- Gebbie & Co., Philadelphia, will shortly publish "Half a Century of Music in England," by the late Francis Hueffer. The book was finished just before the death of the popular author.

- D. C. Heath & Co. will soon publish the "Public School Music Course," by Charles E. Whiting, formerly teacher of music in the Boston public schools. It will be a series of six graded music-readers, adapted to all the primary and grammar-school

grades, and intended to lead up to the author's "High School Music Reader." Time-names, breathing-marks, etc., are included, and every thing necessary for a complete music course. There is a large number of one, two, three, and four part songs, selected from the best German, English, French, and American composers. Each of the first three numbers has, besides the songs, over three hundred exercises. The first two books will be illustrated.

Publications received at Editor's Office,		Just Published.
May 6-11.	Correspondence solic-	
 AMERICAN Water-Works, The Manual of, 1888. New York, Engineering News 61r p. 8°. CASEY, J. A Treatise on Spherical Trigonometry, and its Application to Geodesy and Astronomy. London and New York, Longmans, Green, & Co. 160 p. 12°. \$1.50. 	ited with parties seeking	
CONNECTICUT Agricultural Experiment Station, Annual Report of, for 1889. Part I. New Haven, State. 48 p. 8°. CONNECTICUT State Board of Health. Eleventh Annual	publishers for scientific	Sewerage
Report of the, for the Year ending Nov. 30, 1888; with the Registration Report for 1887, relating to Births, Marriages, Deaths and Divorces. New Ha-	books.	and Land
ven, State. 500 p. 8°. GENUNG, J. F. Handbook of Rhetorical Analysis. Boston. Ginn. 206 p. 12°. \$1.25.		allu Lallu
Boston, Ginn. 306 p. 12°. \$1.25. GOULD, J. The Birds of Great Britain. Part XIV. London and Manchester, H. Sotheran & Co. Colored	N. D. C. HODGES,	
 plates. f^o. £₃ as. A Monograph of the Trochilidze or Humming Birds. Part XXI. London and Manchester, H. Sotheran & Co. Colored plates. f^o. £₃ as. The Burds of New Guinea and the Adjacent Papuan 		Drainage,
Islands, including any New Species that may be dis- covered in Australia. Part XXII. London and Manchester, H. Sotheran & Co. Colored plates, fo. £3 38. Hog Cholera: its History, Nature, and Treatment, as	47 Lafayette Place,	George E. Waring, Jr.,
determined by the Inquiries and Investigations of the Bureau of Animal Industry. Washington, Gov- ernment. 133 p. 8°. KLEIN, E. The Bacteria in Asiatic Cholera. London and New York. Macmillan. 179 p. 16°. \$1.25. METROROLOGY, Bibliography of, Part I. Temperature.	New York.	Honorary Member of the Royal Institute of Engineers (Holland); Member of the Insti-
Ed. by Oliver L. Fassig. Washington, Signal Omce. 381 p. 80. MININGOTA The Geological and Natural History Survey.	Old and Rare Books.	tution of Civil Engineers (England); Fellow of the Sanitary Institute of Great Britain; Corresponding Member of the American In-
of. Sixteenth Annual Report for the Year 1837. St. Paul, State. 504 p. 8°.	One Million Magazines. Back numbers, vols.	stitute of Architects ;
NEW YORK Meteorological Observatory of the Depart- ment of Public Parks, Central Park, New York City, Report of, for the Year 1889. New York, Daniel Draper, Ph D. 8°	and sets-old and new, Foreign and American. CATALOGUE UPON APPLICATION.	CONSULTING ENGINEER
PIERSON, E. DeL. The Black Ball. Chicago, New York, and San Francisco, Belford, Clarke, & Co. 223 p. 12°. 50 cents. ROOSEVELT, C. The Mode of Protecting Domestic In-	A. S. CLARK, 34 Park Row, New York City.	For Works of Sanitary and Agri- cultural Drainage.
dustries; The Science of Government, founded on Natural Law Paradox of Political Economy, New	BACK NUMBERS and complete sets of leading Mag- azines. <i>Rates low.</i> AM. MAG. EXCHANGE, Schoharie, N.Y.	D. VAN NOSTRAND COMPANY,
 York, The Author. 125 p. 8°. STARCKE, C. N. The Primitive Family in its Origin and Development. (Internat. Scient. Ser.) New York, Appleton. 315 p. 12°. \$1.75. TAYLOR, J. E. The Playtime Naturalist. New York, 	H. WILLIAMS, Dealer in Old Magazines, Reviews, &c. Scientific	PUBLISHERS,
Appleton. 287 p. 12°. \$1.50.	periodicals a specialty. 39 Macdougal St., N.Y.	23 Murray and 27 Warren Streets, New York.
	The Electrical	Articles



GAUSS AND WEBER, who proposed and employed the system of absolute measurements, early in the present century.

