WHAT MAY BE SEEN THROUGH THE YERKES TELESCOPE.

Powerful Glass at the Williams Bay Observatory-Brings the Moon Within Sixty-four Miles of the Earth-Close Study of the Planets.

For nearly two years the big eye of the Yerkes telescope in the observatory of the University of Chicago, at Williams Bay, Wia., has been spying out the secrets of the stars. It has looked one-fourth further into space than any instrument devised before it. Night after night the huge, grim Cyclopean surface. eye swings slowly round in its ponderous frame, crouched in its big white dome, and keeps a sleepless watch upon the heavens. The great dome is open to the sky. The ponderous tube swings slowly, imperceptibly, with the turning gaseous cloud wrappings and thrust of the earth from sunset to sunrise again. Shut in the black shaft which supports the barrel of the refractor is a clock, a wonderful plece of mechanism, which tells off the motion of the globe on its axis. The telescope shifts, hair breadth by hair breadth, guided by the clock, and making the circuit of the heavens, with tireless eye fixed all night long upon a single star. There is no escape from the big eye. As the earth swings in one direction, the eye silently alters its focus, never aweary

What can the ordinary observer see through the largest and most perfect telescope in the world? What has the big lens so far revealed to the astronomers who have watched it as an oracle since the first day it peered into space? itself is the history of the evolution of etc.

know a telescope from a barrel?

or swung around on its axis.

and never asleep.

IN THE STARRY SKY. straight line to the right, appeared four Massachusetts, attracted the attention A STARTLING OBJECT LESSON. moon. While at Lick Observatory Pro- returned to his home, and died within fessor Barnard discovered the fifth a few days. satellite of Jupiter, but was unable to study it to any advantage. The moon very clearly to the eye of the as-

> great accuracy. great ball, like a swarm of golden bees. The moon was too full for a good view, and showed merely a pale yellowish

About noon Prof. Hale had the telescope turned on the sun. No sun spots were visible, so the telescope was directed along the disk of the sun at the flames which burst through its dense, pink background, shading into dark ter. They last for years and are even hooked yellow flame half obscured by el's-hair brush. Taking off the glass what looked like gray vapors. There covering one evening, Prof. Burnham darting high, sinking down, or again mindedly breathed into the aperture. merest trifles he reads the story of a equipped with all other accessories. million years.

small marbles, its satellites. The color of English scientists, and he and his of the planet was almost white, a very family far excelled the German artlight yellow. Across the planet appear- ists in glass. Mr. Alvan G. Clark, the ed three faint purple streaks, on the last of his family, attended the dediorder apparently of the man in the cation exercises of the Yerkes glass,

The eye piece of a telescope, through which the observer looks, is the part Yerkes telescope brings out this fifth of the instrument which magnifies the objects seen. The number of diametronomer, and Prof. Barnard has been ters to which an object can be magniable to observe it and measure it with fied to advantage depends largely upon the perfection of the object glass. In Star clusters seen through the Yerkes the Yerkes telescope a glass which telescope are wonderfully beautiful, a magnifies 3,700 times bas been employed successfully. Through this the moon would appear as it would to the naked eye at a distance of sixtyfour miles. The eye piece ordinarily

used magnifies 460 diameters. Incredible as it seems, the delicate measurements of the movements of the stars are calculated by cobwebs nicely stretched and forming the real measuring apparatus of the micromecleaned of dust with a delicate camwas an apparent movement, the flame was examining the webs. He absentbending over to lick the round disk of breaking one of the filaments, which the sun. Curious as it may seem, a it took considerable time to replace. glimpse through this powerful glass is At the Yerkes telescope a device has more wonderful to the astronomer been perfected for lighting the threads than to the man who looks millions of with electricity and making them a miles into space for the first time. To faint red color. A white light on them the astronomer each object is full of would be so brilliant as to injure the details which escape the untrained eye. eye of the observer. In addition to Every line has a meaning, and in the its micrometer, the big telescope is you.' such as spectroscopes, spectographs, The history of the Yerkes telescope spectro heliographs, photo heliographs.

