

A Costly Patent.

One of the Paige typesetting machine patents, recently issued, "breaks the record" in the history of the patent business for the great bulk and complexity of the patent itself and the intricacy of the machine it covers. It is said that over a million dollars was expended on the machine before the construction of the first one was completed. It has no less than 18,000 separate parts, and does the setting, justifying, and distributing of type in a way which would be satisfactory were it not for the cost and complexity of the machine. In the development of this invention Mark Twain is reported to have invested nearly \$250,000.

The first application filed for a patent on it contained 204 sheets of drawings, having over 1,000 separate views. During the eight years the case was pending in the office before allowance, the number of sheets was reduced to 163. When it is remembered that the majority of patents have only a single sheet of drawings, and that to require as many as ten sheets is an exception, the magnitude of the invention can be understood. The fees charged by the Patent Office are uniform for all cases, no matter how complex or how simple—\$15 on filing the case and \$20 additional on allowance of the patent.

When this case was filed it was turned over to an examiner who received a salary of \$1,800, and he spent six weeks in studying the case before being able to take the first action. The entire specification was twice rewritten, each time by a different attorney. How much this cost the inventor is not known, but it is safe to say that the Patent Office lost heavily. It is estimated that it consumed about \$1,000 worth of the time of the various Patent Office officials before maturing into a patent, and when issued the usual rule had to be followed of preparing copies for sale at the regulation price.

The large number of sheets of drawings had to be photo-lithographed and the entire body of the specifications and claims set up in type, costing for the first edition, as estimated by the ordinary rules, a few cents over \$6 a copy. These copies were sold to the public at the usual price until the first edition was exhausted, when the Patent Office stopped the issue. A great many people ordered copies of this patent out of curiosity.

A TRANSPORTED CALIFORNIA "GREAT TREE."

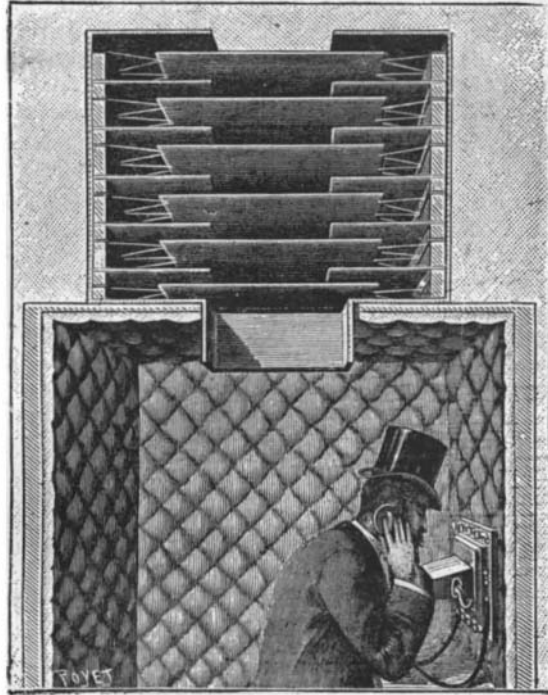
The accompanying illustration shows the great tree General Noble (named after General Noble, late Secretary of the Interior) as it now stands in the mall at Washington, D. C., between the Agricultural Department building and the Smithsonian Institution, which is shown in the distance. Among the multitudinous marvels of nature, none surpass in majesty and grandeur the great trees of California; no such trees are found in any other part of the world; they were first discovered in 1852 by a hunter, Mr. A. T. Boyd, and at once attracted general attention, and attained the widest celebrity. The genus, a species of redwood (*Sequoia gigantea*), was named in honor of Sequoia (pronounced Sequoyal), a Cherokee Indian of mixed blood. This specimen was 26 feet in diameter at base, 81 feet 6 inches in circumference and 300 feet in height, the section being taken about 20 feet from the ground; although considerably smaller than some others, it was found to be comparatively well preserved and symmetrical. It had to be hauled by teams of sixteen mules each, on heavy trucks built for the purpose, a distance of sixty miles on a rough mountain road; price paid for cutting, hauling and delivering on cars was \$7,500; section was divided into forty-six smaller sections, some of these pieces weighing over four tons; it took eleven cars to transport it to Chicago, where it was exhibited at the Exposition; total cost of hauling and installing at the Exposition was \$10,475.87; the additional expense of placing it in its present position would probably make a grand total of over \$12,000. As will be seen by plan, the interior diameter is about 13 feet, and average thickness about 20 inches; a circular iron staircase leads to platform about 18 feet above; it has been roofed over and shingled with round butt shingles painted red; four dormer windows light the interior. Our engraving was made from a photograph taken specially for the SCIENTIFIC AMERICAN.



