

SCIENTISTS IN SEARCH OF FOUR-TOED HORSE

Three Expeditions Sent Out by American Museum of Natural History—Animal Existed Two Million Years Ago—Hunting Prehistoric Remains.

By FREDERIC J. HASKIN.
(Copyright, 1908, by Frederic J. Haskin.)
Washington, D. C., July 2.—While the majority of Americans are taking vacations at seashore or mountain, or pretending that they are cool and comfortable in their own darkened homes, several sturdy wiser men are going carefully over the hills and valleys of Wyoming in quest of a four-toed horse. They do not travel with lasso and running noose expecting to bring him in as does the Texas cowboy who ropes a wild mustang. Neither will they crate him or send him home in a jolting cattle or horse car. Nor will they put him in a Zoo—if he is found. They hunt for him with pick and shovel in the edges of overhanging cliffs or far below the surface of the earth. They will bring him back in a box that would be much too small for a Merry Widow hat, every part of him carefully fixed in a matrix. He will be put in a museum in a glass case and he who runs may read that this is a rare and wonderful thing whose price is above rubies. For, you see, he died something over 2,000,000 years ago, before the dawn of the history of mankind in the world, when this continent was still in the making.

This work is in charge of one of the three expeditions that the American Museum of Natural History of New York is sending out for summer service in the west. The first of these expeditions has gone to Nebraska to study the fossils of the Miocene period, and the party which is to leave next month will head for Montana and look for fossils of a period of 4,000,000 years ago, the specified object being the acquisition of the complete remains of a horned dinosaur which they hope to install in the recently fitted dinosaur room of the museum. There is yet no complete specimen of this fossil known to the party which left recently is the one that expects to look for the four-toed horse, and also for its descendant, the three-toed horse.

A few years ago these Wyoming beds yielded to enthusiastic paleontologists the fossil remains of a tiny animal about the size of a fox terrier. Its front feet showed four distinct toes, its hind feet three. And this fossil of the remote past was the ancestor of the horse of today. Fragment by fragment, bone by bone, dust by dust, these men of science worked out the complete picture of the little creature that represented the possible appearance of the prototippus. This model stands in the museum in the same alcove with a Ferguson draught horse, and its entire little body and tiny pointed head do not equal in bulk the big, benevolent head of the Ferguson.

Only Twelve Inches High.
The little horse of the Eocene period measured 12 inches at the shoulders. Later he grew to 14 inches. Incalculable ages passed and his descendants of the Miocene period stood 18 inches high and had three toes on each foot. Even later he grew taller still, his feet grew harder, and on each hoof almost 10 bands of the withers and his head and neck had grown long. One branch of his family at last looked greatly like a Virginia deer. Time swung on. Where the four-toed horse had found the soil of the tropical forests, the conditions of his life had changed. The rank overhanging vegetation must needs give place to grasses.

As the trees receded and the grass came, the descendant of the little prototippus, too changed. The feet hardened to suit the firmer soil, the hoofs grew longer and the heels higher, to allow him to swing over greater distances, and the neck grew longer to allow him to reach the grasses. His teeth, while the teeth changed to suit the herbage. A wide feeding range was his before the age of ice. He has been north all the way to Eschscholtz bay on the north of Patagonia on the south. From the four-toed little dog-like animal of the Eocene period to the horse of today, the only animals that walk on one toe, has been a long, long way.

Tribe by Tribe.
Tribe by tribe they flourished and grew extinct as a class, to leave to their posterity the task of remodeling themselves into the modern mode of a changing earth. These American horses are generally believed to be the original ancestors of the horse family in the world, but the fact cannot be definitely established until the Pliocene deposits of central Asia have been explored.

When the first explorers came to American shores and penetrated, with the zeal of the missionary priest, the wilds of the new world, all trace of the horse family had gone and no remote in the far west of the mountains that the red men had not even a tradition of them, and were seized with terror at the sight of the queer beasts that the soldiers straddled. Why the horse and his mates had disappeared so completely science has not been able to answer. The prolonged winter of the Ice Age may have swept them out of existence. Hunters in search of remote prehistoric times have stalked them as they did other game, and so have brought about only the partial recovery of their own cunning. Between them on the one hand and the newly-come bison and antelope on the other, there may have been a struggle for the feeding grounds of forest and plain, and the horses may have been worsted or possibly prolonged drought or disease took too heavy toll of their number to allow them to ever recover their losses.