How a Mexican Alcalds Learned Some

of the Difficulties of Railroading. The old Southwestern engineer was telling tales of by-gone days down in Mexico and dwelling upon the Mexican's ignorance of railroading. "Once, near Victoria," said be, "we

were loaded heavily with Iron, and we hit the usual drunken Mexican asleep on the track. Them folks used to think a roadbed better'n a wool mattress. It was down grade and around a curve, and we were going at a fair clip, and, though we had air brakes, we couldn't hold up in time. We ground him up, and at Victoria, ten miles further on, we didn't have any better sense than to report it. Of course, the train was sidetracked and we were put in jail. Next day we were hauled up before the alcalde. He was a little, dried up man, with mahogany skin and snow-white mustache. It bristled fiercely, but I noticed that his eye twinkled a good deal and I sorter cottoned to him right away. We told him that we couldn't stop the train in the time allowed us, and it was the truth. He said, through an interpreter, of course:

"'I've heard all this before. Five of my people have been killed by trains in six months and I have let the train crews go. They said they couldn't stop. I'm going to see about this. Your train is on the sidetrack, coupled and loaded. We'll fire up and go back to the place where you killed Vicente. We'll run down at the same speed. When you come near to the curve you must try hard to stop. I will go in the cab with

"Well, we fired up and went back three miles beyond the death spot, Then we started forward again. Of course it was not my business to run too slowly. I wanted to show the alcalde that stopping in the space described was an impossibility. Old 93 was a quick engine, and inside of two miles, it being a down grade, we were doing a two-minute clip. We struck the curve at forty miles an hour. The alcalde had never in his life been on a train, and he was leaning out of the cab window, waving his big straw hat and shouting 'Viva! Viva! As we sighted the spot where Vicente had been pulverized the airbrakes went on like the clamp of death. I was thrown to the floor of the cab myself. As for the alcalde, he shot through the window like a rocket, turned six somersaults. and lit on his back in the sand thirty feet away. The train ground to a standstill, yards beyond the bloodstained ties. He came limping up, brushing the sand out of his white hair. I remember that his mustache was all bent down on one side. He looked up at me and said simply, 'Valga me Dios!' which is about equivalent to 'Dern my buttons!' We went back to town; he discharged us all and invited us to dinner with him. We stayed and pulled out that evening. Everybody ran pretty much on his own schedule in them

KID-GLOVE OR COAL-OIL.

Iwo Routes Through Life Confront the Young Man. Frank Thomson, the President of the Pennsylvania Railroad, who died a from the control of its great moneyed interests to the fitting of a screw into an engine.

A wealthy man once brought his son to him, saying, "My son has gone for him where he will succeed?" Mr. Thomson was stlent for a moment, and then said, "That depends

on whether he wants to take a kidglove course or a coal-oil course" "What do you mean?" "If he takes a kid-glove course, he goes in as a clerk to perform a certain amount daily of writing, for which he

will be paid a salary. In the other course he goes into the shops and learns the whole business, from the lowest drudgery up. When he has finished he will know his trade, a valuable one, but his hands will be stained with coal oil." Mr. Thomson himself, when a boy,

chose the "coal-oil course." He worked four years in the car-shops at Altoona, barely earning his living, but learning the mechanical details of the business. Thomas Scott, the famous rallway manager, was a friend of the young man, but gave him no help, leaving him to work his own way. At the end of

the four years he sent for him, and

gave him a responsible position on the. Pennsylvania Railway. The civil war broke out that year. Colonel Scott was appointed assistant Secretary of War, the Government believing that his experience in the railway work would have taught him how to handle in transportation great bodles of troops. A problem of peculiar

"I know of but one man who can manage this business." said Colonel Scott to the Cabinet, "He is not here." "Send for him then," said Mr. Stan-

difficulty of this kind arose.

The next evening Frank Thomson, then only 20 years of age, appeared. "Do you mean to tell me," cried Mr. Stanton, somewhat sneeringly,"that we have waited twenty-four hours for this red-headed stripling?"