A CALIFORNIA "GREAT TREE" IN WASHINGTON.

A VENTILATOR FOR TELEPHONE CABINETS.

Telephone cabinets are so arranged as to smother sounds, as well as those who remain in them. In order that the conversation, which is to be carried on in a loud voice, shall not be heard outside, no provision is made for the least ventilation. It is well known how difficult it sometimes is in Paris to obtain communi-



MENIER'S VENTILATOR FOR TELEPHONE CABINETS.

cations, and it is a genuine punishment when it becomes necessary to remain ten minutes in one of these silk padded boxes.

We recognize the fact that the question is quite a delicate one; for, on the one hand, although for many reasons it is necessary to assure the ventilation of the cabinet, it is also indispensable to guarantee the secrets of conversation in an absolute manner, as it often has reference to important family or business matters in which those interested should alone take part. So we think it well to make known to those whom the question interests a simple and ingenious arrangement devised by Mr. H. Menier and applied for some months past in his offices.

In the top of the cabinet there is formed a wide aperture over which is placed a box open at the top and bottom. In the latter are arranged, one above

the other, a series of boards, of the same size as the box, resting upon ledges and covered with cloth. In the center of each of these there is a wide square aperture. Other and smaller boards, likewise covered with cloth, but supported by cords attached to the sides of the box, are interposed between the first. This obstructive arrangement gives the air a wide circulation, and, as proved by experience, completely annuls vibrations. In order to assure himself of this latter condition, Mr. Menier installed one of these apparatus over an aperture formed in a wall separating two rooms, and found that two persons standing at the distance of three feet on each side could not converse, even in a loud voice.

This arrangement therefore completely solves, at slight expense, the double problem of ventilation and the smothering of sound.

We are indebted to La Nature for the illustration and article.

Discoveries in South Russia.

Our Odessa correspondent tells us that the curator of the St. Petersburg Imperial Archaeological Committee, Mr. Goshkevitch, has made some archaeological discoveries along the banks of the Dnieper (Borysthenes) and the Bug (Hypanis). Opposite the village of Kisliakovka are the ruins of the ancient town of Olbia, described by Herodotus as surrounded by a wall with many towers, and distinguished for its extensive trade and its civilization. The ramparts and inner parts are well preserved, and terra cotta figures with subjects from domestic life, pottery, and small vessels are continually being discovered by the villagers. The number of ancient sites discovered by Mr. Goshkevitch is 15. Each is situated on the steep bank of the river, which forms a natural defense against surprise attacks, and the other three sides are surrounded by ramparts in a good state of preservation, with the ruins of dwelling places within the walls. At Propastuoe, on the edge of the ravine of the same name, many ancient Greek vessels were found, and both here and on the banks of the Bug were found pieces of money of the time of Emperor Theodosius the Great, who reigned near the end of the fourth century. In the village of Kisliakovka evident traces were discovered of an ancient Greek settlement, and the curator discovered a head of a statue. The peasants a short time ago unearthed a splendid Greek statue, but, being ignorant of its value, they destroyed it, although they sell to the first buyer the coins they find at the ancient site of Olbia, and many private persons in those parts have splendid numismatic collections of the Scythian and other periods.

In a tumulus near the well-known Borysthenian burying ground was found a vault-like chamber, faced with oak blocks, and a floor made white with cement or lime. A skeleton was lying on a stone slab with extended arm bones and on the wrist a bracelet of pure gold. Around the neck were four finely worked gold and amber necklaces, and at the hip bone was a kind of knife or sword. Thirty bone arrows in a quiver, as well as a corymbos or bow case, were near the skull, but the quiver crumbled away on exposure to the air. The skeleton crumbled to dust on being touched. Mr. Goshkevitch thinks it belongs to the Scythian period. In a ravine opening up into the valley of the Borysthenes (Dnieper) a considerable number of mammoth bones were discovered.

The curator has brought away to the Kherson Museum a massive piece of statuary having on its two sides crosses and cypress leaves, as well as a bunch of "prisob." This work is believed to belong to the period when the Genoese colonies were flourishing on the shores of the Black Sea.—London Times.

Elvind Astrup.

Elvind Astrup, who was Lieut. Peary's companion on his first trip across the inland ice, and who was with Mr. Peary on his second and third expeditions, started a few days before Christmas for the purpose of making a ski excursion in the mountains of Norway. Three weeks having elapsed, his friends became alarmed and sent a party to search for him. Astrup was found frozen to death in the Lille Elvedal Valley, in the Dovrefjeld Mountains. He did excellent work when with Mr. Peary and gave great promise of being an independent Arctic explorer of note.