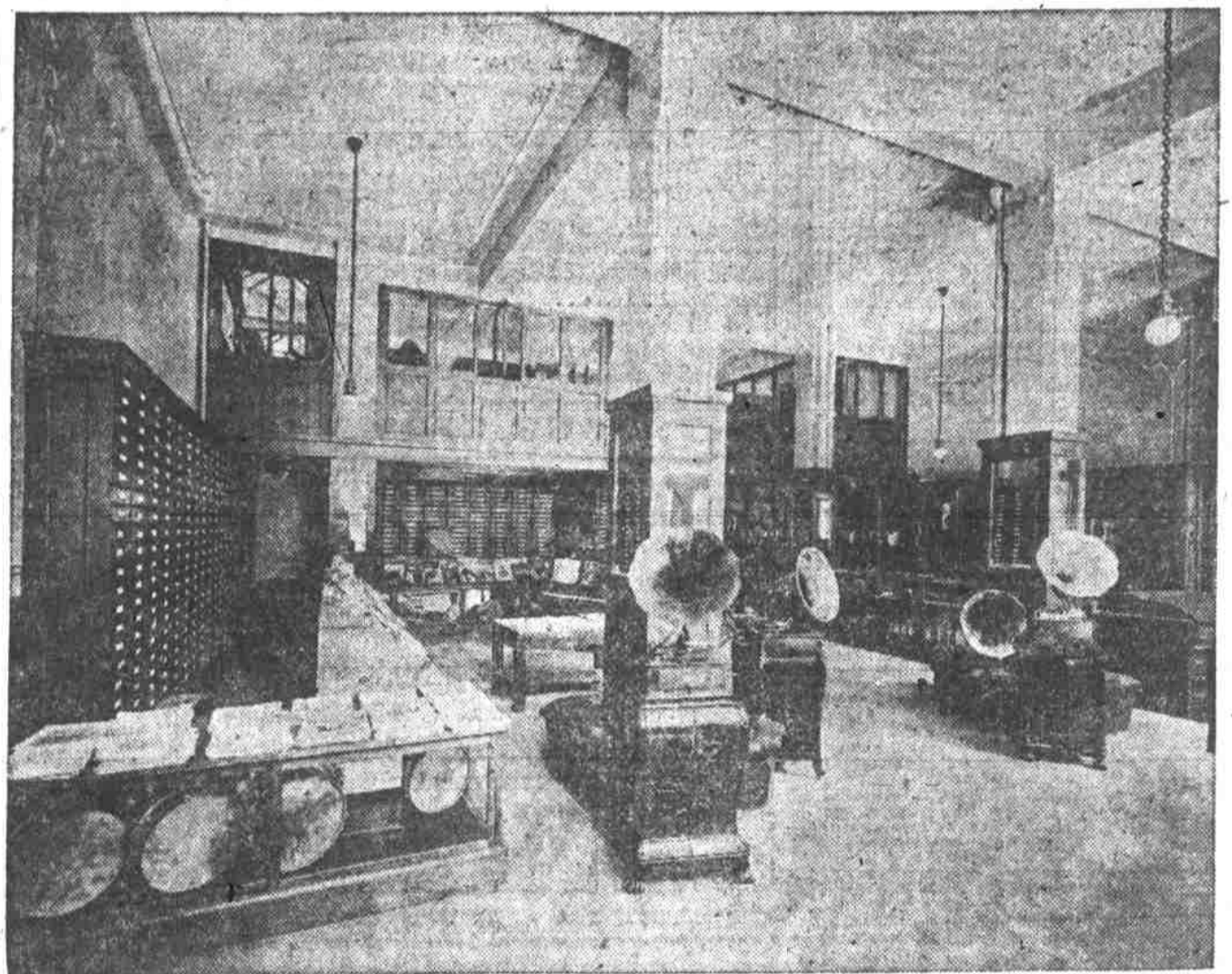
Evolution of the Horse.
As it is, no young member of this wild family lived and died on this continent, leaving their bones in valley, lake and river bed, that there are vast sections of the west known to paleontologists as equus beds. Through these, as through the pages of an illustrated book, American scientists have traced the evolution of the horse, finding 10 different genera, and 26 different species. Even lack of those they have studied, they some day expect to find another and older member of the family, one that will have five toes on its marsh-traveling little feet. This may some day be discovered in the fertile fields of the west, for that region is especially rich in fossils of all the ages of this very old continent.