"He will do the work," replied Scott, quietly. And he did it, Mr. Thomson was probably peculiarly qualified by nature for his especial business; but there is a strong prejudice among American boys against a preference for clerical duties as being

more refined. It is a fatal mistake. Great prizes now await the thoroughly equipped, practical man in work which lies outside of mere book learning, and the boy is wise who grapples' with this work with his bare hands and tries to win them.-Youth's Companion.

Whale in Shrimp Net. A small bottle-nosed whale 11 feet long and 6 feet in circumference has been captured off the Essex coast, and is now to be seen on the beach at shore by some local fishermen, who managed to take it by tangling it up

Its vitality was so great that it lived rushing toward the star Vega, or Al- for fifty hours after apture. The idea pha, of the Lyre, at the inconceivable of tackling a ton of lively whale with rate of ten miles a second. Vega is a shrimp net does not in the least imone of the most beautiful stars in the press its captors, who, says our correfarms in Australia are as large as the spondent, "would go for a sea serpent whole of England.

CLAIMANTS FOR PENSION
Write to NATHAN PENSION
BICKFORG, Washington, D. C., they will receive quick replies, B. 5th N. H. Vols,
Staff 20th Corps. Presecuting claims since 1878. Its Name Against It. "That new ladies' magazine proved a SURE CURE FOR PILES

"Did it? What was the cause?" "Why, it was called 'The Age of TCHING Piles produce moisture and cause itching. This form, as well as Blind, Bleeding or Protruding Piles are cured by Dr. Bosanko's Pile Remedy Stops itching and bleeding. Absorbs tumors. See a Jar at druggists or som by mail. Treatise free. Writame about your case. DR. BOSANKO, Philada, Pa.

Experiments have been going on with an ingenious machine which shuts record is about a sixth of a second.

A Contributory Cause Sagebrush Sam-Yer say Bill died of a lame arm. How could that be?

by Deeds We Do." Cactus Charlie-Why, yer see, his arm wuz so stiff that he could'nt draw his gun quick, an' the other feller got the drop on him .- N. Y. Journal. The New Torpede. A Swede has invented one operated by invisible rays of light, which enables it to explode at will. In like manner Hostetter's Stomach Bitters conquers all stomach troubles. When a sufferer from constipation, dyspepsia or liver complaint take the Bitters he is sure of a cure. A private Revenue Stamp covers the neck of the bottle.

Be sure to get only Hood's, because

At Washington, R. I., the Livingstone woolen mill is running night and

One size smaller after using Allen's Foot-Ease, a powder to be shaken into the shoes. It makes tight or new shoes feel easy; rives instant relief to corns and bunions It's the greatest comfort discovery of the age. Cures swollen feet, blisters and call ous spots. Allen's Foot-Ease is a certain lous spots. Allen's Foot-Lase is a certain cure for ingrowing nails, sweating, smarting, hot, aching feet. We have 30,000 testimonials. All druggists and shoe stores sell it. 25c. Trial package FREE by mail. Address, Allen S. Olmsted, Le Roy, N. Y.

In the South within the past five months \$17,000,000 in new capital has been invested in cotton milis.

My doctor said I would die, but Piso's Cure for Consumption cured me.—Amos Kelner, Cherry Valley. Ills., Nov. 23, '95.

The Dongherty County Manufacturing Company may soon be incorporated to build a cotton mill at Albany, Ga. Remember that you can buy Jesse Moore

A A. Whiskey for the same price that is paid for ordinary whiskey. For sale by all first-class dealers and druggists. Philadelphia collected \$103,000 as

FITS Permanently Cured. No fits or nervousness after first day's use of Dr. Kline's Great Nerve Resturer. Send for FREE \$2.00 trial bottle and treatise. Dt. R. H. KLINE, Ltd., 930 Arch street, Philadelphia, Pa. Pulls With His Might.

