able to be excavated within recent years. What remains have been found—and some of them are illustrated here—fully justify the restoration of the sacred inclosure and its monuments under the direction of M. Homolle.

In the accompanying plan view we have a good idea of how the various structures in the Temenos were distributed. The whole, including the theater, is surrounded by a wall, making the inclosure of a somewhat rectangular form. It extends up a rather steep slope of the mountain side. In the central part is the great Temple of Apollo, which was erected upon a vast terrace or esplanade, thus commanding a view over all the surrounding country. Above, on a higher level, is the theater, while on the lowest land in the foreground are grouped the different votive structures. We also observe the Sacred Way, which winds up the slope and is bordered by the various buildings, finally reaching the temple terrace. Outside the walls there is a large paved area where the religious processions could be formed before proceeding within the inclosure and along the Sacred Way. On one side of this area was the Merchants' Portico where various objects were sold, no doubt of a religious character.

One of the most strking of the small votive buildings is the Treasury of Cnidos, which is in the Ionic style, and enough of the remains were found to justify a complete reconstruction such as is now to be seen in the Athens Museum. This is shown in one of the present views. This reconstruction was made from the portions of frieze which were found and also of the fronton, together with one of the caryatides and various architectural *motifs* which gave the pattern of the borders and other details. Measuring about twenty by thirty feet, it is formed of a small *cella* preceded by the entrance portico or *prodomos*. The two caryatides are draped female figures of the archaic style, and back of them is the entrance door which is surrounded by a richly decorated lintel. Parts of the frieze are well preserved. On the front side the frieze represents the combat of the Greeks and Trojans around the body of Euphorbus, under the eye of the divinities assembled in Olympus, who were following the struggle and encouraging the various heroes by their gestures. The assembly of divinities bears some analogy to the well-known scene which is represented on the frieze of the Parthenon. On the west side the frieze shows the apotheosis of Hercules, who is introduced into Olympus by Athena borne on a chariot with winged horses, and herself represented as winged, while at the other end Hebe descends from her chariot. The west frieze bears the carrying away of the daughters of Leukippos by Castor and Pollux, with three chariots and horses recalling the Pantheon frieze. A group full of movement is shown on the north frieze, which represents the Gigantomachy, or combat of gods and giants, a favorite subject of sculpture. On the fronton is a group representing the dispute for the sacred Tripod between Apollo and Hercules. The figures are here sculptured in high relief in the lower part and are entirely detached in the upper part. We also show a detail view of this group, and it is of interest as showing the appearance of the celebrated Tripod upon which sat the Pythia in the farthermost inclosure of the temple and on the border of the opening below which flowed the sacred spring of Castalia.

Regarding the oracle of Delphi, M. Homolle states that in the early period of the sacred spot and before the temple of Apollo had been built, the oracle occupied what was known as the sanctuary of the Earth and the Muses, and here were the Rocks of the Sibyl. The sacred spring also flowed underneath this spot. When the great temple was built, the seat of the Oracle was transferred to this place, and it remained there during all the history of Delphi. Daochos, the tetrarch of Thessaly, erected a votive offering at Delphi consisting of eight life-sized marble statues ranged in line upon a long base structure. The remains of all these statues have been found, and one of them, which is shown here, is very well preserved. These statues (fourth century B. C.) represented the various members of the family of Daochos, and the present one is the athlete Agias. It is to be reckoned among the most important artistic finds of recent years, as it appears to be the work of Lysippus or at least of his school. The present statues are in marble and are copies of a similar *ex-voto* group in bronze which existed at Pharsale, no doubt very faithfully executed after the originals. We should not forget that Delphi may be likened to a vast concourse of artistic works, so that only the very best were likely to be erected there. We recognize the qualities of the work of Lysippus in the length of the proportions, the small size of the head and the careful rendering of the hair. The expression of the face, with half-open mouth, is to be observed. Under each of the statues was engraved the inscription giving the name of the person. We thus have the remains of Sisyphos I, the father of Daochos, in a short tunic; Telamachos, his great-uncle, as a young man leaning upon a Hermes, also the cloaked figure of Sisyphos II, his son, which is larger than life. The heads of these statues are missing, however.