The existing fossil specimens of the prehistoric horse family now in the museum in New York are from Nebraska, central Oregon, central Florida, southern Texas, from Kansas, Louisiana and Alaska, and one collection from the

phosphate mines near Charleston, S. C. The Texas specimens brought back by the expedition of 1899 are most like the modern horse and show that generation to have been about the size of a draught horse.

The American Museum of Natural History had its beginning on April 6, 1869, when an act of the New York legislature created it. The corner stone for the present building was laid by President Grant on June 2, 1874, and three years later it was opened to the public. When all the various wings of the building are eventually completed it will occupy the whole 13 acres of the legislature created. The corner stone for the present building was laid by President Grant on June 2, 1874, and three years later it was opened to the public. When all the various wings of the building are eventually completed it will occupy the whole 13 acres of the legislature created. The corner stone for the present building was laid by President Grant on June 2, 1874, and three years later it was opened to the public. When all the various wings of the building are eventually completed it will occupy the whole 13 acres of the legislature created.

GRAND OPENING OF SPLENDID MUSICAL EMPORIUM



View of main entrance of Graves Music Co., showing Sheet Music Department and section of Small Goods Department.

Probably never in the history of Portland has the opening of a music store attracted so much attention as that of Graves Music Co., at their new home, 11 Fourth St., just north of Washington.

Although they moved to their present location about a month ago, it was not then finished, and they deemed it advisable to withhold their grand opening until everything was in readiness to welcome their old customers and friends, and make hosts of new ones, and if the crowds which are thronging their beautiful salesrooms today are any criterion their highest hopes and expectations are being realized. Hundreds during the morning inspected this artistic palace of music—beyond a doubt the largest, most beautiful and most convenient in the west—and this afternoon has brought out even larger crowds, all of whom without an exception have declared it as near perfection as architectural and musical science can make it.

Mr. Fred W. Graves, president and manager of Graves Music Co., and a corps of salesmen and employes have been busily occupied all day showing their enthusiastic friends and visitors over the store, answering questions, explaining the different interesting features, one of which is their wonderful sheet music system; describing as they came to them the different displays and work rooms, and as it were turning the store over to the public for their critical inspection.

Probably the most interesting of the work rooms will be the musical instrument repair shop, which is soon to be fully equipped for repairing every known instrument—a specialty being the repair of talking machines of every description and rare old violins. This branch of the repair work is carried on at their wholesale quarters, 67 North Park St., but will be transferred as soon

as the new repair shop is fitted up complete.

Several cases of Hallett & Davis and other high-grade pianos, which were intended for display at the grand opening, have been delayed by the recent washouts in the middle west, but are expected to arrive soon. When these are received the piano stock of Graves Music Co. will be one of the most complete in the northwest.

Useful and appropriate souvenirs are being given to the ladies and children to commemorate this musical event.

Prof. Wilder's orchestra will render some beautiful selections from 2 to 5 this afternoon.

The grand opening will be continued on through today and tomorrow to accommodate the thousands who have not yet visited the store. All Portland should feel proud of this, its first complete music and musical instrument store, and everyone should personally inspect it—during this opening if possible.

CASTORIA

The Kind You Have Always Bought, and which has been in use for over 30 years, has borne the signature of *Chas. H. Fletcher* and has been made under his personal supervision since its infancy. Allow no one to deceive you in this. All Counterfeits, Imitations and "Just-as-good" are but Experiments that trifle with and endanger the health of Infants and Children—Experience against Experiment.

What is CASTORIA

Castoria is a harmless substitute for Castor Oil, Paregoric, Drops and Soothing Syrups. It is Pleasant. It contains neither Opium, Morphine nor other Narcotic substance. Its age is its guarantee. It destroys Worms and allays Feverishness. It cures Diarrhoea and Wind Colic. It relieves Teething Troubles, cures Constipation and Flatulency. It assimilates the Food, regulates the Stomach and Bowels, giving healthy and natural sleep. The Children's Panacea—The Mother's Friend.

GENUINE CASTORIA ALWAYS Bears the Signature of

Chas. H. Fletcher

The Kind You Have Always Bought In Use For Over 30 Years.