In 1850 it was estimated that the

The Westminster Presbyterian church of Jersey City closes its doors Eastern Africa, where the climate is left Scranton, N. Y., the other day, on the ground of extreme cruelty. at the beginning of the service, and most dangerous to the white men, re- the whole party traveling on one full- Among other brutal acts he was in the they are opened but once again during cently offered positions to civil en- fare railroad ticket. There were the habit of sleeping with a hammer under the service to admit late comers. It gineers at \$1,125 per annum, station mother and her three pairs of twins, his pillow, and with this he frequentis stated that this is done to correct masters at \$1,000 and locomotive driv- none of the children being up to the ly threatened, during the night, to he habit of tardiness.

A friendly wrestling match between death of the former.

The twelfth annual census will be taken next year, and it is estimated that of St. Gothard, on the line of the death of Mrs. Rose Funk, a resident of 22,000 members. that it will show a population of over railroad between Lucerne and Milan. Bloomington, Ill., Portions of her 77,000,000 in the United States.

A novel way of pairing guests at stythe sonp is served the guests unmask. 1,000 feet deep.

"Honor is Purchased

Deeds, not words, count in battles peace as well as in war. It is not what we say, but what Hood's Sarsaparilla won many remarkable victories over the arch enemy of mankind - impure blood.

Hood's Sarsaparilla Never Disappoints

The Approached-Why don't you go

o work? The Tramp-Alas! kind sir, I never earned anything but a trade.-Philadelpha North American. DEAFNESS CANNOT BE CURED

By local applications, as they cannot reach the diseased portion of the car. There is only one way to cure deafness, and that is by constitutional remedies. Deafness is caused by an inflamed condition of the mucous lining of the Eustachian Tube. When this tube gets inflamed you have a rumbling sound or imperfect hearing, and when it is entirely closed deafness is the result, and unless the inflammation can be taken out and this tube restored to its normal condition, hearing will be destroyed lorever; nine cases out of ten are caused by catarrh, which is nothing but an inflamed condition of the nucous surfaces. catarrh, which is nothing but an inhamed condition of the mucous surfaces.

We will give One Hundred Dollars for any case of Deainess (caused by catarrh) that can not be cured by Hall's Catarrh Cure. Send for circulars, free.

Sold by Descriptor 156-16.

Sold by Druggists, 75c Hall's Family Pills are the best.

Improved Train Equipment.

The O. R. & N. and Oregon Short Line have added a buffet, smoking and library car to their Portland-Chicago through train, and a dining car service has been inauguarated. The train is equipped with the latest chair cars, taxes on trolley company dividends last day coaches and luxurious first-class heart of the and ordinary sleepers. Direct connection made at Granger with Union Pacific, and at Ogden with Rio Grande line, from all points in Oregon, Washington and Idaho to all Eastern cities. For information, rates, etc., call on Hush! Don't You Hear the Baby Cry? Putis With His Might.

A horse may pull with all his might, but never with his mane.—Chicago

H. Hurlburt, General Passenger Agent, Make mother's milk mildly purgative. Druggists. 10c, 25c, 50c.

> Farm hands in Yucatan wear linen they can afford to be tidy.

> A German railroad now building in ers \$900.

The coarsest human hair is the red. the 250th to the 600th part of an inch. aids at the surface.

The longest tupnel in the world is The highest active volcano in the

lish dinners has come in vogue in New world is that of the smoking moun-York. The guests are masked, and tain, Popocatapetl, in Mexico. It is wind blew a baby carriage on to a rail- to escape it made a high leap, and as each gentleman chooses a lady and es- 17,784 feet above the sea. Its crater is road track in front of a train, and the it fell into the boat its tail struck Mr. corts her to the dining room. When three miles in circumference, and it is two children in the carriage were Mygott, knocking him unconscious for

The Denver & Rio Grande railroad has recognized the great interest which has lately been aroused in these wonderful ruins, and will furnish on application to R. C. Nichol, General Agent, 251 Washington street, Portland, Or., does, that tells the story of its merit. It has a pamphlet describing the ruins, and the best way to reach them.

The Cliffdwellers and How to Reach

These historical ruins are located on the line of the Denver & Rio Grande railroad.

