# Scientific American.

ESTABLISHED 1845.

MUNN & CO., Editors and Proprietors. PUBLISHED WEEKLY AT

No. 261 BROADWAY, NEW YORK.

O. D. MUNN.

A. E. BEACH.

# TERMS FOR THE SCENTIFIC AMERICAN.

Clubs.—One extra copy of THE SCIENTIFIC AMERICAN will be supplied gratis for every club of five subscribers at \$3.20 each: additional copies at same proportionate rate. Postage prepaid.

Remit by postal order. Address

MUNN & CO., 261 Broadway, corner of Warren street, New York.

### The Scientific American Supplement

is a distinct paper from the SCIENTIFIC AMERICAN. THE SUPPLEMENT is issued weekly. Every number contains 16 octavo pages, uniform in size with Scientific American. Terms of subscription for Supplement, \$5.00 a year, postage paid, to subscribers. Single copies, 10 cents. Sold by all news dealers throughout the country

Combined Rates. - The SCIENTIFIC AMERICAN and SUPPLISMENT will be sent for one year postage free. on receipt of seven dollars. Both papers to one address or different addresses as desired.

The safest way to remit is by draft, postal order, or registered letter. Address MUNN & CO., 261 Broadway, corner of Warren street, New York.

## Scientific American Export Edition.

The SCIENTIFIC AMERICAN Export Edition is a large and splendid periodical, issued once a month. Each number contains about one hundred large quarto pages, profusely illustrated, embracing: (1.) Most of the plates and pages of the four preceding weekly issues of the SCIENTIFIC AMERICAN, with its splendid engravings and valuable information; (2.) Commercial, trade, and manufacturing announcements of leading houses. Terms for Export Edition, \$5.00 a year, sent prepaid to any part of the world. Single copies 50 cents. \*\* Manufacturers and others who desire to secure foreign trade may have large, and handsomely displayed an-

nouncements published in this edition at a very moderate cost.

The SCIENTIFIC AMERICAN Export Edition has a large guaranteed circulation. lation in all commercial places throughout the world. Address MUNN & CO., 261 Broadway, corner of Warren street, New York

#### NEW YORK, SATURDAY, FEBRUARY 10, 1883.

#### Contents.

(Illustrated articles are marked with an asterisk.)

Absorption of hydrogen 84 Iron bridge over the Yazoo Agneultural inventions 90 Krao, the "human monkey" And of machinefy'to labor 89 Lack of interest in inventors Artillery experiments at Spezia\* 71 Liquid carbon dioxide use of Artillery experiments at Spezia\* 73 Liquid carbon dioxide use of Automatic cut-off engine\* 82 Loss of the City of Brussels Band saw, imprived\* 86 Lubricator. commut. of dynam \* Haranowski's flying machine\* 87 Michaelis' cotton chopper\* 88 Michaelis' cotton chopper\* 89 Michaelis' cotton chopper\* 80 Michaelis' cotton chopper\* 81 Michaelis' cotton chopper\* 82 Michaelis' cotton chopper\* 83 Michaelis' cotton chopper\* 84 Michaelis' cotton chopper\* 85 Michaelis' cotton chopper\* 86 Machine for hanking anchine use of American raliroad grant chopper 86 Michaelis' cotton chopper 86 Micha

TABLE OF CONTENTS OF

# THE SCIENTIFIC AMERICAN SUPPLEMENT

# No. 371,

For the Week ending February 10, 1883.

Price 10 cents. For sale by all newsdealers

I. ENGINEERING AND MECHANICS.—Improved English Steam Fire Engine.—I figure.

Pilter's Hay Press.

Machine for Making Seamless Rings.

Machine for Making Seamless Rings.

Flying Machines.

Helbing's Liquid Meter.—I figure.

Calumet Mine Stand Pipe.—5 figures.—Sections and elevations.

Lamoureux's Improved Bread Ovens.—5 figures.

Turning Ellipses in a Lathe.

Early American Locomotives and Railroads. By FRANK C.

SMITH.—The Quincy Railroad.—The Mauch Chunk road.—Baltimore and Ohio. South Carolina, and Delaware and Hudson (and Companies' roads—The first imported locomotives.—Peter Cooper's "Tout Thumb" engine.—The South Carolina Company's "Best Friend."—The Mohawk and Hudson's "De Witt Clinton"—The Davy Crockett."—Early Baldwin engines.—Early Rogers engines.—28 figures. -2stigures Richard Trevithick.—Reasons for commemorating the 50th anniversary of his death.—Sketch of his life and services to mechani-5917 TECHNOLOGY AND CHEMISTRY,—Zinc.—Its 5ses and Manu facture..... things which have been said here to-night, one might supketter Lighting of the Breesels Telegraph Office.—3 figures.