IN SCRIBNER'S MAGAZINE SCRIBNER MAGAZINE

are begun in The June Number, by Prof. C. F. Brackett of Princeton, by a paper entitled "Electricity in the Service of Man," setting forth in a clear, precise way, some of the common methods by which the more important electrical phenomena are produced. The illustrations are copious and beautiful. Other articles in the series will follow (*i.e.*), "Electricity in Modern Telegraphy," by Charles L. Buckingham, chief electrical expert of Western Union Tel. Co.; "Electricity in Lighting," by Henry Morton, President Stevens' Institute ; " Electricity in the Household," by A. E. Kennelly, chief electrician in laboratory of Thomas A. Edison; "Electricity in relation to the Human Body," by Dr. M. Allen Starr; "Electricity in Warfare," by Lieut. W. S. Hughes, U.S.N.; "Electricity in Large Industries," etc., etc., etc.

This will be one of the most interesting and valuable series of articles ever attempted. Nothing will be left undone to make it surpass in popularity the "Railroad Series," begun about a year ago in Scribner's.

Among other valuable Articles in The June Scribner are one on "Building Loan Associations," and another on "Striped Bass Fishing."

Price 25 cents a number, \$3 00 a year. Begin your subscription with June No., which contains the first of the electrical articles.

CHARLES SCRIBNER'S SONS, Publishers. 743-745 BROADWAY, NEW YORK.

MAY 24, 1889.]

SCIENCE.

GUARANTY INVESTMENT COMPANY CAPITAL \$250,000. Offices: Atchison, Kan. 191 Broadway, New York. 222 Walnut St., Phila. Hon. ALBERT H. HORTON (Chief Justice, Kansas Supreme Court), Topeka, Kan., Pres't. Juaranteed Farm ortgages **7**% The Guarantee Investment Company makes loans upon fertile farms in the choicest portions of Kansas and Nebraska and has adopted the policy of sending a Committee of its Investors each year to examine its loans and methods of business. The Committee this year consisted of PROF. A. H. BERLIN, Principal of the High School Montrose, Pa., and MAJ. THEODORE L. POOLE, Ex-U. S. Pension Agent, Syracuse, N. Y. Both of these gentlemen are persons of the highest character and have the confidence of the Communities in which they reside. The Committee has recently returned and has made a very interesting Report upon the general development of Kansas ana Nebraska as well as the business of the Company. The Company will be glad to send this Report to any address. The following names are taken from the long list of Investors in our Mortages:

The following names are taken from the long list of Investors in our Mortgages:

William A. Cauldwell, 59 Liberty St., N.Y. Palmer Cox, 658 Broadway, N.Y. Rev. Jos. H. Rylance, D.D., 11 Livingston Place, N.Y. Rev. Brady E. Backus, D.D., 760 West 28th St., N.Y. Rev. R. M. Sommervile, 126 West 45th St., N.Y. Dr. James P. Tuttle, 136 West 45th St., N.Y. H. Edwards Rowland, 218 Fulton St., N.Y. Irving H. Tifft, Esq., 271 Broadway, N.Y. Prof. D. G. Eaton, 55 Pineapple St., Brooklyn, N.Y. Dr. C. Miles, Greenport, N.Y. John V. N. Bergen. Port Jefferson, N.Y. Benj. W. Stilwell, Yonkers N.Y.

(See if Some Friend of Yours is not in the List.)

R. C. Coleman, Goshen, N.Y. Mrs. Samuel Carlisle, Newburg, N.Y. Dr. C. C. Bartholomew, Ogdensburg, N.Y. Rev. Nelson Millard, D.D., Rochester, N.Y. Rev. Horace G. Hinsdale, D.D., Princeton, N.J. Dr. Charles M. Howe, Passaic, N.J. George A. Skinner, 5 Railroad Place, Newark, N.J. Dr. Edwin M. Howe, 85 Halsey St., Newark, N.J. Dr. H. G. Buckingham. Clayton, N.J. Dr. Martin Cole, Jr., Hainesville, N.J. Mortgage Trust Co. of Pa., Philadelphia, Pa. Miss Mary Miller, 1230 Spruce St., Philadelphia, Pa. Henry D. Biddle, 3115 Walnut St., Philadelphia, Pa.