Parties going East should avail themselves of the opportunity of purchasing tickets via this line, the scenic line

Mothers will find Mrs. Winslow's Soothing Syrup the best remedy to use for their children during the teething period.

A Palace of Salt. Utah's glittering salt palace, with its midway plaisance and other attractions, opened at Salt Lake City August 21. The Rio Grande Western, the only line running through the Mormon capital, has arranged to give holders of all classes of tickets a day stopover at Salt Lake in order that they may have an opportunity of visiting this wonderful structure, built of salt crystals taken from the brine of the

Great Salt Lake itself. The inauguration of the Rio Grande Western's dining car service, doing away with the necessity of stopping trains at eating stations, leaves nothing to be desired for an ideal trip across the continent; for the equipment and train service are equal, if not superior, to those of any of the transcontinental lines. Furthermore, no line traverses any section of the American continent where there is so much grandeur of scenery. A daylight ride through the heart of the Rockies leaves nothing to

For information as to rates and for descirptive pamphlets, address J. D. Mansfield, General Agent, 253 Washington street, Portland, Or.

Radiation takes place more rapidly

consumption of pure alcohol in France garments of spotless white. When they from the surface of plants than from equaled 11/2 liters per head of the pop- become even slightly soiled they hast- the air about them, so that on very while the assessed valuation of the enulation. In 1896 it had increased to en to change them. Work is plentiful still nights the plants are sometimes tire property of the county in sheep and 4.19 liters, apart from the use of wines, there, farm laborers are well paid, and several degrees colder than the surgoats is \$201. rounding air. A family comprising seven person

> half-fare age of five years. pound her into meensibility.

Up-to-date suits for divers have telebrothers, John and Frederick Singer, and blonde hair is the finest. The phone attachment so that the sub- last year cost about two cents a running in Webster City, Ia., resulted in the thickness of human hair varies from merged person can converse with his foot.

Its length is nine and one-haif miles. flesh had become as dry and hard as

For eighteen years I suffered with weakness peculiar to my sex, I could neither sleep nor eat well, and was reduced to a mere skeleton. My skin was muddy, my eyes heavy and I was dizzy much of the time. De-I was dizzy nutro to the time. Dec-tors prescribed for me without avail; medicine seemed to do me no good. I was at the brink of despair when a friend told me what Dr. Williams' Pink Pills for Pale People had accomplished in a case similar to mine. bought a box and took them. bought more and took them until I was well and strong. Dr. Williams' Pink Pills for Pale People brought me new life and I recommend them to every suffering woman."—From the Republican, Peru, Ind.
Plain Talks to Women, 2 new book, sent sealed on request.

Dr. Williams' Pink Pills for Pale Peopla are never sold by the dozen or hundred, but aiways in packages. At all druggists, or direct from the Dr. Williams Medicine Co., Schenectady, N. Y., 50 cents per box, 6 boxes \$2.50.

Irish railways have been moving toward consolidation.

States supplied 15 per cent of the world's coal consumption; now they supply 30 per cent.

The dogs in Bamwell county, S. C., are returned at a valuation of \$12.830.

A lady at Green Haven, N Y., secured a separation from her husband

To clean asphalt pavements in Utica

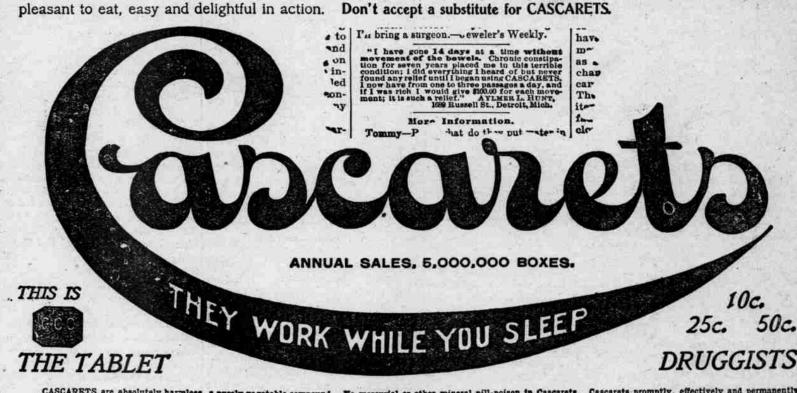
There are 242 German Baptist An uncommon disease caused the churches in the United States, with