THE CASTORIA COMPANY, 37 MURRAY STREET, NEW YORK CITY.

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of education, a series of free lectures and special courses of study through the winter. Last year's records show a total of 476,133 admissions, over 100,000 more than that of any other big museum in this country, the Smithsonian Institution and National Museum at Washington coming next with 360,847.

Study of Mammals.
The study of mammals naturally began with the inception of the institution, but it was not until 1891 that the department of vertebrate paleontology was established, and the most important expeditions in the interest of fossils were sent out. In the Hall of Fossil Mammals the institution makes an effort to make clear to all the broad, underlying laws of nature, and demonstrates by comparative anatomy the laws of evolution. The exploitation of such a science requires much actual digging. These wise men have dug in the beds of ancient seas for fossils from the fish age. They have tramped tirelessly through the unattractive Badlands to note with keen eyes any bit of bone projecting from rocky ledge or worn bed of some stream. They have preserved bones of such a chalky nature that the novice stands with mouth agape at such art, such patience. One special bit of work, noteworthy for the time and care bestowed on it was that begun in 1898 and finished in 1905.

An expedition went to Wyoming in 1898 and there found the bones of a brontosaurus petrified in a bed of rock in that region. It took all summer to dig up and pack those bones. It took two years more to remove the bones from the matrix and reinforce the weak and crumbling parts, then more time was spent in assorting the parts, then two years more in articulating

them, and finally it was mounted and ready for exhibition in 1905, when the hall of Dinosaurs was opened and the monster skeletons that had been collected since 1897 were exhibited. This world famous brontosaurus skeleton measures 68 feet 4 inches long and 15 feet 2 inches high.

Other Expeditions.
In 1905 the department of vertebrate paleontology sent an expedition in search of the three-toed horse, when the famous bone cahn quarry was opened. In 1901 it went on this same mission to search the beds of Colorado, Wyoming and Nebraska; in 1902 it sent five expeditions for dinosaurs and other tenuous reptiles; in 1902-4 they worked the Badlands, where the first fossils had been found in 1870, and brought home 200 specimens of various animals; four expeditions went to South Dakota in 1904; in 1906 it sent three successful expeditions, one to Montana for mammals, one to Wyoming for animals of the Eocene period, and one to South Dakota for other mammals. But this summer's expeditions promise to be most important of all. Excavating is no longer the hit or miss performance of a quarter of a century ago, but follows as clearly defined rules as any exact science could demand, and such energy and enthusiasm as the present expedition carries in its workers must assuredly find substantial reward, if not in a four-toed horse, at least in many specimens suitable for the great educational work of the museum.

Red Cross shoes at cut rate prices on sale this week. Women's \$3.50 and \$4 Red Cross Oxford, tan, black and patent, all sizes, now \$2.65 pair.

BOYS AND GIRLS

Every Day Swells Number of Young People Who Will Compete for Scholarships

ALL OVER 10 AND UNDER 30 ARE ELIGIBLE

Journal's Scholarship Contest Begins in Earnest With the Young People Taking Deep Interest.

Third Day of Contest.
All those who intend competing in The Journal's third annual scholarship contest should not take long chances on it by allowing too much time to elapse before entering. While the handicapped contestants in a race have a chance to win it is not advisable to give competitors too much time. Delays are dangerous and should be avoided. By putting all your energy into the contest at the start it will give you an impetus that will be difficult to check by your competitors.

Nothing Succeeds Like Success.
The contestants who enter early and work diligently will be encouraged by the support of friends who have not been asked to pledge their orders to others. The early workers will thus have a decided advantage over those who are slow in entering. The scholarships are well worth trying to win even if there was no other prize. But with the cash awards and cash commissions on all new orders for The Journal, this contest affords the best opportunity ever presented to the young people of the Pacific northwest. No ambitious student should allow this chance to slip away. Call on the contest manager for any information desired, also for blank subscription orders, receipt forms, etc.

THE WAY IT IS DONE
Each and every subscriber to any issue of The Journal will be entitled to vote for a contestant according to the length of time they pay in advance for their subscription. A schedule of votes allowed on every issue, for different periods, is published today.

Every contestant should commence at once to hustle for subscribers to The Journal, bearing in mind that new subscribers count many more votes than old subscribers, for it is only through an increase in circulation that The Journal will receive returns for such a large outlay of cash and scholarship.