Dr. Calvin C. Halsey, Montrose, Pa. Rev. William Baldwin, Great Bend, Pa. Gen. William Lilly, Mauch Chunk, Pa. Second Nat. Bank, Mauch Chunk, Pa. Enos E. Thatcher, West Chester, Pa. Mrs. Townsend Poore, Scranton, Pa. Rev. Burdett Hart, D. D., New Haven, Conn. Dr. Frank H. Wheeler, New Haven, Conn. Charles R. Christy, Stamford, Conn. Mrs. Catharine P. Fuller, Woodmont, Conn. Miss Jessie Henderson, Lenox, Mass. Dr. M. J. Halloran, Worcester, Mass. Albert Walker, Bennington, Vt.

Address for Report and Monthly Bulletin

HENRY A. RILEY, General Eastern Manager, 191 Broadway, N.Y.

$\begin{array}{c|c} \textbf{NEW} & \textbf{MAGAZINE}-\textbf{THE} & \textbf{SWISS} \\ \textbf{Devoted to spreading a love of cross \\ nature among the people. Edited \\ OROSS \\ by HARLAND, President of the Agassi Association, and succeeding St. Nichold & as the official magaine of that body. 81.03 a year. Sample copy locents. or 25 cents for trial subscription for 3 months.$ $N.D. C. HODGES, PUBLISHER. \\ Mention this magazine 47 Lafayette Place. New York. \\ \end{array}$

Original, Simpie, Natural, Suggestive, Comprehensive, Educational and helpful entirely apart from the mem-ory phase of the subject. JOURNAL of EDUCATION

Memory SHEDD'S NATURAL METHOD, PRACTICAL, SCIENTIFIC.

Entirely different from any other memory method. Thoroughly taught by correspondence. ENDORSED BY LEADING EDUCATORS.

MEMORY SCHOOL, 4 W. 14th STREET NEW YORK CITY. IMPROVING THE

MEMORY and facilitating the acquirement of knowledge by lectures and correspondence. Classes forming. "MEMORY and its Doctors," from Simonides to "Loisette," mailed for to cents. DR. PICK, 24 Union Square, N. Y. City.

Schools.

CONNECTICUT, NEW HAVEN, MRS. CADY'S SCHOOL FOR YOUNG LADIES. Prepares for Smith and Wellesley, and admits to Vassar by Certificate. Circulars. Early application necessary.

INDIANA, TERRE HAUTE.

ROSE POLYTECHNIC INSTITUTE.-A Schoo of Engineering. Well endowed, well equipped depart ments of Mechanical and Civil Engineering. Electricity, Chemistry, Drawing. Extensive Shops & Laboratories. Expenses low. For catalogue address T. C. Mendenhall, Pres

NEW JERSEY, PLAINFIELD. **T**HE CHESTNUTS.—Parents with daughters to edu-cate, or orphan girls with companion, may find a comfortable home, with school instruction by applying to Miss E. E. Kenyon.



We call attention to the follow-ing specialties for this week : Black and White Striped Armure

Royale, at 80 cents; regular price, \$1.15. Black Satin Princess, \$1; regu-

larly, \$1.25 1,000 yards Pekin Printed Foule at 75 cents per yard, case price, \$1.25.

1.500 yards Figured Bengaline, at 75 cents, former price. \$1.25. 1,750 yards Silk Warp Henrietta,

at 75 cents, usual price \$1. These fabrics are all peculiarly adapted for use at this season of

the vear.

JAMES McCREERY & CO. BROADWAY AND ELEVENTH STREET, NEW YORK.



Readers of Science Corresponding with or visiting Advertisers, will confer a great favor by mentioning this paper.



DUST-PROOF BELLS.

HAZAZER & STANLEY,

32 Frankfort Street, N.Y.

Can any reader of Science solve the following puzzle? A man having 81 trees to cut, arranged as above, cuts nine each day for nine days without cutting on any one day more than one tree from any line, vertical, horizontal, or diagonal.

Any one who will have the following blank filled out by a responsible Newsdealer, and mailed to us, will be allowed a three months' subscription to Science.