An immense tarpon was caught by A. O. Mygott, at Boca Grande pass, Florida, and he was trying to haul it In Rockford, Ill., recently, a gust of into his boat. In its vigorous efforts

Constipation

MAD PROPOSITION PR

Caused by over-work! Over-eating! Over-drinking! No part of the human body receives more ill treatment than the bowels. Load after load is imposed until the intestines become clogged, refuse to act, worn out. Then you must assist nature. Do it, and see how easily you will be cured by CASCARETS Candy Cathartic. Not a mass of violent mercurial and mineral poison, but a pure vegetable compound that acts directly upon the diseased and worn out intestinal canal, making it strong, and gently stimulating the liver and kidneys; a candy tablet,



CASCARETS are absolutely harmless, a purely vegetable compound. No mercurial or other mineral pill-poison in Cascarets. Cascarets promptly, effectively and permanently cure every disorder of the Stomach, Liver and Intestines. They not only cure constipation, but correct any and every form of irregularity of the bowels, including diarrhox and dysentery. Pleasant, palatable, potent. Taste good, do good. Never sicken, weaken or gripe. Be sure you get the genuine! Beware of imitations and substitutes! Buy a box of CASCARETS to-day, and if not pleased in every respect, get your money back! Write us for booklet and free sample! Address STERLING REMEDY COMPANY, CHICAGO or NEW YORK.

BUY THE CENUINE MANUFACTURED BY CALIFORNIA FIG SYRUP CO. EF NOTE THE NAME. ARTERSINK -None so good, but it costs no more than the poorest.

YOUNG MEN plainty wrapped, on receipt of price, by

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French Female Pills.

YOUR NERVES NEED some kind of upbuilding—the hurry and worry of the 20th century life pulls down the health, nakes a nerve food necessary. Will put your nerves in a healthy condition—it will improve your appetite and digestion. \$1.00 per bottle at your druggists.

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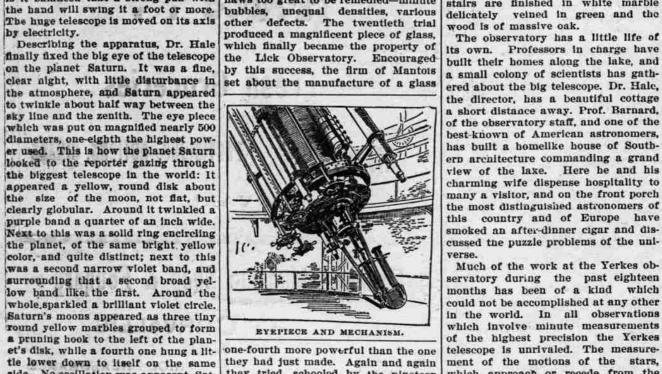
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urn's rings and satellites apparently failures in making the Lick glass. were of the same yellow color of the Each trial required several months. planet. Sometimes these rings can be At last the patient French makers discerned in their colors and form a were rewarded with two disks fortybrilliant rainbow about the planet. two inches in diameter and as nearly colorless and flawless as glass was

From the outer rim of the planet proper to the outer edge of the outside ring, ever made. These blocks of glass were the distance, through the telescope, made into the lenses now in the eve looked to be about two inches. It is, in of the Yerkes telescope. The glass fact, 172,000 miles! Looking through was ground and finished by the firm the huge refractor, the human eye is of Alvan Clark & Sons, Cambridgeable to discern a space of 172,000 miles port, Mass. as two inches in the area of the heav- Just as Americans have never been

