr. W. Peddie."

—*Agricultural Science* is about to enter upon the fourth year of its existence. From the beginning it has sought to present to its readers, either as original contributions or in the form of abstracts, that work relating to the sciences underlying and as applied to agriculture, such as would serve as an aid in scientific investigation. Popular writing has never found a place in its pages, for the reason that that field is already occupied by ably edited agricultural journals. Among those contributing original articles during 1889 may be mentioned the following: Dr. H. E. Stockbridge, director Indiana Agricultural Experiment Station; E. S. Goff, professor of horticulture University of Wisconsin; Professor H. H. Harrington, chemist to Texas Agricultural Experiment Station; Dr. H. W. Wiley, chemist to the United States Department of Agriculture; H. L. Bolley, of Purdue University Botanical Laboratory; F. W. A. Woll, of the Wisconsin Agricultural Experiment Station chemical laboratory; Milton Whitney, professor of agriculture in South Carolina University, and vice-director of the experiment station; Dr. E. Lewis Sturtevant, late director of the New York State Agricultural Experiment Station; Dr. W. E. Stone, chemist to the Tennessee Agricultural Experiment Station; Dr. H. P. Armsby, director of Pennsylvania Agricultural Experiment Station; J. B. Harrison, chemist to Government laboratory, Barbadoes, West Indies; and others. C. S. Plumb, of the University of Tennessee, Knoxville, Tenn., the publisher, states that the foreign subscription list has steadily gained from the first, so that at the present time it extends pretty well over Europe, as well as to Japan and the West Indies, while its original contributions are being translated into prominent scientific journals abroad. Consequently, as it also goes into nearly every experiment station in America, it furnishes the best kind of a medium for those persons who wish to submit scientific papers on agriculture to the largest and most appreciative audience. All are invited to do what they can to aid in increasing the effectiveness of this journal, either by subscriptions or publishing in its pages original contributions. Foreign subscribers are also invited to favor the magazine with contributions, which will be printed either in French or German.

—D. G. Brinton, M.D. (2041 Chestnut Street, Philadelphia) announces for publication "Rig Veda Americana," sacred songs of the ancient Mexicans, with a gloss in Nahuatl. The very ancient religious chants, on which the title of the "American Rig Veda" has been bestowed, are preserved in two Nahuatl manuscripts,—one at Madrid, the other at Florence,—both of which the author personally collated. The gloss, found in the former only, is a sixteenth-century commentary on the obscurities of the text. The songs, or chants, are valuable not merely as curious antiquities, but as throwing light on the religious thought and mythology of the native Mexicans, and as illustrating the archaic forms and sacred locutions of their tongue. They are, without doubt, the most ancient authentic examples of American literature and language in existence. The edition will be quite small; the price, \$3. payable on receipt of the volume.

—J. B. Lippincott Company will publish shortly "With Gauge and Swallow," by Judge Tourgée, a new novel which gives free scope to his fondness for socio-political questions.

—To the many other valuable features of "Webster's Dictionary," Messrs. G. & C. Merriam & Co. have added a pronouncing gazetteer of the world, containing over 25,000 titles, and making over 100 pages of new matter, briefly describing the countries, cities, towns, and natural features of every part of the globe, compiled from recent and authentic sources. The aim of this gazetteer is to answer concisely the main questions that may be asked about any of the leading titles in modern geography,— "What is the orthography of the given name?" "What is its correct local pronunciation?" "What are the main features, natural or artificial, of the place itself?" On all these points it has been their object to bring together accurate information in the briefest form.

—"The Journal of Marie Bashkirtseff," a young Russian artist who died in Paris in 1884 at the age of twenty-three, and which has attracted the admiring attention of the foremost critics of Europe, will be published by Messrs. Cassell & Co. about Nov. 11. Among the most enthusiastic in their praise of this journal is the Right Hon. William E. Gladstone, who, in an article in the *Nineteenth Century*, pronounces it "a book without a parallel." The translation has been made by Mrs. Mary J. Serrano. A portrait of Mlle. Bashkirtseff, and reproduction from her paintings now owned by the Luxembourg Gallery, will accompany this edition.

—Fechner's "Elemente der Psychophysik," the volume that formed the starting-point of all discussion and experimentation in the study of the intensity of sensations, and which has long been out of print, has now, after the death of the author, been reprinted under the supervision of Professor Wundt. A valuable index of Fechner's works, and many useful references, are added.

*Ready This Week:*

## RECENT ECONOMIC CHANGES,

And their Effect on the Production and Distribution of Wealth and the Well-being of Society.

By DAVID A. WELLS,

President American Social Science Association.

12mo, 449-xii pages cloth, - - - Price, \$2.00.