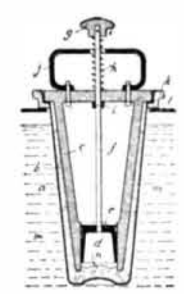
Lack of space forbids us to give more than a passing mention of some of the remarkable objects which are here illustrated, such as the bronze charioteer forming part of a group with chariot and four horses, also the colossal marble Sphinx of Naxos (sixth century B. C.) mounted on the top of a high column, and the three graceful female figures forming the top of the acanthus column.

GOBLETS OF ICE.

It would be well for inventors to study the advantages of reversing or inverting well-established customs or methods of procedure with a view to developing new and valuable inventions. For example, a native of Holland recently conceived the idea that instead of putting ice in a beverage it would be a good plan to pour the beverage into ice. This led to the invention of the ice goblet. For such a novel vessel there existed no precedent, and in the building of a machine for making it, many physical and technical difficulties had to be overcome. The apparatus has now been reduced to a commercial form and the inventor, Mr. H. D. P. Huizer, has installed a plant at one of the summer resorts near the Hague (Netherlands). The apparatus was also exhibited in Paris, last October, before the First International Refrigerating Congress.

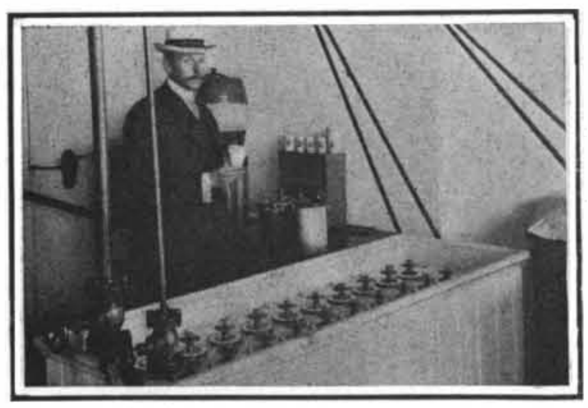
The ice goblet as shown in one of the engravings is a conical drinking vessel like a tumbler made entirely of ice which is placed in a smaller paper shell for convenience in handling and for protection against surrounding heat and direct contact with warm bodies such as the hand, table, etc. It weighs 3½ ounces and is 5 inches high. The walls, which are slightly tapered, are about ⅛ of an inch thick and terminate

The ice goblet complete.



Forming the ice goblet.

The ice goblet shown in section.



Selling beverages in goblets of ice.

GOBLETS OF ICE.

in an arched bottom of ⅜ inch thickness. It has a capacity of ¼ liter (about ½ pint). By a special process the ice may be made in all degrees of transparency or opacity, and even with a flowery structure. It can also be colored to give it a pleasing aspect. A drink out of one of these goblets is said to be delightfully refreshing and not as cold as one would think.

The refrigerating capacity is quite sufficient to hold the beverage about half an hour in summer; but it collapses instantly at a second refilling. As it thus can be used only once, the sanitary properties are ideal. Everyone has his own goblet, which is thrown away after use. In its manufacture it is not touched by the hand, and by using pure or distilled water an absolutely clean goblet is obtained. The paper shell is thrown away after being used a single time, because when wet it loses its shape and it does not pay to dry and reform it.

One would imagine that ice was entirely unsuitable for such a purpose, but as is well known a great deal of heat is absorbed in melting ice. In the goblet the ice is insulated by the paper incasing it and itself insulates the liquid within, while the difference of temperature between the two diminishes rapidly, thus arresting the melting of the inner side. Owing to these very favorable conditions the goblet has an astonishingly long existence. The same ice goblet thrown in water would melt away in a few minutes.