The public will be kept advised by publication from time to time as to the standing of the different contestants and the votes to their credit.

Instruction in canvassing or conducting your campaign for subscribers and votes will be given to any contestant who applies to the contest manager.

EQUAL CHANCE FOR ALL.
For the purpose of awarding the scholarships and cash prizes, the field of The Journal has been divided into four districts, as follows:

Multnomah county, Oregon.
Willamette Valley (as far south as Eugene).
Southern Oregon (all south of Eugene).
Eastern Oregon.

A liberal measure of votes is allowed for subscriptions to the semi-weekly edition of The Journal to favor contestants in districts where the population is scattered. The voting schedule is so keyed and the field is so divided, that a contestant living in the country or on a rural route has an equal advantage with the contestant living in the city of Portland. The young people living in the country has this advantage over their city rivals; they enjoy a larger personal acquaintance.

HOW THEY ARE DISTRIBUTED.
The candidate who at the close of the contest has the largest number of votes, irrespective of locality or district, will have first choice of all scholarships.

The second choice will fall to the contestant of highest vote in the district which does not get the first choice. The third choice will fall to the contestant of highest vote in a district which does not get either the first or second choice. The fourth choice will fall to the contestant of highest vote

CASH AWARDS

In addition to the scholarship awards The Journal will make the following cash awards to help defray expenses of the students who may poll the largest vote:

Cash with first choice of scholarship.....	\$150
Cash with second choice of scholarship.....	\$125
Cash with third choice of scholarship.....	\$100
Cash with fourth choice of scholarship.....	\$75
Cash with fifth choice of scholarship.....	\$50
Cash with sixth choice of scholarship.....	\$25

The above sums in cash will be paid contestants immediately after the close of the contest, in the order of their standing. Cash commissions will be allowed on all new subscribers, in addition to the cash awards, so that a contestant may earn money every day during the contest.

SCHOLARSHIPS

As far as they are at present listed are herewith submitted. More schools will be added from day to day during the contest as the choice of new contestants is learned.

- | | |
|---|--|
| ALBANY COLLEGE, ALBANY, OR.
One year's tuition in any department, except conservatory. Value of scholarship \$50. | OREGON CONSERVATORY OF MUSIC, PORTLAND, OR.
One year's course in piano department. Value of scholarship \$175. |
| BAKER CITY BUSINESS COLLEGE, BAKER CITY, OR.
One year's tuition in shorthand, typewriting, English, bookkeeping and penmanship. Value of scholarship \$100. | OREGON EXPERT COLLEGE, PORTLAND, OR.
Combined course in telegraphy and stenography. Value of scholarship \$125. |
| BERNKE-WALKER BUSINESS COLLEGE, PORTLAND, OR.
One year's tuition in combined business and shorthand course. Value of scholarship \$100. | OREGON LAW COLLEGE, PORTLAND, OR.
One year's tuition. Value of scholarship \$100. |
| CAPITAL BUSINESS COLLEGE, SALEM, OR.
Ten months' tuition in business or shorthand course. Value of scholarship \$100. | PACIFIC COLLEGE, SEASIDE, OR.
One year's tuition. Value of scholarship \$50. |
| DALLAS COLLEGE, DALLAS, OR.
One year's tuition in any department. Value of scholarship \$50. | PACIFIC UNIVERSITY, FOREST GROVE, OR.
One year's tuition in college department. Value of scholarship \$50. |
| HILL MILITARY ACADEMY, PORTLAND, OR.
One year's tuition in all branches without board. Value of scholarship \$120. | PENDLETON ACADEMY, PENDLETON, OR.
Two years' instruction in classical, scientific or commercial courses. Value of scholarship \$100. |
| HOLMES BUSINESS COLLEGE, PORTLAND, OR.
One year's tuition in combined business and shorthand course. Value of scholarship \$100. | PORTLAND ACADEMY, PORTLAND, OR.
One year's tuition in any of the four academy classes. Value of scholarship \$120. |
| INTERNATIONAL CORRESPONDENCE SCHOOLS OF SCRANTON, PA.
Complete course in architecture, chemistry and chemical technology, electrical engineering, steam, electrical, mechanical engineering and mining engineering. Value of scholarship \$132. | MRS. WALTER REED, PORTLAND, OR.
Vocal lessons. Value of scholarship \$100. |
| R. MAX MEYER SCHOOL OF ART, PORTLAND, OR.
Six months' evening course. Value of scholarship \$50. | ROSE CITY BUSINESS COLLEGE, PORTLAND, OR.
One year's tuition in combined business and shorthand course. Value of scholarship \$100. |
| MINNIEVILLE COLLEGE, MINNIEVILLE, OR.
One year's tuition in any department of the college. Value of scholarship \$50. | ST. MARY'S ACADEMY, TEE DALLEY, OR.
One year's tuition in music department. Value of scholarship \$100. |
| | WESTERN ACADEMY OF MUSIC AND DRAMATIC ART, PORTLAND, OR.
Course in elocution, oratory or dramatic art. Value of scholarship \$100. |

