THE WINNIPEG COUNTRY;
OR,
ROUGHING IT WITH AN ECLIPSE PARTY
BY A. ROCHESTER FELLOW.
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is rapidly receding."—Boston Transcript.

"The picture of our dotate Northern-terri-
try twenty-five years ago, in contrast will
eonically the pleasant features of the
writer's style, constitute the claims of his
little book to present attention."—The Dust.

N. D. HODGES, 874 Broadway, N. Y.

As the electrical energy involved manifests itself on the surface of conduc-
tors, the improved rod should be metallic; but, instead of making a large rod,
suppose that we make it comparatively small, of round section, with several
pieces of metal running from the top of the house to some point a little below
the foundations. We should then introduce several pieces of metal. As they
are spread out, the probability of producing lightning is diminished;
therefore, the introduction of this energy into some other form, and the ac-
domestic uses of this energy, is the subject of this paper.

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ProtectiON FROM LIGHTNING.

What is the Problem?

In seeking a means of protection from lightning-discharges, we have to view
two objects,—the prevention of damage to buildings, and the other the
problem of dissipation of the energy involved in the lightning-discharge when
it makes contact with the building. For a building to be whole or part,
it is necessary that work should be done; that is, as physicists express it,
the energy of the discharge must be dissipated.

The energy capable of doing the damage which we seek to prevent exists
in the column of air between the cloud and the earth, the height of which,
in some cases, has been estimated at 50,000 feet. Any device in the form of
metal that can be introduced into the path of this high column of air can be
considered as a protective device. Two questions are thus involved:—

(1) How to introduce the metal as efficiently as possible into the high
column of air? (2) And how to dispose of the energy when it is intro-
duced? The question of dissipation is the more difficult, and, therefore,
the problem of protection is that of the introduction of metal into the high
cloud of air. The question of dissipation is that of the proper and efficient
use of the metal when it is introduced.

PROTECTION FROM LIGHTNING.

New Method of Protecting Buildings from Lightning.

Spare the Rod and Spoil the House?

Lightning Destroys. Shall it be Your House or a Pound of Copper?

Protection from Lightning.

Protection from Lightning.

Is there a Better Means of Protection?

Hastening our work with an idea of conducting electricity, and to do it clearly in view of the part that in providing protection against
lightning we must furnish some means by which the electrical energy may be
harmlessly dissipated. Our line of work is so broad that it is impossible
to give a complete description of the work in this short space. The best
method is to consult an experienced engineer in the field.

A Typical Case of the Action of a Small Conductor.

Franklin, in a letter to Collinson read before the London Royal Society,
Dec. 18, 1750, describing the partial destruction by lightning of a church-tower
at Newbury, Mass., wrote, "Near the bell was fixed an iron hammer to strike
the hours; and from the tail of the hammer a wire went down through a small
glass-hole in the floor that the bell stood upon, and through a second floor in
like manner; then horizontally under and near the plastered ceiling of that
second floor, till it came near a plastered wall; then down by the side of the
wall, to a clock, which stood about twenty feet below the bell. The wire
was not thicker than a common knitting needle. The spike was split all to place
by the lightning, and the part rising in all directions over the square in which
the church stood, so that nothing remained above the bell. The lightning
wire without burning either of the floors, or having any effect upon them, either
on the plastered ceilings, through which the wire passed, a little bigger, and
without burning the plastered wall, or any part of the building, so far as the
lightning passed through it. The bell was thus set up in the church, and
the clock in the above-mentioned wire, which, without burning either of the
floors, or having any effect upon them, either on the plastered ceilings, through
which the wire passed, a little bigger, and without burning the plastered wall,
or any part of the building, so far as the lightning passed through it. The
lightning wire was about the thickness of a goose-quill. From the end of the
pedestal the parts of the wire, which seems to be denote the conductor in
question, were brought up to the level of the floor, then to the level of the
ceiling, and from the ceiling to the clock. So, when this wire was brought
up to the level of the floor, and the clock in the above-mentioned wire
without burning either of the floors, or having any effect upon them, either
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Relations of prehistory to history and to anthropology, both physical and ethnological.

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3. Typological presentation. Models of workshops, houses, castles, altars, sepulchres; also weapons, tools, utensils, etc.; their use and development.

4. Historical presentation. First, with reference to natural history, the origin, races, varieties and migrations of men; second, cultural history, as the stone, bronze and iron ages; the palaeolithic and neolithic periods; proto-historic culture; dawn of civilization, etc.

This scheme appears to offer a comprehensive plan for bringing the science before a class.

Migration of the Aztecs.

The Society of Geography and Statistics of the Republic of Mexico has just issued a second edition of a work by its first secretary, the licentiate Estanguita Beulah, entitled "Peregrinacion de los Aztecas, y Nombres Geograficos Indigenas de Sinlanda."

The first edition was published in 1887, and received a certain measure of praise on account of the new material it offered concerning the tribes and languages of northwestern Mexico. This has been added to in the present edition, and in this respect it is welcome; but that the author has seen fit to expand and illustrate his theories on the pre-historic migrations of the Aztecs, is to be regretted, as he does but disseminate under the name of the society various exploded errors.

When, for instance, shall we hear the last of the "Atlantis?" Over and over again, its existence has been disproved, but it is ever rising in the minds of those who do not know what time of day it is in science. How often must it be shown that the name "Atlantis" has nothing to do with "Aztecas" or "Azteca," but is a Berber word meaning "mountain." Yet Beulah repeats and adopts these eighteenth century etymologies. Our faith in his requirement in the Nahual language waxes considerably when we find him (p. 120) deriving the word nahual from nahuatl, from nahuatl, and nuhual, water, for it is elementary that the terminal l is dropped in composition. Of course, the "Toltecs" figure largely, although their existence as a nation has been disproved.

It cannot be said that Senor Beulah has approached this part of his subject with the requisite knowledge of its literature; and one cannot but regret that he seems unacquainted with the voluminous writings of Buschmann on the proper names and languages of Sinland and Sonora.

NOTE ON CRATOlus ADAMANTUS.

February 22, students while out collecting birds shot a diamond rattlesnake, Crotalus adamantus, Bean, that measured five feet ten inches in length and nine inches around the thickest portion of the body. From the glossiness of the scales it is thought that it had recently moulted. There were only five rattles and a button present, which seems quite remarkable for such a long reptile. If I am not mistaken, such large animals of this species usually have more.

These animals, though once quite abundant, are becoming quite uncommon. The demand for their skins and rattles to make into Florida has done much to destroy this venomous animal. The skin is made into belts and necklaces, while the rattles are used for sets on the tails and elsewhere.

P. H. ROEHL.

Fla. Agr. Coll., Lake City, Fla.

BOOK-REVIEWS.


The above treatise on Milk, by P. Langlois, Chief of the

FOSSIL RESINS.

This book is the result of an attempt to collect the scattered notices of fossil resins, exclusive of those on amber. The work is of interest also on account of descriptions given of the insects found embedded in these long-preserved exudations from early vegetation.

By CLARENCE LOWN and HENRY BOOTH.

12°. 81.

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