ing violet rings about the planet form of optical glass, so the French have the zenith on any fair evening. Proba beautiful feature of the view. These not been able to polish the disks per- ably since the life of man began, perrings, however, are due to imperfect fectly after they are cast. For four haps since the universe was born, our tions which exist in every telescope, years Mr. Alvan G. Clark worked at solar system has been speeding toward and which astronomers would be only the lenses. It may be that another this star. In the life of a generation The telescope was next turned upon made. The secret of the polishing miles nearer its destination. But in Jupiter, the largest planet in the solar has been handed down for three gensystem, and as big as all of the other erations in the Clark family. Previous this approach would not be perceptiplanets put together. The distance from to the work of the Clarks a German ble. The journey, so far as mortals this earth to Jupiter is a trifle of 400. family—the Frauenhofers—had pol- are concerned, must be eternal. 000,000 miles, and it takes forty-three ished these glasses. For a century

YERKES OBSERVATORY AT WILLIAMS BAY, WIS. What does the finest telescope in the an eye, of the most wonderful artifiworld look like to a man who doesn't cial seeing apparatus yet devised. This main dome and its sleepless eye, the great eye is 200 times as large as the Yerkes Observatory would be a big A reporter for the Chicago Inter human eye. That is to say, its diam- institution if it had only its minor few weeks ago, was known as one of Ocean visited the Yerkes observatory eter is forty inches, while the diame- glasses to depend upon. One of these the foremost of living railway manaof the University of Chicago at Will- ter of the pupil of the human eye is is a twelve-inch refractor mounted in gers. There was no part of the busifams Bay for the purpose of answering one-fifth inch. It is made of two sep- the north dome. A twenty-four inch ness with which he was not familiar. these questions. A big telescope is all arate lenses, one of crown giass, two reflector most human. It is furnished with a and one-half inches thick at the cen- the south dome. A sixty-inch reflectcurious sixth sense, a marvelous sector, three-fourths of an inch thick at ing telescope is also being built now ond sight. Mysterious, uncanny, huge, the edge, and weighing 200 pounds; in the instrument shop of the observait powerfully impresses one and grows the other of flint glass, one and one- tory, and will be mounted in another more wonderful on closer acquaintance. half inches thick at the center, two building at some future time. As it through college. Can you make a place The whole observatory is built about inches thick at the edge, and weighing stands equipped the Yerkes Observaits monster eye. For the eye alone are 300 pounds. One of these glasses is tory cost \$500,000. It is the most comthe motors, the flying pulleys, the mov- convex and the other plano-concave. plete in the world, with a refracting able dome, the rising floor, and all the These two lenses are mounted eight telescope forty inches in diameter. curlous instruments varying from the and three-sixteenths inches apart in Next in order is the Lick Observatory delicately stams spider web of the the end of a big steel tube sixty-two on Mount Hamilton, with its thirty-six micrometer to an apparatus weighing feet long, about forty-two inches in inch refractor, and third in order is fifty tons. Without the huge eye every- dismeter, and weighing six tons. No the Imperial Observatory at Pulkowa. thing would be useless. This eye is figures, however, can properly express the lens of the refracting telescope in the size, the delicacy, the almost huthe main tower at the western end of man intelligence of the great machine. the observatory. It is reached by a The object glass of this telescope is lies due east and west. A great nineflight of marble steps from the main as delicate as a human eye. A super-corridor. Entering the building in the fine silk handkerchief rubbed across end and twenty-six foot and thirtyevening, all is quiet and dimly lighted, its surface would destroy it. And yet, foot domes terminate the north and the main tower quite dark. About with proper care, it will never wear. south transepts. The body of the midway of the round dome is the ris- The glass for each lens was cast in building is divided into laboratories, ing floor, over which the telescope Paris by the firm of Mantois, celebrat- libraries, offices, computing rooms and swings. It is a triumph of mechanical ed for the manufacture of optical photographic dark rooms. The ground skill, the only satisfactory means de- glass. Up to the time of the Lick tele- floor is equipped as an instrument vised for reaching the eye piece of a scope they had not been able to cast shop, making this the only observabig telescope as it is tilted up and down a solid, perfectly achromatic block of tory in the world which manufactures glass more than thirty inches in diamits apparatus under the direct super-

