

DR. PEATE'S GREAT GLASS

A Huge Concave Mirror Made For the American University.

From The Philadelphia Ledger. While on his way to the late conference of astronomers and astrophysicists at Williams Bay, Wis., the Ledger's astronomical correspondent was privileged to spend a day at Greenville, Penn., with the Rev. Dr. John Peate, the creator of the huge speculum destined for the reflecting telescope of the American University at Washington.

His ministerial career for upward of forty-five years—the doctor is now in his seventy-eighth year—has been exceedingly fruitful, and he has held the most important position within the bounds of the Erie Conference of the Methodist Episcopal Church. It was during a session of this body, under the Presidency of Bishop John F. Hurst, that Dr. Peate's crowning optical work had its inception.

The doctor had devoted his spare time for many years to the study of the process of grinding and polishing concave mirrors, and, entirely unaided by extraneous suggestions, had completed a number of specula, ranging in diameter from one to thirty inches. One of his twelve-inch mirrors is mounted in an observatory in the rear of his house.

The extraordinary offer was entertained for a year before it was accepted, but on July 15, 1898, the work was commenced upon a rough disk, 62 inches in diameter and 7 inches thick, furnished by the British Optical Works. Hereofore, all such costly moulds had been imported, but both because of patriotic and economic reasons, the Butler people were induced to make the attempt to produce the concave glass disk ever designed for telescopic purposes.

Other parties had refused to undertake it, or the required an installment of several thousand dollars. Four separate moldings were made into a mould with an all proved unsuccess. The disk, being during the annealing; but the fifth was triumphant owing to a luminous suggestion by the doctor and at the end of two weeks it was found to be properly annealed and without fracture.

When transported to the observatory, it was prepared for it, a dozen men carried it to the turn-table upon which it was to receive its treatment, necessary to transform it into a vast concave mirror.

A piece of ground had been purchased in the suburbs of Greenville and a shop erected with a test-bench some 80 feet long and 12 feet wide. The concrete foundation and the brick chimney were the work of the doctor's hands. The test-bench was a table and a frame supported the cast-iron mirror. The test-bench was a table and a frame supported the cast-iron mirror.

An hour or two of such treatment so disturbed the equilibrium of the glass that it was usually suffered to remain rest until the next morning, when by means of a hinged device, it was placed upon edge to be tested by the Foucault method in the adjoining gallery. Boxes of steel and natural emery, and bottles used in successive "triturations," filled several shelves of the adjoining room. Here and there a keg of pitch was visible.

to the Yerkes Observatory were shown a disk of glass on its turntable, 62 inches in diameter, just a little smaller than the Peate mirror, but eight inches in thickness. The only serious question about the latter is that it is so much thinner, is that of flexure under its own enormous weight, and the consequent distortion of the image. But competent optical engineers are very confidently as to this, Mr. W. H. Richey, of the Yerkes Observatory, declaring that it will give no trouble. It is scarcely possible to convey a sense of the immense labor and patience required to bring the enterprise to perfection.

THE VOTERS' LISTS. Copy of a Circular Letter Issued by the Queen's Printer at Ottawa. Through the kindness of La-Croix, P. O. M. P., the Colonist is able to lay before its readers this morning the following copy of a circular letter issued by the Queen's Printer at Ottawa, in regard to the voters' lists to be used at the forthcoming federal elections. It ought to be read carefully by everyone.

Queen's Printer's Office, Ottawa, September 6, 1900. Sir: As there appears to be in some places a misconception concerning the voters' lists in their relation to territorial electoral divisions, I forward to you 20 copies of the maps of our electoral districts, showing its boundaries under the existing Dominion law. The lists which have been printed are the provincial lists as last revised, and I authorize existing to change those lists in case of doubt or alter them in any way, while the territorial electoral divisions remain the same as under the old act, polling sub-divisions within those limits and the voters who vote in such cases, as they appear on the provincial lists. It happens that in many instances, more especially in Manitoba and British Columbia, where changes are rapid, that the territorial electoral divisions of the province do not coincide with those for the Dominion. It is not possible to acquire local knowledge could disentangle them.

There is no officer, however, at Ottawa who is authorized to disentangle them in such cases; even if he could have sufficient local knowledge to do it correctly, it would practically amount to a revision of the district affected, and might lead to serious complications at the time of an election.

Under these circumstances the only way open was to print the lists as they were received, leaving to the returning officer the duty of obtaining from the custodian of the provincial voters' list a corrected list in those few cases where a provincial polling division embraces parts of two or three electoral districts.