N. D. C. HODGES,

47 LAFAVETTE PLACE, NEW YORK.

1889.

To the _____ News Company.

You may add to my regular order five copies of SCIENCE each week (returnable).



SCIENCE	CLUBBING	RATES.
---------	----------	--------

10% DISCO	UNT.			oss.
		Year's bscription	_ v	ٽي
We will allow the a to, any subscriber t	o Science or	Year's bscript	Vit] ien	With Swiss
to, any subscriber t <i>The Swiss Cross</i> will us an order for periodi	ho will send	Y.	°2c	- ws
\$10, counting each at i	ts full price.	รั		Che
Agricultural Science American Agriculturis	t	a) 2.50 1.50	\$ 5.30 4.30	€ 4.50 2.50
Agricultural Science. American Agriculturis American Analyst American Architect	and Building	1.00	4.25	2.25
News.		10.00	12.80	11.00
Imperial edition Gelatine		7.00	9.80	8.00
		6.00 1.00	8.80 4.25	7.00 2.25
American Garden American Journal of P American Machinist American Naturalist	hilology	3.00 2.50	ć.25 5.30	4.25 450
American Naturalist Andover Review		4.00	7·50 6.80	5.50
Atlantic Babyhood		4.00 4.00	6.80	5+00 5+00
BabyhoodBabyhood		1 50 .50	4.30 3.75	2.50 1.75
Babyland Bradstreet's Brain	•••••	5.00	7.80 6.30	6.00
Brain Building (weekly)	• • • • • • • • • • • • • • • • • •	3.50 6.00	8.80	4.50 7.00
Carpentry and Buildin Century Magazine Chautauquan, The	g	I.00 4.00	4.25 6.80	2.25 5.00
Chautauquan, The Christian Union, The	••••	1.50 3.00	4.30 5.80	2.50 4.00
Christian Weekly, Illu	strated	2.50	5.30 4.80	3.50
Christian Union, The Christian Weekly, Illu Cosmopolitan, The Critic	•••••	2.00 3.00	5.80	3.00 4.00
Edinburgh Review	•••••	5.00 4.00	7.80 6.80	6.00 5.00
Electrical World Electrician and Electrician	ical Engineer	3.00 3.00	5.80 5.80	4.00 4.00
Electrical Review Engineering and Minir	·····	3 00	5.80 5.80	4.00
English Illustrated Ma	agazine	4.00 1.75		5.00 2.75
Forest and Stream		4.00 5.00	7.80	5.00 6.00
Forum, The Godey's Lady's Book.	••••••••	2.00	4.80	3.00 5.00
Harper's Bazar Harper's Magazine		4.00	6.80	5.00
Harper's Magazine Harper's Weekly Harper's Young People Health and Home	e	4 00 2.00	6.80 4.80	5.00 3.00
Health and Home		1.00 1.00	4.25	2.25
Herald of Health Illustrated London	News (Amer.	4.00	6.80	5.00
reprint) Independent, The Inter Ocean, The		3.00	5.80	4.00
Inter Ocean, The Iron Age (weekly)		1.00 4.50	4.25 7.30	2.25 5.50
Iron Age (weekly) Journal of Philology (I Journal of Speculativ	Eng.) e Philosophy	2.50	5.30	3 50
(begins with Jan. No Judge	.)	3.00 4.00	5.80 6.80	4.00 5.00
L'Art		12.00	14.80	13.00
Life Lippincott's Magazine		5.00 3.00	7.80 5.80	6.00 4.00
Littell's Living Age Little Men and Women	n	8.00 1.00	4:25	9.00 2.25
I London Quarterly		4 00 3 00	6.80 5.80	5.00 4 00
Macmillan's Magazine Magazine of American Medical and Surgical J	History	5.00	7.80	6.00 6 .00
Mechanical Engineer.		2.00	4.80	3.00
Metal Worker Microscope, The	• • • • • • • • • • • • • • • • • •	1.00 1.00	4 25 4.25	2.25
Nature New Princeton Review		6.00 3.00	8.80 5.80	7 00 4.00
North American Revie	w	5.00	7.80	6. 0 0
Outing Overland Monthly	• • • • • • • • • • • • • • • • • • • •	3 00	5.80 6.80	4 00 5.00
Political Science Quar	terly	1.00 3 00	4.25 5.80	2.25 4.00
Popular Science Mont Popular Science News	hly	5.00 1.00	7.80	6.00 2.25
Portfolio, The		7.50	10.30	8.50
Practitioner Public Opinion Puck	••••••••••••••••••••••••••••••••••••••	3.50 3.00	5.80	4.50 4.00
Puck (German)		5.00 5.00	7 80	6.00 6.00
Ouarterly Review (Lo	ndon)	4.00 1.00	680	5.00
Queries Rural New-Yorker	•••••	2.00	4.80	3.00
St. Nicholas School Journal		3 00 2.50	5.30	4.00 3.50
Scientific American Supplement	•••••	3.00 5.00	7.80	6 00
Supplement Architect and Buil Scribner's Magazine	ders' edition	2 50 3.00	5.30	3 50
Southern Cultivator	. 	I.50	4.30	2.50
Springfield Republicar Sunday School Times.		1.00	4.80	3.00
Teachers' Institute Texas Siftings	···· ··········	1.25		
I Trained Nurse		1.50	4.30	2.50
Treasure-Trove Truth Seeker, The Wide Awake		3.00	5.80	4.00
Wide Awake Young Folks' Journal	· · · · · · · · · · · · · · · · · · ·	2.40 1.00		
		<u> </u>	1	
NDC	מסע	CF	C	