The telescope itself is a big fron tube eter. Then came the American order vision of those who use them. This sixty-two feet long, painted black. In for two lenses thirty-six inches in di- gives unexampled facilities for the the end which looks out through the ameter. The Frenchmen could but application of new methods of redome is the object glass or refracting try, although they were skeptical as search, and already more than a dozen eye, forty inches in diameter, or four to the outcome. Nineteen times the intricate machines have been coninches wider than the lens of any other trial was a failure. For months the structed and used successfully. The telescope of the kind in the world. The mold was allowed to cool impercepti- observatory is built of yellow brick, iron tube, with its lenses, finder, eye bly each day until all the heat had ornamented with fluted columns carved pleces and other appliances, weighs gone out of it. Then came the test. at the bases with gargoyles and other nearly twenty tons. And yet so nicely Nineteen times the glass contained

charming wife dispense hospitality to

Much of the work at the Yerkes obcould not be accomplished at any other which involve minute measurements telescope is unrivaled. The measureastronomy, Dr. Hale, Prof. Frost and Southend. It was surprised near the Mr. Ferdinand Ellerman have applied

When, where and how, if ever, did diameter. At its side, in a nearly Alvan Clark, a portrait painter in omy.

Home of the Telescope.

The building is in the form of a Latin cross, the longer axis of which

symbolic devices. The corridors and is it balanced that a strong pull with flaws too great to be remedied-minute stairs are finished in white marble delicately veined in green and the wood is of massive oak. The observatory has a little life of Its own. Professors in charge have a small colony of scientists has gathered about the big telescope. Dr. Hale, he director, has a beautiful cottage a short distance away. Prof. Barnard.

of the observatory staff, and one of the best-known of American astronomers, has built a homelike house of Southerp architecture commanding a grand view of the laxe. Here he and his many a visitor, and on the front porch the most distinguished astronomers of this country and of Europe have smoked an after-dinner cigar and discussed the puzzle problems of the uni-

servatory during the past eighteen months has been of a kind which in the world. In all observations of the highest precision the Yerkes side. No oscillation was apparent. Sat- they tried, schooled by the nineteen which approach or recede from the earth, are of great importance, as data gathered from these throw light upon the movements of the entire solar system. To this problem, the greatest in

themselves. The sun, with all its attendant plan- in an old shrimp net. ets comprising our solar system, is ens! To the ordinary observer the shin- able to cast perfect and large disks heavens and can be seen now near such perfect glass will never be the sun comes hundreds of millions of many generations, to all appearances

out."-Philadelphia Bulletin. minutes for its light to reach the earth. after the death of the last Frauenho this journey begin; when, where and over a man's eyes so that the eyelid Jupiter's disk looked about as big as a fer it seemed that the art of polish how, if ever, will it end? is the great as it works opens and closes a chronolarge marble, probably two inches in ing optical glasses was lost. Then est of the unsolved problems of astron- graph. So far the quickest wink on

Gvertax d Patience. In an Aberdeen bookshop an old lady was inquiring for a copy of the Bible, and the shopkeeper brought forward one at half a crown. But the old lady wanted something cheaper. A copy at work which involves manual labor, and 18 pence was pre-luced, containing illustrations. But the illustrations, she averred, entailed superfluous expend-8 e. "Then here," said the shopkeeper, "is a copy for a shilting, which contains a' that's necessary for salvation." He descended from the ladder and laid it befo e his customer. hae ye no something a wee bit cheap

Home Run Strikes.

"For a 'V' or an 'X' usually."-Chi

It is said that some of the sheep

ag) Evening News.

er?" asked the old lady. "Wumman wmmman!" said the shopman, "ca" upon the Almichty to come down and sell ve his 'ain publications, for I can dae noe mair!'-Troy Times. Diggs-So your daughter is married Biggs--Yes. "And how does your new son-in-law strike you?"

with a half inch rope.'

complete failure." Woman,' and, of course, that's something the women don't want to come

CURES WHERE ALL ELSE FAILS.

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