One of the illustrations shows in section the apparatus for making the goblet. It consists of a mold *a* and a core *c*. A measured quantity of water is first poured into the mold, then the core is inserted, which presses the water upward in the space *b* between the two. The device is submerged in refrigerating brine *m*. If the temperature of the brine is kept at —10 deg. C. (14 deg. F.) the ice goblet is ready in a quarter of an hour, at —20 deg. C. (—4 deg. F.) in but 6 minutes. The core has a chamber *d* at the bottom, constituting a kind of diving bell, in which the water rises only as far as the hydrostatic pressure and the contracting of the confined air by cooling will allow it. The freezing takes place in regular layers from without inward; the ice at first closes the top of the space and then the solidification gradually proceeds downward and ends in the chamber, where because of the expansion an arched bottom *n* will be formed and around this a peculiar shaped inner gripping edge. In the same way the air confined in the water is forced to escape therein. The ice goblet is not removed in the ordinary way of thawing it out—such would obviously be its ruin. The mold is made of a material expanding more rapidly than ice (viz., a special metal) and the core is made of a material expanding more slowly than ice (viz., a special porcelain), so that the dilatations by heat are: $a > b > c$.

The apparatus is sunk for a while in a special heater, giving off just enough heat to the mold without transmitting any perceptible heat to the ice goblet; now this latter is instantly drawn out with the core, to which it adheres chiefly because of the gripping edge within the chamber *d*. The latter is in reality a structural part of the bell-shaped piston *e*, that is carried by a rod *f* ending in a handle *g* outside the core. On pressing the handle downward the piston expels the ice goblet, which is then caught in a paper shell. The whole operation takes but a few seconds.

About 100 ice goblets per hour can be made with one horse-power, so that only very small refrigerating machines are needed for producing considerable quantities.

Moving Pictures in Natural Colors.

Many unsuccessful attempts have been made to produce moving pictures in natural colors. The comparatively simple Lumière process is not sensitive enough, and the three-color process is too complicated. Let us first consider how a motionless screen picture in natural colors can be produced by the three-color process. If the scene is photographed through a red ray filter and a positive transparency, made from the resulting negative, is projected by red light, a red picture of the red parts of the scene will appear on the screen. A blue and a yellow partial picture can be produced in the same way, and if all three are thrown on the screen simultaneously and in exact register the result will be a picture of the scene in its natural colors, if the tints and intensities of the three monochrome pictures have been correctly chosen. It appears scarcely possible to repeat these intricate operations 16 times in a second, the rate at which moving pictures are taken and projected.

Several years ago Charles Urban made some experiments on the possibility of substituting successive for simultaneous projection of the differently colored partial pictures, on the theory that the persistence of retinal impressions applies to color as well as to form. More recently, G. Albert Smith has continued the experiments, devoting particular attention to the extension of sensitiveness toward the red end of the spectrum and to the possibility of substituting two colors for three. The experiments have been so far successful that Smith and Urban, working together, have exhibited in London, Paris, and Berlin, very satisfactory moving pictures, in approximately natural hues, using only two colors, with the aid of a colored light in projection. The colors of the ray filters are orange-red and green-blue, but their composition, and that of the projection light, are yet a secret. The negatives are made on a single film, alternately through the red and green-blue halves of a disk which rotates with the proper velocity between the film and the lens. The strip of positive film made from this negative film is projected with the aid of a similar device. Hence positives 1, 3, 5, 7, etc., of which the negatives were photographed through a red filter, are projected in red, and positives 2, 4, 6, 8, etc., from negatives made with a green filter, are projected in green. The colors of the successive pictures (modified by the special fixed color screen used in projection) are combined by the persistence of retinal impressions and approximately reproduce the natural tints of the scene. The varying tints of the red coats of soldiers drilling in direct sunlight were beautifully brought out.—Umschau.

It has recently been discovered that the candelila plant contains wax in sufficient quantities to make the plant industrially valuable. The plant rejoices in the botanical name *Pedilanthus pavones euphorbiacea*, and grows in Central America and Mexico. The wax is white in color, very hard, with high melting point.