Simple Dup-Circle.—1 figure.—Goolden's dip circle.

Simple Dup-Circle.—1 figure.—Goolden's dip circle.

Simple Dup-Circle.—I figure.—Goolden's dip circle.

Si VI. NATURAL HISTORY. -Slugs and Snais. -1 figure. - The cellar

VII. HORTICULTURE.—Planting in Waste Places. By BERNHARD E. FERNOW.—1 Saure.

#### THE CARE OF THE INSANE.

Protection of the Insane and the Prevention of Insanity.was fact." held in Philadelphia Jan. 25, Dr. Joseph Parish of Burlington, New Jersey, in the chair. The address of welcome was in favor of the new code. read by Prof. Samuel D. Gross, of the local committee. It was followed by the reading of essays by Prof. Traill Green, M.D., of Easton, Pa, on the functions of a medical staff of an insane asylum; by Prof. J. S. Jewell, M.D., of Chicago, judices. On the other hand, the leaven of liberty appears on preventable causes of insanity; by Dr. Joseph Parrish, on to work most strongly among our leading specialists. It is how to protect the insane; and an address on the duty of a credit to the regular physicians of New York State that medical colleges and the general practitioner toward the men-they have taken the lead in this proper and inevitable retal and nervous diseases, by Dr. Charles K. Mills of Philadelphia.

In the evening Rev. R. Heber Newton of New York spoke of the obligations of the sane toward the insane, and the need of new safeguards to the sane as well as to the insane. Dr. H. Marion Sims, of New York, read a paper on the prevention of insanity in certain cases of nervous and hysterical women, in which he insisted on the necessity of more critically distinguishing cases of insanity from those of the delirium of acute disease.

of Horace Greeley, who was sent to an insane asylum, where and nearly as many more lives are lost by the same pests he speedily died, because of delirium due to acute meningitis throughout British India. These are deaths officially regisor cerebro-spinal meningitis. There was just as much reason, he said, for sending a case of typhoid fever, with thority, believes that the reported deaths do not nearly indelirium, to an insane asylum. A paper on the legal rights of the insane and their enforcement was read by Clark Bell, Esq., President of the New York Medico-Legal Society; and one on the prevention of insanity by the rational treatment of inebriety, by Dr. T. D. Crothers, of Connecticut. Important and timely papers were also presented from half a dozen have been destroyed, to the material lessening of the death foreign alienists.

Dr. J. Milner Fothergill, of London, discussed the influence of perverted assimilation in producing insanity; Drs. A. Baer, | vised for taking and destroying them. and Norman Kerr, of the same city, considered the connection between inebriety and insanity; Dr. Jas. Lalor, of Dublin, discussed the value of systematic education as a means of curing insanity; Dr. Charles Mercier, of London, contributed a paper on some of the conditions of life which influence the production of insanity; and Dr. Wm. Julius Mickle, of London, a note on the prevention of some cases of cerebral and mental disease, produced by cranial injury.

## PROGRESS IN MEDICAL ETHICS.

The discussion of the revised code of medical ethics at the special meeting of the New York County Medical Society the other evening, and the strong vote in favor of allowing consultation with any legally qualified practitioner, are hopeful indications of decreasing dogmatism on the part of that not so deadly as to endanger life. school of physicians whose opposition to exclusive medical dogmas has hitherto been so rigorously dogmatic.

by the State Medical Society last year, and which has aroused so much opposition throughout the country, lies in the following rule:

"Members of the Medical Society of the State of New York, and of the medical societies in affiliation therewith, may meet in consultation legally qualified practitioners of medicine; emergencies may occur in which all restrictions should, in the judgment of the practitioner, yield to the demands of humanity."

The opponents of this rule protest that it substantially puts the "regular" physician-that sole embodiment of medical science and sincerity—upon a level with homeopaths and quacks and all who have been led astray by false tion? Or traps might be made into which snakes could be dogmas and given over to abhorrent practices. "Why," enticed to their own destruction, traps which once set would exclaimed one indignant conservative, "have they (the State Medical Society) passed this law, which is obnoxious to the entire profession? It is an outrage. Are we going to allow everybody to come into our profession and recognize them taking life. as practitioners? That is what this rule practically amounts to."