N. D. C. HODGES, 47 Lafayette Place, New York.

SCIENCE.

C. & C. ELECTRIC MOTOR COMPAN

Electric Motors FOR Arc and Incandescent Circuits, Most Economical Motor on the Market. **Regulation Perfect.** Motors Designed for all Power Purposes.

" The Week, one of the ablest papers on the continent." -Descriptive America.

ENLARGED AND IMPROVED WEEK: E

A Canadian Journal of Politics, Literature, Science and Arts.

PUBLISHED EVERY FRIDAY.

\$3.00 per Year. \$1.00 for Four Months.

THE WEEK has entered on its SIXTH year of pub-lication, greatly enlarged and improved in every re-spect, rendering it still more wort y the cordial support of every one interested in the maintenance of a first-class literary journal.

of a first-class literary journal. The independence in politics and criticism which has characterized THE WEEK ever since its first issue will be rigidly maintained; and unceasing ef-forts will be made to improve its literary character and increase its value and attractiveness as a jour-nal for the cultured home. Many new and able writers are now, or have promised to become, con-tributors to its columns, and the constant aim of the Publisher will be to make THE WEEK fully equal to the best literary journals in Britain and the Uni-ted States.

As heretofore, PROF. GOLDWIN SMITH will, from time to time, contribute articles. London, Paris, Washington and Montreal letters from accomplished correspondents will appear at regular intervals. Special Ottawa Letters will appear during the ses-sions of Parliament.

THE WEEK in its enlarged form will be the same size as "Harpers' Weekly," and the largest paper of its clsss on the continent.

SEND FOR FREE SAMPLE COPY.

C. BLACKETT ROBINSON, Publisher, 5 Jordan St., Toronto.

A NEW MAGAZINE - THE SWISS Devoted to spreading a love of nature among the people. Edited CROSS by HARLAB, President of the Agassiz Asso-ciation, and succeeding *St. Nichol* * as the official maga-zine of that body. %1.03 a year. Sample copy locents, or 25 cents for trivil subscription for 3 months. N.D.C. HODGES, PUBLISHER, Mention this paper. 47 Lafayette Place, New York.

Wants.

 ${\rm A}^{
m YOUNG\ MAN\ can\ have\ lucrative\ engage-}_{
m ment,\ not\ only\ a\ fixed\ salary,\ but\ accord-}$ ing to his work accomplished in travelling for SCIENCE. A personal interview invited.

N. D. C. HODGES.

47 Lafayette Place, New York.

 ${
m M}_{
m of\ instruments\ of\ precision\ of\ experience}^{
m ECHANICIAN.-An\ optician\ and\ maker}$ would be glad of a position where his skill would be valued in connection with some higher educational institution. Address G. J., care of SCIENCE, 47 Lafayette Place, New York.



OFFICE and MANUFACTORY: 402 and 404 Greenwich Street, New York City.

New England Office, 19 Pearl St., Boston.

Philadelphia Office, 301 Arch St.

Western Office, 139-141 Adams Street, Chicago.

Southern Office, 25 Carondelet Street, New Orleans,

Scientific Apparatus.



IMPROVED OIL LIGHT MAGIC LANTERNS.

cessory apparatus.