The economic changes that have occurred during the last quarter of a century have unquestionably been more important and varied during any former period of the world's history. The problems which our advancing civilization is forcing upon the attention of society are accordingly of the utmost urgency and importance. To trace out, and exhibit in something like regular order, the causes and extent of the industrial and social changes and accompanying disturbances which have especially characterized the last fifteen or twenty years, and to carefully balance what seems to have been good and what seems to have been evil, have been the main purpose of the author.

D. APPLETON & CO., PUBLISHERS,

1, 3, & 5 BOND STREET, NEW YORK.

—Harper & Brothers will publish shortly "Cathedrals and Abbeys in Great Britain and Ireland," a large volume containing over forty illustrations. The Rev. Richard Wheatley, D.D., has prepared the descriptive text.

—The *Forum* for November contains the following articles: "American Rights in Behring Sea," by President J. B. Angell of the University of Michigan, which is an historical explanation of the jurisdiction over these waters, and a correction of the erroneous popular supposition concerning it; "Public Opinion and the Civil Service," by E. L. Godkin, editor of the *New York Evening Post*, who describes the puzzling stage in the agitation for reform, both political parties preaching it, and neither heartily practising it (he declares an advance to complete reform or the fatal degradation of the government inevitable, and points out the deep meaning of the agitation); "Modern Claims upon the Pulpit," by the Very Rev. F. W. Farrar, Archdeacon of Westminster, who declares that the two worst pitfalls of the pulpit are theological dogma and speculative discussion, taking very radical ground against dogmatic theology; "The Owners of the United States," by Thomas G. Shearman, the New York statistician (this article we referred to at length in last week's issue); "Industrial Co-operation in England," by Professor F. G. Peabody of Harvard, — a study made in England, of the practical workings of the system, its success, statistics of its growth, and its moral significance, explaining why co-operation has not yet succeeded in the United States; "Municipal Control of Gas-Works," by Bronson C. Keeler of St. Louis, — a comparison of municipal and private control in the principal cities, American and European, and the cost of gas and its price to the consumer in each of these cities; "The Cost of Universities," by President David J. Hill of the University of Rochester, who sets down the wealth, the income, and the expenses (including salaries to professors) of the chief German and American schools, and explains their financial conduct; "Wendell Phillips as an Orator," by Rev. Carlos Martyn of New York, — a critical study; "Requirements of National Defence," by Adjutant-Gen. J. C. Kelton of the United States Army, who shows the inadequacy of the militia of the States, and explains what would constitute a sufficient trained force in case of sudden war, — a military study of our defenceless condition, and the duty of the National Government; "The Domain of Romance," by Maurice Thompson, — a critical article to show that this is the most romantic era of modern times, and that Darwin is the master-mind of the epoch; "Types of American Women," by Professor H. H. Boyesen of Columbia College.

— "A Review of the Family Delphinidæ," with forty-seven plates, by Frederick W. True, curator of the Department of Mammals, United States National Museum, is issued as Bulletin No. 36 of the museum. More than four years ago the writer formed a determination to prepare a monograph of the species of dolphins which occur on the coasts of North America. It immediately became apparent, however, that a proper comparison of the species described respectively by European and American naturalists could not be made without an examination of the types. A large proportion of the species of the family were established by Gray, whose descriptions are for the most part too brief and vague to serve as the basis of critical comparisons, while the descriptions of some other writers on the subject are almost equally insufficient. Such being the condition of the literature, he resolved to visit the museums of Europe, and to examine all the type specimens to which he could gain access. Professor Baird, the late director of the museum, very kindly consented to his being absent during the winter of 1883-84, and he accordingly spent about four months in England and on the continent of Europe in the study of the specimens in question. This bulletin is the result.

—The New York Society of Pedagogy has published through Messrs. Appleton a pamphlet by George B. Newcomb, on "Teaching School Children to Think." The author remarks on the obvious fact that the reasoning-powers of children are exercised in their earliest years, though the higher powers of abstraction are not developed until later. He then goes on to suggest modes by which the power of thought may be cultivated in the child's mind; but we do not find any thing new or striking in what he says. His most useful suggestion is that the teacher should not only present

facts in rational connection, but also take care that they be rationally apprehended by the child. He has a few words in favor of manual training, but what that has to do with cultivating the reasoning-powers we are unable to see. By the way, we should be glad to know from what number of the London *Times* Mr. Newcomb took the quotation given on p. 12.