The issue of the meeting happily showed that a portion, a very capable and successful portion, of the entire profession do not so regard it. The law of the land determines who shall or shall not practice medicine; and the question of consultation between those on the same legal footing may pose, it is clear that a simple, cheap, and efficient snake trap safely be left to the intelligence and honesty of the inde-would find a ready market there. If a trap could be propendent practitioner. As Dr. Fordyce Barker put it, the duced that people of all castes could be induced to use, its physician who requires to be directed how to behave is not success would be enormous. There are 200,000,000 people fit to be a practitioner. "Exclusive dogmas," he said "are in British India alone that need such protection. not confined to the homeopathic school. They are found among many who belong to the old school, and many of these 'exclusive dogmas' are far more dangerous than those | Judge Wallace, in the recent case of the New York Pharof the honest homeopathists. We are meeting with eximical Association vs. Tilden, decides that patentees are reclusive dogmas in the profession constantly, and these quired to give "sufficient notice to the public" that the dogmas are generally a 'rejection of the accumulated ex- article is patented, "together with the day and year the perience of physicians, to quote the old code."

the truth, and not with persecution. From some of the fendant has been "duly notified" within the meaning of pose that we were living in the first half of the seventeenth | As the sufficient notice prescribed includes a specification persecution. I advocate the new code because it is in keep- that any notice, verbal or written, that includes this informa-5925 error here? You cannot re-enact the old proscriptive, trades assignors.

union code, if you want to. It is a dead letter like the The annual meeting of the National Association for the Fugitive Slave Law, and this society should recognize the

The society did recognize the fact by a vote of 135 to 43

Naturally, in the ranks of the opponents of the advance were numbered not a few of our oldest and most honored physicians. They are not likely to outgrow their early preform: and those physicians of this city who did so much to determine the action of the State Society are to be congratulated upon their success in bringing their local society up to the same level.

#### A SNAKE TRAP WANTED.

The destruction of human life in India by venomous snakes is appalling, and the number of cattle killed by them is a serious drain upon the resources of the people. In Ben-As an example of failure in this respect he cited the case gal alone about 10,000 persons are fatally bitten every year, tered. Sir Joseph Fayrer, the most competent living auclude the whole number.

The cattle reported killed by snakes number between two and three thousand a year; also, in all probability, an under statement. Of late years considerable rewards have been offered for the killing of venomous snakes, and thousands rate of people and cattle; still the country is overrun with the pests, and is likely to be until better means have been de-

In 1880 the deaths reported as from snake bite were 19,060; and 212,776 snakes were killed at a cost of over \$4,500, in rewards. The next year (1881) there were fatally bitten 18,610 people; and 254,968 snakes were destroyed at a cost of nearly \$5,000.

The snakes which do the mischief are, according to Fayrer, the cobra, the Bungarus cœruleus or krait, the echis, and the daboia or Russell's viper, all of which are most conspicuous snakes, and easily identified. There are others, such as Bungarus fasciatus, Ophiophagus elaps, which are dangerous, but comparatively rare, and seldom bite men, while the hydrophidæ, being confined to the sea or estuaries, are, though very poisonous, not so dangerous to man, and the trimeresuri, which are both uncommon and at the same time are

It is proposed that a corps of snake hunters shall be or. ganized in every district, whose duty would be, under proper The special feature of the new code, which was adopted supervision, to seek out and destroy these pests. In several provinces gangs of paid snake hunters are already at work, with very encouraging results.

> It appears that only kanjars or men of similar caste can engage in this work, the taking of life of any sort being a violation of the religious laws of most Hindoos. It is doubtful whether the snake killers will ever pursue their task, however well paid, with a degree of care and thoroughness likely to destroy their occupation. If the snakes are to be exterminated, it will have to be by other means.

> Would it not be possible to devise traps in which snakes could be taken alive (by members of castes who could not kill them) to be turned over to proper authorities for destrucgo on performing their beneficent work endlessly, without the intervention of a caste ridden people, and without putting upon any one but the trap setter responsibility for

The scope for invention in this direction is very wide; and in view of the circumstance that the patent laws of India are quite favorable to inventors, and the fact already noted that the general government and several local governments have seriously undertaken the work of ridding the country of deadly snakes, and are spending large sums for the pur-

# Giving Notice of the Patent.

patent was granted," by stamping or labeling the article. Defending the amended code, Dr. C. R. Agnew said: Where this has not been done, it is a fair interpretation to "My position is simply this: I believe in meeting error with hold that when any equivalent notice has been given, the de-

century. Error never has been and never can be destroyed by of when the patent was granted, it is reasonable to conclude

sultations. When the old code came into existence there held that assignments of patents duly acknowledged before there are fully 6,000. What has persecution done to defeat upon the complainant to prove the signatures of the