In the district which does not get the first, second or third choice. The remaining scholarships will be given out to contestants according to their standing, alternating between the districts.

The cash prizes will be given out similarly. He or she, however, will keep the cash commissions earned during the contest for new subscribers.

RATES AND CREDITS.
Prepaid subscriptions, only, count for votes in the Oregon Journal contest, many more points allowed for new subscriptions than for payments on old subscriptions. The same number of votes are allowed—whether the paper goes to the subscriber by mail or by carrier. In order to procure votes on an old subscription, the advance payment shall be made for not less than three months. Votes are allowed on new subscriptions, for advance payments for one month or more, an outline of the voting values being as follows:

DAILY AND SUNDAY EDITION.
One month: Price by mail, 25 cents; price delivered by carrier, at points having carrier service, 35 cents; votes allowed, if new, 65 votes; if old, none.
Two months: Price by mail or delivered, \$1.20; votes allowed, if new, 125 votes; if old, none.
Three months: Price by mail, \$1.90; delivered, \$1.95; votes allowed, if new, 300; if old, 175.
Four months: Price by mail, \$2.60; delivered, \$2.65; votes allowed, if new, 400; if old, 200.
Five months: Price by mail, \$3.25; by carrier, \$3.25; votes allowed, if new, 500; if old, 225.
Six months: Price by mail, \$3.90; by carrier, \$3.90; votes allowed, if new, 600; if old, 250.
Seven months: Price by mail, \$4.55; by carrier, \$4.55; votes allowed, if new, 700; if old, 275.
Eight months: Price by mail, \$5.20; by carrier, \$5.20; votes allowed, if new, 800; if old, 300.
Nine months: Price by mail, \$5.85; by carrier, \$5.85; votes allowed, if new, 900; if old, 325.
Ten months: Price by mail, \$6.50; by carrier, \$6.50; votes allowed, if new, 1000; if old, 350.
Eleven months: Price by mail, \$7.15; by carrier, \$7.15; votes allowed, if new, 1100; if old, 375.
Twelve months: Price by mail, \$7.80; by carrier, \$7.80; votes allowed, if new, 1200; if old, 400.

SUNDAY JOURNAL ONLY.
Twelve months: Price by mail or by carrier, \$2.50; votes allowed, if a new subscriber, 400; if an old subscriber, 150.
Six months: Price by mail or by carrier, \$1.25; votes allowed, if new, 175; if old, 75.
Three months: Price by mail or by carrier, 65 cents; votes allowed, if new, 65; if old, 25.

SEMI-WEEKLY EDITION.
This edition of The Journal is sent to subscribers by mail only. Price for 12 months, \$1.50; votes allowed, if new, 500; if old, 250. Six months: Price 75 cents; votes allowed, if new, 250; if old, 100.

NOMINATE A FAVORITE
Or several, if you like. If you nominate more than one, select your nominees from different localities.

Town.....Date.....

PUBLISHERS OREGON JOURNAL, PORTLAND, OREGON.
I nominate the following as suitable to enter your contest for scholarships and cash awards:

NAME	AGE	ADDRESS	Name of School or College Wanted

(Any young person between the ages of 10 and 30 having good character is eligible to enter this contest.)

Nomination Made by.....

Whose Permanent address is.....

Whose Telephone (if any) is.....

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It has introduced to Pacific Coast Hoteldom the Electric Grill, Pneumatic Tube Service, Magneta Clock System and today represents the farthest advance of science in hotel service in America.

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Cut This Out and Mail to The Journal Portland Oregon At Once