The chief difficulties in this respect arise in Manitoba and British Columbia, where there are very few discrepancies, and there are none in the maritime provinces. I enclose you a copy of the French and Election Acts for the purpose of calling your attention to certain provisions of the law, viz: 1. That the polling sub-divisions are to be the provincial polling sub-divisions; 2. That lists are to be the provincial lists; 3. These lists are sent by the provincial officers to the Clerk of the Crown in Chancery; 4. The Clerk of the Crown in Chancery is to send them to the Queen's Printer to be printed.

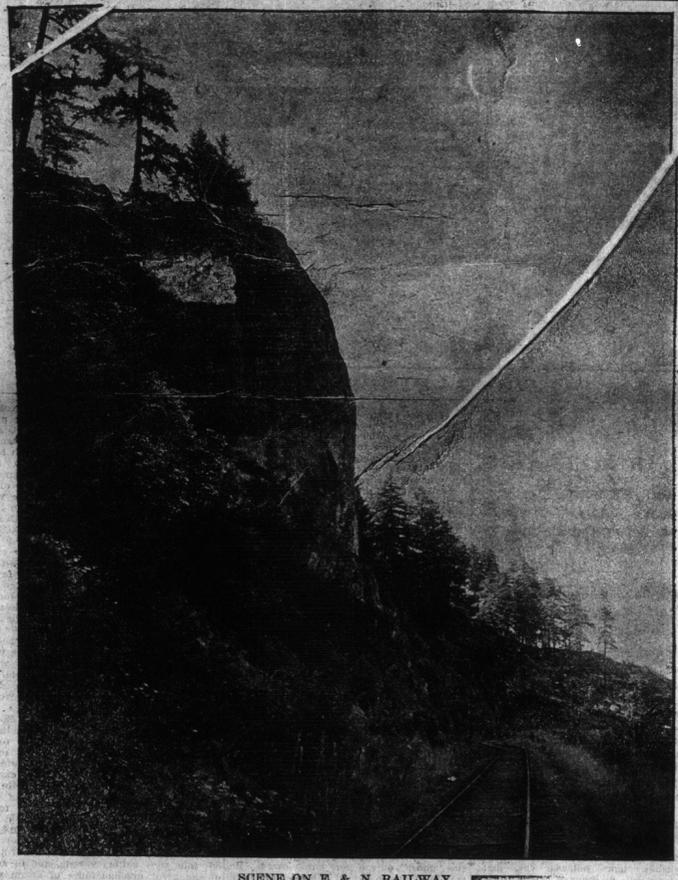
5. The returning officer at Ottawa is authorized to make changes in these. When whole municipalities pass from one to another, it is possible in the older parts of the country that she said "No" amid general hilarity—because they knew the tender care, she immediately burst into tears and sobbed that she meant "yes." But it was too late. "The marriage is off," the maire pronounced inflexibly. You can start another one by a new three weeks' publication of banns, but the press-

Your most obedient servant, S. B. DAWSON, Queen's Printer, Hon. E. P. Prior, M.P.

"Quick lunch." is one of the commonest of city signs. The sign doesn't say "a healthy lunch of good food" and that is the food apparently is not considered. It's just a "quick lunch," eat and get away in it as you wonder that the stomach is not down! Food is thrown at it, sloppy, indigestible and unwholesome food, very often, and the stomach has to do the best it can. Normally there should be no need for medicine for assistance for the stomach. But the average method of life is abnormal, and of course the stomach will always have a demand for Dr. Pierce's Golden Medical Discovery. It is the one medicine which can be used on to cure diseases of the stomach and other organs of digestion and nutrition. It is not a cure-all. It is a medicine designed for the stomach and to relieve through the stomach chronic diseases of ordinary size, but it is also a powerful solvent of the stomach and digestive and nutritive can start another one by a new three weeks' publication of banns, but the press-

Their First Loss.—In the death of Mr. E. B. Martin, the newly-formed Maritime Society lost its first member through death. The late Mr. Martin was one of the most popular members of the society and a member of the English business spirit. He was extremely hard to find any one to fill the duties of the office as he did. He was extremely hard to find any one to fill the duties of the office as he did. He was extremely hard to find any one to fill the duties of the office as he did.

WANTED.—ACTIVE MAN, OF GOOD character, for old established manufacturing whole. The famous Lord Ross reflector has a speculum six feet in diameter, but it is metallic, being made of an alloy of copper and tin, and weighs some four tons, being exceedingly brittle. Visitors



SCENE ON E. & N. RAILWAY.

The French Marriage.

It Differs Greatly From the Plan of Marriage Followed in Canada.

Courtsip Would Not Suit the Young People of This Country.

Minneapolis Times.

