

THE MEXICAN CENTRAL RAILWAY COMPANY, LIMIT ED

CALLS ATTENTION TO THE FACT. THAT:

IT IS THE ONLY Standard Guage Route from the United States Frontier to Mexico City.

IT IS THE ONLY Line in Mexico that can offer the Traveling Public the conveniences and comforts of Standard Guage Pullman Drawing Room Sleepers, lighted by Pintsch Gas.

IT IS THE ONLY line by which you can travel WITHOUT CHANGE from St. Louis, Mo., to Mexico City.

IT IS THE ONLY line from El Paso, Texas, to Mexico City.

IT IS THE SHORT line from San Francisco and Pacific Coast Points to Mexico City.

The lines of the Mexican Central Railway pass through 15 of the 27 States of the Republic. Eight million of the thirteen million inhabitants of Mexico are settled contiguous to them.

The principal mining regions receive their supplies and export their products over it. Chihuahua, Sierra Mojada Mapimi, Fresnillo, Parral, Guanacevi, Durango, Zacatecas, Guanajuato, Sombrerete, Pachuca, etc.

WHEN YOU TRAVEL FOR BUSINESS, GO WHERE BUSINESS IS

There are only five cities of over 35,000 inhabitants in the Republic of Mexico that are not reached by the Mexican Central Line.

The following ten cities are reached only by the Mexican Central

Railway:

Chihuahua 30,098 inhabitants; Parral 16,382; Zacatecas 34,438; Guanajuato 40,580; Leon 63,263; Guadalajara 101,208; Queretaro 38,016; Zamora 12,533; Aguascalientes 37,816; Irapuato 19,640.

It also reaches the Cities of Torreon 13,845; San Luis Potosi 60,858; Tampico (Mexican Gulf Port) 16,313; Celaya 25,565; Pachuca 37,487.

City of Mexico 368,777.

Daily Pullman service beetween St. Louis, Mo., and Mexico City, also between El Paso, Tex., and Mexico City, and vice versa.

C. R. HUDSON, G. F. & P. A. W. D. MURDOCK; A. G. & P. A. Mexican Central Ry., 209 House Bldg; St. Louis, Mo.

MEXICO CITY.

Sample copy free please subscribe.

West American Scientist

Vol. XII. No. 13.

June, 1902.

Whole No. 114

-two and one-half days.

sand hills. Mesquite trees are in leaf landscape speeds behind. and form the chief verdure of the coun- Mexico City is reached at last. It is especially beautiful.

cotton plants. Yuccas are used for one of the nearby towns brings them fence posts. Everything is dry-a des- all out in their best. Among them

INTO MEXICO WITH THE EDITOR. quite trees give promise of being in reality what they are in name-trees. Gleanings from private letters of the As we reach the valley of Mexico we editor-in-chief who is three thousand find ourselves in a region of broad culmiles away, will assist us in a brief tivated fields, dry, much like Califortrip into Mexico. There are many nia in aspect. The train winds around things of interest to be noticed on our low hills, up, up. A reservoir of water way. Perhaps first of note to the with green fields of corn beneath its speed-loving American is the time the influence, and thousands of acres of trip requires. Eight years ago, from maguey fields-a curse to Mexico; stone El Paso to Mexico City, required four walls, tiled roofs, cathedral towns, the days. Now we can accomplish the wooden plow, thirteen modern houses same in little more than half that time (huts of cast-off corrugated iron), big hats on barefooted and on sandaled Outside our car window as we leave men, a eucalyptus tree among the cac-El Paso, we see only grassy plains and ti; such are some of the sights as the

try. The Living Rock cactus is found has grown remarkably since a visit on the hills in this vicinity, but very eight years ago and is destined to be difficult to distinguish as it is so iden- larger still. No vacant lots in the city. tical in color with the rocks on which Solid stone and other evidences ofgreat it grows. Agaves abound in the moun- wealth displayed-and of great poverty, tains, one of these, a bulbous variety, as well. 500,000 people are living here, it is said. They are people of all sorts. Further south we pass fields of young The free music and plaza promenade in ert. In some parts of the trip the mes- some are very pretty, white, bareheaded girls in black lace mantillas over pink dresses, others wear Parisian hats and shoes, and the children are as pretty and as prettily dressed as the average in the United States.

But this trip into Mexico is far more comfortable than the real thing can be. In that are many trials to be met and conquered or endured. There is the dust. It is very trying at this season of the year, just before the rains set in. One night the train encountered a sand storm and in the morning the beds were covered with dust and the car was full of it. Not less trying than the dust is the heat. Activity of any sort must be suspended and the time of the greatest heat spent in the shade of trees and houses or within doors. Our Scientist, in a fit of absent-mindedness, one day, laid two plants and a snail in the sun, while with true scientific zeal he went for something else. When he returned he found them literally baked.