—November begins the twentieth year of *The Century Magazine*. The opening pages are devoted to a generous instalment of the long-expected autobiography of Joseph Jefferson. The first of the "Present-day Papers" is entitled "The Problems of Modern Society," and it has a preface signed by the group who are putting forth these timely essays. Dr. Langdon writes this paper. The other members of this group are Professor Shields, Bishop Potter, Drs. Munger and Dike, Seth Low, and Professor Ely. George Kennan has a chapter of "Adventures in Eastern Siberia." The history, purposes, and methods of the new "Grolier Club" of New York are fully described by Brander Matthews, and illustrated with drawings of rare Grolier book-covers, etc. Mrs. Foote, in her "Pictures of the Far West," portrays "The Winter Camp." The authors of the Lincoln Life treat of "The Second Inaugural," "Five Forks," and "Appomattox." Mr. Cole's unique engravings of the "Old Masters" are to continue with few intermissions during the coming year. This month he gives two examples of Benozzo Gozzoli. One of the most curious articles which *The Century* has published is entitled "The 'Newness,'" and is by the late Robert Carter, himself an eye-witness of the vagaries of the transcendental movement in New England. There are brief papers on "The Southern Cadets in Action," "Who ever saw a Dead Cavalryman?" "Shooting into Libby Prison," "Prohibition," "American Game Laws," "Copyright Reform," "Free Kindergartens," "Governor Seymour," "The Methodist Church South," etc."

— "Unless we can concentrate legislative leadership, we shall suffer something like national paralysis. We have no one in Congress who stands for the nation, . . . and so management and combination which may be effected in the dark are given the place that should be held by centred and responsible leadership in the focus of the national gaze." This is the keynote of the paper by Mr. Woodrow Wilson, on the "Character of Democracy in the United States," which opens the *Atlantic Monthly* for November. Another political paper, called "The French-in-Canada," is contributed by Mr. Eben Greenough Scott, whose paper on "La Nouvelle France" will be remembered. Artists and amateurs will be interested in "Allston and his Unfinished Picture," — passages from the journals of Mr. Richard H. Dana, — a series of extracts contributed by Mr. Charles Francis Adams about Mr. Allston's last and unfinished picture of "Daniel interpreting to Belshazzar the Writing on the Wall." "Materials for Landscape Art in America," by Charles H. Moore of Harvard University, will also interest the same class of readers. There are also a half-literary, half-historical article on "Some Romances of the Revolution" (a consideration of William Gilmore Simms's novels); a paper on "The Nieces of Mazarin;" and a sketch on "Marie Bashkirtseff," which gives a picture of this impressionable, and in a certain sense typical, "daughter of Gaul."

—In 1878 there was published by Professor J. M. Macoun, of the Geological Survey, Ottawa, Can., a check-list of the plants at that time known to occur in Canada. This list has for some years been out of print; and since it was issued many new species have been discovered, and the names of many more have been changed. At the earnest request of botanists both in Canada and the United States, he has published, and now offers for sale, what he believes to be a complete list of the phænogamous and vascular cryptogamous plants of Canada. The "Catalogue of Canadian Plants," issued by the Geological and Natural History Survey of Canada, has been used as a basis, but a large number of species discovered since it was published are included in the list. Many genera, too, have been revised by specialists, and their revisions have been used in the preparation of the check-list. Where names of species or varieties have been changed, both the name by which a plant is now known and that by which it is called in the catalogue are shown in the list.

— Thomas Whittaker has just published a new edition, with some changes, of Miss Anne Ayres' "Life and Work of William Augustus Muhlenberg."

— Mr. Warren K. Moorehead announces a new work on Ohio Valley earthworks. This work contains 41 full page illustrations made from photographs taken in the field, and a detailed account of exploration in the mounds and graves of Fort Ancient.

— Messrs. Ginn & Co. announce as ready, "Elementary Mathematical Tables," by A. Macfarlane, D.Sc., LL.D., professor of physics in the University of Texas. This collection of tables contains logarithms, antilogarithms, addition logarithms, subtraction logarithms, logarithmic sines and cosines, logarithmic tangents and cotangents, natural sines and cosines, natural tangents and cotangents, natural secants and cosecants, arcs, reciprocals, squares, cubes, square roots, cube roots, circumferences, circular areas, spherical contents, powers, constants, hyperbolic logarithms, exponentials, divisors, least divisors, interest tables, first nine multiples of numbers up to 1000, with a large number of auxiliary tables. The tables are mostly four-place: they have a uniform decimal arrangement similar to that of seven-place logarithmic tables; they are mostly synoptic, are provided with differences and proportional parts, and are arranged so that the function may be read off for any position of the decimal point in the argument. The tables are designed to be useful not only in computing and in the graphic method, but also in the teaching of arithmetic and in the illustration of the theorems of algebra.