Paris, Sept. 1.—A marriage was being performed a few days ago at the Marais of Gentilly in France. The bridegroom, who, like a young man of spirit, answered energetically, "Yes!" But when the demoiseille, who came as she was moved, that she said "No" amid general hilarity—because they knew the tender care, she immediately burst into tears and sobbed that she meant "yes." But it was too late. "The marriage is off," the maire pronounced inflexibly. You can start another one by a new three weeks' publication of banns, but the press-

round of the press. "I have other designs for Henri than for to marry him to an adventuress like you," he said. "You have done your best to entrap this girl, but you cannot live without your 'papers,' which for marriage are."

The written consent of all four parents. If any father or mother be dead the certificate of such decease is essential. If both the parents of one party be dead the surviving grandparents, if any must give the written consent. And if there be no grandparents the written consent of a family council is requisite.

Both parties must produce certificates of birth, without which there can be no marriage of French people in France. If a certificate be lost a certified copy must be produced. Should the woman be a widow she must present the death certificate of her former husband. It is the same for a widower. And if either party be divorced a certified abstract of the decree (costing \$30) must be submitted.

The next essential papers are the acts of legal publication. The bride and groom must be present at the ceremony, which reads not "to marry," but "to marry So-and-so" in particular. Common soldiers must be authorized to marry by the council of administration of their corps. For these the permission is obtained easily, but every officer must show that the wife of his choice owns, in her own right, a vested bond producing, at 3 per cent, the annual income of \$300. The engagement of her parents to make good this in-

come will not take its place. The army is "a great family," and in France the family always interferes in the marriage of its children. The written consent of parents is essential in every self-respecting French family. Until a young man has reached his 30th year and until the girl is 21 and until the man is 25, he may not marry without the consent of his parents. The more decent a ceremony makes it legal in the eyes of religion and conservative respectability.

A BETTER REASON. Smith, Why do you avoid Brown? Do you see him money? Jones, No; I don't want him to owe me any. See?—Chicago News.

SAANICH ARM, E. & N. RAILWAY.

Bois she protested, vehemently. It was then he, exasperated, broke the news to her: "If you can't stand it," he said, "you may pack your trunk and go. You are not my wife. I have no hold on you." The ceremony, performed in America, has no force in France. And so is the old story.

The first principle of the French law of marriage is that the ceremony must be performed before the proper functionary of the French government. This is the maire of the arrondissement, ward, or town, in which the bridegroom is domiciled—or, in foreign countries, the French consul on whom the empire depends and to whom he should immediately have reported on coming to that part of the world.

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PLAGUE AT GLASGOW.

Story of How the Disease Was First Discovered in the Scotch City.

From Daily Mail. Glasgow, Sept. 3.—The plague! One would scarce resist a shudder when those ominous words were applied to the mysterious disease which came to light in Glasgow last week. It called up to the imagination the grim death scenes associated with the scourge of the East, and reminded us of the thousands of victims it claimed in Hongkong and the tens of thousands in Bombay.

But at the first announcement there were some who affected to treat the matter rather lightly. They argued that, bubonic plague being primarily an Oriental disease, it could flourish nowhere except on Oriental soil, forgetting that Sydney, with half the population of Glasgow several hundreds of miles away, had already been reported from this cause, and that last year it led to a considerable loss of life in Oporto. On the other hand, once the first shock had passed, the general community, fully appreciating the serious import of the announcement, became more alert for either fear or indifference. Glasgow has a reputation to be proud of its sanitary system, and charged with its administration, the men charged with it would not be likely to allow a plague to break in the city. It is a favorable sign that the spread of such diseases as bubonic plague and whether there may not be defects even in the most perfect system of sanitation. And a sign, however slight, of the outbreak, and however promptly it may be stamped out, there must in a seaport be the constant vigilance of the health authorities. These facts have not been lost sight of.

Now can it be said that Glasgow is without sanitary precautions? It is not. It is in the centre of the city through the operations of the Corporation Improvement Board, to root out dens of pestilence, and vice; but it has been found so far impossible to provide for the accommodation of those who are displaced from their homes, and they have taken themselves to quarters in ten or fifteen years ago, were the houses of the respectable industrial population. In this way Thistle street and Thistle street, on the south side of the River Clyde, with their contiguous thoroughfares, have become a veritable plague ground. It is a notorious fact, and there it was that the outbreak of the plague was discovered.

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Forty Second Year

Oratory Unabated

Many Werisome Speeches the British Election Campaign.

The Electors on Both Sides Suffer From "That It Feels."

Premier Gauged the Public He Stirred People Up to Vote.

London, Sept. 27.—The oratory parliamentary general election on both sides continues with an energy. Owing, however, to the fact that the government leaders have decried the election solely on the issue of the speechless degeneracy of the Conservative and Liberal parties, it is impossible to arouse the enthusiasm of the voters. Indeed, the oratory is so marked as to show that it is impossible to arouse the enthusiasm of the voters. Indeed, the oratory is so marked as to show that it is impossible to arouse the enthusiasm of the voters.

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