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NEW YORK, SATURDAY, DECEMBER 12, 1885.

Contents.

(Illustrated articles are marked with an asterisk.)

Table listing various articles such as 'Bag and lock, mail, improved', 'Island in the Pacific, new', 'Lions, sea, California', etc., with corresponding page numbers.

TABLE OF CONTENTS OF SCIENTIFIC AMERICAN SUPPLEMENT No. 519,

For the Week Ending December 12, 1885.

Price 10 cents. For sale by all newsdealers.

Detailed table of contents for the supplement, categorized by I. CHEMISTRY, II. ENGINEERING, ETC., III. TECHNOLOGY, IV. PHYSICS, ELECTRICITY, ETC., V. ARCHITECTURE, ETC., VI. HORTICULTURE, ETC., VII. MISCELLANEOUS, VIII. BIOGRAPHY.

HOW TO MAKE WINTER EVENINGS PROFITABLE.

This is the season of short days and long evenings, the best time of all the year for study and improvement.

Perhaps you are a young man desirous of obtaining commercial employment. One of the best passports in that direction, next to good character, is good handwriting. Of course, you know how to write, but like the great majority, probably, you have never trained yourself to write well.

May be you would like to learn stenography and type writing. The faithful employment of your winter evenings in this work may make you a first-class graduate before the long days come again, and enable you to earn a handsome support.

Do you wish to become expert as a mechanical draughtsman? There are excellent instruction books, sold very cheaply. The industrious occupation of your evening hours as a learner will surely be fruitful of results.

Are you of an inventive turn of mind? The best of all times to study up and think out plans for new contrivances is in the quietude of evening. The results of earnest thought in the production of inventions are simply astonishing. In general, it is the improvements in simple devices, things of everyday use and that everybody wants, which are the most profitable.

THE NOVEMBER METEORIC SHOWERS.

The meteoric display of Nov. 27th was visible to the inhabitants of more than a quarter of the globe. It was observed at Teheran, Persia, and was unusually brilliant in other parts of Asia, as well as in Naples and London.

The display is due to the breaking up of Biela's comet, a dissolution first noticed in 1846. Since then the work has progressed rapidly, until the comet is now in millions of fragments. In ages past the wanderer traveled among the fixed stars, but its path eventually approached so near to the sun that the intense heat is supposed to have started the disintegration.

Underground Electrical Conduits in New York City.

The New York State law of June 13, 1885, provides that the authorities of the larger cities of New York State shall appoint commissioners to examine into the merits of different systems of underground electrical conduits, and to see that within a reasonable time all poles and overhead wires are removed from the streets of these cities.

panies then in existence to present plans for the transfer of their lines to underground conduits, giving them sixty days in which to respond. As the companies failed to present a satisfactory scheme, the commissioners are investigating the subject themselves, and apparently mean to do it thoroughly.

It is a work of some magnitude, and will probably result in no definite proposition until next spring. It is hoped that the plan selected may be carried into operation during the summer. The companies themselves are stated to be anxious to have the underground plan carried out, as a matter of economy in the long run, and are doing what they can to aid the work of the Commission.

We judge that the Secretary of the Commission, Mr. Moss, has an embarrassment of riches in the plans already submitted to him; but as the search is for the best, the competition is still open.

PHOTOGRAPHIC NOTES.

To Prevent the Cracking of Lantern Condensers.—When the oxyhydrogen light is used in the optical lantern, accidents often happen by the cracking of the condenser from unequal heating, by reason of its close proximity to the light.

At one of the recent meetings of the Amateur Photographic Society in this city, Dr. Laudy stated that he had used for some time, with perfect safety, a thin sheet of mica in contact with the face of the lens toward the light.

The streaks in the mica did not show on the screen, and but very slightly retarded the light. It was advised that a very clear sheet be selected, as a yellow specimen would interfere too much with the transmitted light.

It is undoubtedly a wise precaution to use some screen of a refractory material between the light and the condenser.

Testing the Thickness of Gelatine Films.—Concerning the manufacture of dry plates and the recent tendency of the manufacturers to increase their sensitiveness without regard to other desirable qualities, such as opaqueness to resist halation, the Photographic News remarks:

A good way of testing if the thickness of a film is sufficient to give the required opacity is the following: The film is wetted, and the plate is placed between the observer and a bright gas or lamp flame. If the film is thick enough, the shape of the flame will not be seen through any part of it; in other words, it (the film) will be translucent, but not transparent.

We have so far pointed out the evils which result from the use of plates too thinly coated, and the readiest way of judging of a film whether or not it is thick enough; and now we have to make a somewhat serious charge against plate makers in general.

We have no hesitation in saying that the average opacity of the films of plates in the market has greatly fallen off during the last few years. One cause of this is doubtless to be found in the fact that the average sensitiveness of plates has, during the same few years, considerably increased, and that, therefore, the opacity has decreased, apart from any reduction in the amount of silver used.