The condition of the people of Mexico is pitiful. Many of them are both poor and extremely ignorant. One Indian brought his little boy one evening. as bright a child as need be found, and the pride of his father's heart. A box with a dime in it was given to him. He shook the box as he went and was as happy in the music of that coin as if the home he was going to was a palace instead of a hut of mud and brush. What a future is before him! ther had worked all day for about thirty cents. He spoke in poor Spanish, had evidently never heard of the postoffice. He was looking wistfully toward the United States, but with neither energy nor knowledge will probably never reach it. It is pathetic to see the burdens these men will carry, a hundred pounds a mile at a time. And still more pathetic is their patience and their plaintive voices which are reminders of the middle ages.

Established 1884.

THE WEST AMERICAN SCIENTIST.

Published monthly.

Price 10c a copy; \$1 a year; \$10 for life.
Charles Russell Orcuit, Editor,
Number 365 Twenty-first Street,
San Diego, California, U. S. A.

ADVERTISEMENTS.

Twenty-five cents a line, nonparell, each insertion.
ORCUTT, San Diego, California.

Insurance Agent and Notary Public.

DODSON, A. E.: No. 909 Fourth St., San Diego, Cal.

West American MOLLUSCA

Descriptions, notes, synonymy, bibliography, etc., collected and published in 4-page 8° numbers, at \$1 for Vol. 1.

We also offer many species for sale—including over 2000 varieties.

ORCUTT, San Diego, California.

WADE & WADE

Analytical Chemists and Assayers, 115½ North Main st. (Tel. Green 1704), Los Angeles, Cal. Chemical Analysis, Assaying, Milling,

Concentration and Cyanide tests, etc.

FINTZELBERG, THEODORE:

Real Estate, Insurance, Commission, Notary Public. P. O. box 694. Express block.

LAKESIDE HOTEL

Lakeside, San Diego county, California
This Hotel is a convenient place to
stop on the way to and from the mines.
First Class in every respect.
Telephone and telegraph.

Baths and electric bells.



Anyone sending a sketch and description may quickly ascertain our opinion free whether an invention is probably patentable. Communications strictly condidential. Handbook on Patents sent free. Oldest agency for securing patents. Patents taken through Munn & Co. receive special notice, without charge, in the

Scientific American.

A bandsomely illustrated weekly.

Culation of any scientific journal.

year; four months, \$1. Sold by all newsdealers.

WUNN & CO. 361Broadway, New York

Branch Office, 625 F St., Washington, D. C.

TO EDUCATIONAL INSTITUTIONS:-

We will give to any college or school, while present supply lasts (and we have 100,000 duplicate specimens), a collection of 100 varieties of shells, minerals, fossils, etc.—mostly Californian, named and mainly with printed labels, on the following conditions:—

I—That the school shall provide a suitable cabinet for its permanent preserva-

tion and display.

2—That the school shall subscribe for I year to CALIFORNIA ART & NATURE, and pay transportation on specimens.

Estimated value of collection is \$10.
Kindly cooperate with us in creating a greater interest in the study of nature n our schools.

REAL ESTATE.

SAN DIEGO, CALIFORNIA.

Residence and business property, im proved or unimproved. Ranches, and lands for colonization, for sale or trade.

Mining property a specialty.
Oil lands in large or small tracts
Investments recommended.

Loans negotiated Taxes, paid etc ORCUTT, San Diego, California.

The West American Scientist will be sent to new subscribers for one year for only 25 cents—payable in cash of anything of value for our library or museum.

ATTORNEYS.

CONKLIN, N. H.:

Practices in all courts of the state and United States. No. 920 Fifth street.

HAMMACK, N. S.:

Real Estate and Loans. Lawyer Blk.

Purchase your FOOTWEAR at LLEWELYN'S, 728 Fifth street.

FOSSILS.

40 named tertiary fossils,
ORCUTT, San Diego, California.

\$3

Botany of California!

This work, in 2 large volumes, may be had for \$12—\$1 extra for transportation.

Botany of Southern California' is a pamphlet of about 70 pages, by Charles Russell Orcutt, editor of the West American Scientist, San Diego, California, containing a provisional check-list of the known species, with descriptions and economic notes concerning many. \$1

ORCUTT, San Diego, California.

Review of the Cactaceæ

By Charles Russell Orcutt. Original descriptions carefully compiled and reprinted, with synonymy, and bibliographical references as complete as the author's library will permit. Illustrated. Copious excerpts, with field and garden notes. Vol. I is devoted to the species of the United states, and issued in 4 parts at \$8

"Very valuable.....above all works that come to my table I want a complete set of this."—Thomas Mechan.

Edition limited to 200 copies.

ORCUTT, San Diego, California.

ART & NATURE COMPANY, No. 868 Fifteenth street, San Diego, California.

CACTI-Orcutt's list for stamp.

An excellent opportunity for the right man to engage in a profitable occupation. Correspondence solicited.



17 SEP. 1902

THE MEXICAN CENTRAL RAILWAY COMPANY, LIMIT ED

CALLS ATTENTION TO THE FACT. THAT:

IT IS THE ONLY Standard Guage Route from the United States Frontier to Mexico City.

IT IS THE ONLY Line in Mexico that can offer the Traveling Public the conveniences and comforts of Standard Guage Pullman Drawing Room Sleepers, lighted by Pintsch Gas.