— Mr. Gordon L. Ford of Brooklyn has in press a number of interesting unpublished agreements between Washington and his overseers and workmen, throwing much light upon the management of his estates, as well as on the "labor question" of colonial Virginia. The agreements are copied from the originals in Washington's writing, and all date before the Revolution. In this volume will also be included a correspondence that Washington had in 1774 with a number of merchants and others, concerning a scheme he entertained of importing German Palatines to settle upon his western lands, and one of Washington's advertisements for runaway servants. Very little of this material has been published heretofore, and "Washington as an Employer and Importer of Labor" will present a new phase of his character. The edition will be limited to five hundred copies.

— M. Rénan is at work on the fourth volume of his "History of Israel." He is also correcting, says the New York *Tribune*, the proof-sheets of a new book to be entitled "The Future of Science." It is an essay entirely written as long ago as 1848, and deals, among other topics, with the theory of development subsequently enunciated by Darwin. In various other matters M. Rénan is shown to have anticipated subsequent discoveries in the fields of knowledge, and to have indicated the general direction to which science was tending. He has neither added to nor excised a single passage from his earlier essay, the only alterations introduced being those of style.

#### LETTERS TO THE EDITOR.

\* \* \* Correspondents are requested to be as brief as possible. The writer's name is in all cases required as proof of good faith.

The editor will be glad to publish any queries consonant with the character of the journal.

On request, twenty copies of the number containing his communication will be furnished free to any correspondent.

#### Electric Eccentricities.

DURING the great fire that raged over northern Wisconsin in 1871, and which wiped out not only the prosperous village of Pestigo, but, in the aggregate of farmhouses, half a dozen villages like Pestigo, there were many evidences of electrical phenomena present. The flames were seen to possess that sudden rapidity of action which only electricity can impart. They would leap over wide spaces with the greatest rapidity, leaving many objects in the rear that one would suppose could not escape, and striking others beyond, and least exposed, in the most unaccountable manner. The details of that great disaster would disclose many curious and

instructive facts. People were found dead without any apparent injury, though lying out in the open fields, and far from the burnt woods. Of course, it is popularly supposed that these suffocated in the superheated atmosphere. However that may be, one circumstance coming under my own observation proves conclusively the presence of electricity, and a very curious action of the subtle fluid, too. Shortly after the fire, the editor of the Green Bay *Advocate* exhibited a copper coin taken from the pocket of one of the victims found dead in the middle of a large clearing. The coin was fused, but no sign of injury whatever was discovered on the man's person.

GEO. GIBSON.

Hudson, Wis., Oct. 22.

[Is it not possible that the coin was fused before it went into the unfortunate man's pocket? — ED.]

#### A Lightning Discharge in Quebec.

As you request observations of lightning, I take occasion to send you some made by myself. On the 29th of June, 1887, a violent thunder-storm broke over Quebec about six o'clock in the evening. The wind was blowing from the west. At Levis, opposite Quebec, a church was being built at that time, and the wood-work of the tower had just been finished. The roof was finished, and it was covered with galvanized iron. This sheathing was connected by lightning-rods with the earth. The first fall of rain wet the west portion of the tower; and, in an instant after, the lightning struck the tower, leaving intact the east portion, but shattering completely all those parts of the wood rendered semi-conducting by the rain. After reaching the metallic covering of the roof, the electricity was probably conducted by the rods to the earth, as no further trace of it could be found. The great beams of the wood-work had been broken by the discharge, and the wood in great part splintered. The annual rings had separated one from another without any trace of carbonization.

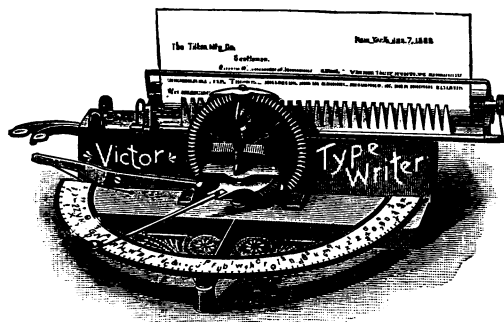
J. C. K. LAFLAMME.

Quebec, Oct. 20.

#### INDUSTRIAL NOTES.

##### The Victor Type-Writer.

A FEW years ago there was only one type-writer on the market; but such has been the activity of inventors, that there are now a score or more to be had, so that the most varied tastes in type-writers may easily be satisfied. The older and better-known key machines, familiar in all business-offices, still maintain their leader-



ship, though they are closely followed by machines of more recent invention. The most recent of these key type-writers was described in these columns a few weeks ago.

In some of the key-board machines there is a key for each character, as the Caligraph, the Yost, and the Automatic. In others a shifting or changing device gives two or three characters for each key, as the Remington, the Hammond, and others. The keys on these machines, therefore, range in number from thirty to eighty or more.

There is another class of type-writers in the market, without a key-board, in which the character to be printed is first sought out