Also Lime and Electric Light Apparatus, and mechanical, plain, and fine colored views. J. B. COLT & CO., Manufacturers,

NO. 16 BEEKMAN STREET, NEW YORK.



GEO. H. PIERCE,

136 S. Eleventh St., Philadelphia, Pa.

ELECTRICAL TESTING BUREAU.

Johns Hopkins University, Baltimore, Md.

Resistance Coils and Boxes Compared.

Am meters and Volt meters calibrated.

Condensers standardized.

Primary and Secondary Batteries Tested. Efficiency of Dynamos and Motors Deter-

mined. Insulation of Cables and Wires Tested.

Etc., Etc.

Circulars describing Methods Used, Prices, Etc., sent on Application.

Address as above.





E. & H. T. ANTHONY & CO. 591 Broadway, N.Y. Manufacturers and Importers of PHOTOGRAPHIC INSTRUMENTS, PHOTOGRAPHIC INSTRUMENTS, Apparatus and Supplies of every description. Sole proprietors of the Patent Detective, Fairy Nov-el, and Bicycle Cameras, and the Celebrated Stanley Dry Plates. Send for Catalogue or call and examine. "More than 40 years established in this line of business.



A TEMPORARY BINDER

for Science is now ready, and will be mailed postpaid on receipt of price.

> Half Morocco -75 cents.



This binder is strong, durable and elegant, has gilt side-title, and allows the opening of the pages perfectly flat. Any number can be taken out or replaced without disturbing the others, and the papers are not muti-bated for sub-squert permanent bind. lated for subsequent permanent bind-ing. Filed in this binder, *Science* is always convenient for reference.

N. D. C. HODGES,

47 Lafayette Place, N. Y.

Readers of Science

Corresponding with or visiting Adver-tisers will confer a great favor by mentioning the paper.

iii

Sprague Electric Railway and Motor Company.

For Stationary or Railway Work, for Mining or Engineering operations the SPRAGUE MOTORS are unexcelled.



Estimates given for complete Power Installations.

Send for Circulars and full Information.

The Cheque Bank issues Cheques, either singly or The Cheque Bank issues Cheques, other singly ... put up in Books, for the special use of **VISITORS** to the **PARIS EXPOSITION**, who can cash the same at upwards of seventy Banking Houses, situated in different parts of Paris, without

siluated in different parts of Parls, without (harge. Visitors' mail matter cau be addressed to them, Care of the Societe Generale, 4 Place de l'Opera, op-posite the Grand Hotel, where English is spoken. Every Cheque that is issued by the Cheque Bank is EQUAL TO CASH, as Bank Notes are, for the Bank's Capital, Guarantee Fund and Customers' Balances are invested in British Govern-ment Securities, or held in Cash in the Bank of England, and can be cashed in every town in Europe without charge. For Handbook containing list of 2,500 Banking Houses who cash the cheques, free of charge, apply to

CHEQUE BANK, Limited, Capital, £100,000. Guarantee Fund, £27,000. Trustes, The Right Honorable John Bight, M.P , The Right Honorable Earl Beauchamp. NO. 2 WALL STREET, NEW YORK.

AS MILK.

Remarkable as a FLESH PRODUCER.

ersons gain rapidly

while taking it. SCOTT'S EMULSION

Is acknowledged by Physicians to be the FINEST and BEST preparation of its class for the relief of

CONSUMPTION, SCROFULA, GENERAL DEBILITY, WASTING DISEASES OF CHILDREN, and CHEONIC COUGHS.

ALL DRUGGISTS. Scott & Bowne, New York.

disguised that the most delicate stomach can take it.

16 and 18 BROAD STREET, NEW YORK.

The Mutual Life Insurance Company OF NEW YORK.

RICHARD A. McCURDY, PRESIDENT.

ASSETS \$126,082,153 56

The Largest and best Life Insurance Company in the World.

The New Business of the Mutual Life Insurance Company in 1888

Exceeded \$103,000,000.

Its Business shows the Greatest Comparative Gain made by any Company during the past year including

A gain in assets of\$		
A gain in income of		
A gain in new premiums of		
A gain in surplus of	1,645,622	11
A gain in new business of	33,756,792	85
A gain of risks in force	54,496,251	85



on application.

Broadway & 19th st. New York.



pages, 8vo, cloth. Price, \$3.50. Circulars and Catalogues

E. & F. N. SPON,

12 Cortlandt St., New York.