IT IS THE ONLY line by which you can travel WITHOUT CHANGE from St. Louis, Mo., to Mexico City.

IT IS THE ONLY line from El Paso, Texas, to Mexico City.

I'T IS THE SHORT line from San Francisco and Pacific Coast Points to Mexico City.

The lines of the Mexican Central Railway pass through 15 of the 27 States of the Republic. Eight million of the thirteen million inhabitants of Mexico are settled contiguous to them.

The principal mining regions receive their supplies and export their products over it. Chihuahua, Sierra Mojada Mapimi, Fresnillo, Parral, Guanacevi, Durango, Zacatecas, Guanajuato, Sombrerete, Pachuca, etc.

WHEN YOU TRAVEL FOR BUSINESS, GO WHERE BUSINESS IS

There are only five cities of over 35,000 inhabitants in the Republic of Mexico that are not reached by the Mexican Central Line.

The following ten cities are reached only by the Mexican Central

Railway:

Chihuahua 30,098 inhabitants; Parral 16,382; Zacatecas 34,438; Guanajuato 40,580; Leon 63,263; Guadalajara 101,208; Queretaro 38,016; Zamora 12,533; Aguascalientes 37,816; Irapuato 19,640.

It also reaches the Cities of Torreon 13,845; San Luis Potosi 60,858; Tampico (Mexican Gulf Port) 16,313; Celaya 25,565; Pachuca 37,487.

City of Mexico 368,777.

Daily Pullman service beetween St. Louis, Mo., and Mexico City, also between El Paso, Tex., and Mexico City, and vice versa.

C. R. HUDSON, G. F. & P. A.
W. D. MURDOCK; A. G. & P. A.
Mexican Central Ry., 209 House Bldg;
St. Louis, Mo.

MEXICO CITY.



Sample copy free-please subscribe.

The West American Scientist

Vol. XII. No. 14.

July, 1902.

Whole No. 115

CACTUS NOTES.

The following have been described by Coulter under the generic name Cactus—those which prove to be valid species we will name as Mammillarias, but will not yet make the transfer, as some are known to be synonyms only of old species:

CACTUS ALTERNATUS Coulter.

"Subglobose, 10 cm. in diameter, simple: tubercles long (15-20 mm) and spreading, with woolly axils: radial spines 3, rigid and recurved, 5 mm long; central spines 3, very stout and much recurved, 20-30 mm long, alternating with the radials; all ashy colored and often twisted: flower and fruit unknown: Type, in Herb. Coulter. San Luis Potosi (Eschauzier of 1891)."—Coulter Cont U S Nat Hb 3:95 CACTUS ESCHAUZIERI Coulter.

"Depressed-globose, 3 cm in diameter, simple: tubercles broader at base, 6-8 mm long, with naked axils: spines all pubescent; radials 15-20, with dusky tips, the lateral 10-12 mm long, the lower weaker, shorter and curved, the upper shorter, solitary central spine reddish, slender, somewhat twisted, usually hooked upwards, 15-20 mm long: flowers red (?): fruit reddish (?), ovate, about 10 mm long: seeds reddish, oblique-obovate, 1.2 mm long, pitted, with subventral hilum. Type in Herb. Coulter. San Luis Potos (Eschauzier of 1891)."—Coulter Cont U S

Nat Hb 3:104.

CACTUS PRINGLEI Coulter.

"Globose (?), 5 cm in diameter: tubercles short-conical, about 6 mm long, with very woolly axils: radial spines 18-20, setaceous-bristly and radiant, 5-8 mm long, central spines 5-7 (usually 6), stout and horny, more or less recurved, spreading 20-25 mm long; all straw-colored, but the centrals darker: flowers deep red (dark er, even brownish outside), 8-10 mm long: fruit unknown. Type, Pringle of 1891 in Herb. Gray."—Coulter, Cont U S Nat Hb 3:109.

CACTUS MACULATUS Coulter. cm, simple: t

"Obovate-cylindrical, 6 by 8 cm, somewhat cespitose: tubercles ovate, terete, 10 mm long, grooved to the base, with naked axils: radial spines 10 or 11, straight and spreading, rigid, blackish (becoming ashy with age), black-tipped, 12 mm long; central spine large, more or less spotted, erect, 25-35 mm long: flower 13 mm long, pinkish: fruit unknown. Type in Herb. Coulter, San Luis Potosi (Eschauzier of 1891)."—Coulter Cont U S Nat Hb 3:117.

CACTUS BRUNNEUS Coulter.

"Obovate-cylindrical, 3 by 6 cm, simple. tubercles ovate, grooved to the base, 5-6 mm long, with woolly axils: radial spines 11-15, spreading, rather rigid and brownish (lighter with age), 8-10 mm long; central spine much larger, 20 mm long, hooked: flower and fruit unknown. Type in Herb. Coulter. San Luis Potosi (Eschauzier of 1891)."—Coulter Cont U S Nat Hb 3:117.

CACTUS DENSISPINUS Coulter.

"Globose, 7.5 cm in diameter, simple: tubercles short, with woolly axils: radia.

