LTCANDEECETT BURERR OF DR. ATER.
The peculiar feature of the gas lawp of Dr. Auer von Welsbach consists in the. incaodescence of cer tain metallic salts placed in the middle of the flame

sew incandeschary gas burner. of a Bunsen burner. The principleis not new ; it is the bame as that in the Clamond lamp, in which, as inay be remembered, the incandescent substance is formed by a little thimble of magnesia threads. On the other hand, the arrangement of the Auer burner is very simple, and appears to poasess many advantages. It consists of an ordinary Bunsen buiner, the end of which is covered by a hood of cotton or woolen tissue washed in a specia preparation. The bood, about 6 or 7 ceatimeters in beight, is elightly flaring and is beld by a platinum thread which passes around it and is fixed to two rods of iron connected with a rinig above. The longer of the two is held by a thumb screw to the pipe which supports the burner.
As soon as the burner is lighted, consideruble heat is geverated within the bood, which, is a few soconds, becomes agylow with a whitisb blue light, remarkable for its steadiness and intensity.
It is not perfectly well known how the hoodismade but here are a few details from the patent of Dr Aner, which throw some light on the subject: Take a solution of zircon and nitrate or acetate of lan thanum or yttrium, and zoak in it the woolen or cot ton that is to forin the hood. The tigsue is the carbonized, and leaves a sort of network, which is applied to the Bunsen. The nets thus procured ap pear wore farorable to the production of light than the massive cylinders of zireon tested in 1888 by Teusie de Mottay on oxyhydrogen burners.
According to the inventor, each hood costs about 1 cent, and will last 1,000 bours, or until the dust of the atmosphere is sufficiently incrusted thereon to diminish the etrength of the light. Finaly, with equal lighting power, the consumption of gas in the Auer burber will be about one-half less than that of an ordinary burner, whieh should show an emonomy of so for 100, but these figares ought to be verified. The
durability of the hood ought also to be determined by exact tests.-La Nature.

## JOGRPH ECETEIBB'S DESIGX FOR A GBATT

 MONUMENT,Fourteen competitive designs for a monument to General Grant, to be erected in New York, have been sent $i_{n}$, and among these the design of a German who has lived in America for two years is especially note worthy. Thinking that inany of our readers may be interested in the design of Joseph Echteler, we give a cut of it, taken from the terra-cotta model.
The monument is to be about 71 or 72 ft . high, the lower part consisting of a nausoleum. It will cost about balf a suillion dollars. Themeworial is crowned by an equestrian statue of Grant. 'Ihis represents the General as conumander, riding to battle on a rear ing horse, his cloak tlying, and his head turned to look back, while he points in the direction of the enemy with a fleld glass held in his right hand.
At the four corners of the cap or upper part are four female figures representing Peace and Prosperity, In. dustry and Invention, Comwerce and the Marine, Statesmanship and Law. On the front is a battle scene, Grant with outsiretcied s word riding at the head of a colump of infantry, while at tfie left the cannoneers are busy fring the guns. At the backof this upper part, the Forth and Bouth are represented as engaged in a mortal hand to hand combat, and in the enidst of the confusion of the battle riees the imposing figure of a commanding general of the Southern ariny.

The group in the iniddle part of the womument is pecially well conceived ; two fernale figures, the North and the South, grasp hands in token ot eterna! friendship. The North is , represented as having beautiful classic features and wearing the Phrygian cap--she is laying the palin branch of peace on the shattered weapons of war: while the South is characterized ly feaures of the Southern type and light chothing, the igure bejog partly nude-she is laying a laurel wreath at the feet of an eagle whose outstretched wings spread over the scene. The background of this principal groap is filled with an architectural design of arches.
On the opposite side of this part of the monument is the igure of General Grant in unjform and fully equip
ped for war. He is 'seated with his left hand on his sword, and about him and on a ataircase behind him are grouped the members of a negro family. The negress, on whose wriststhe fetters are still visible, raises her hands to Grant, praying bim to deliver her from slavery, while the negro tries to enpress his eratitude by pressing the General's hand, resting his left hand on the forearin of his deliverer. In the foreground a little negro boyis playing with the broken chains. The Ieft face of this portion represents, in high relief, the Beene under the nemorable tree at Appomattox, where General Lee surrendered his sword to the victor Grant. In high relief, at the right, the artist has shown the steps of the White House at Washington. On the upperstep Grant is taking the Presidential oath before Chief Justice Chase, while in the background atand Grant's predecessor, Johnson, and several Senators, as witnesses. The front of the principal part of the monnuent bears the inscription,." Cten. U, 8. Grant." The coats of arms of the different 8tates are arranged on the under socie.
The malisoleum, which is 59 feet in depth, is provided in front and at the back with three terraces. The cap of the wonument, the inain part of the mausoleam, the portals, and the balenstrades are to be made of polished granite, the foundationof rough-hewn stone, and the figures and coats of arms of the best bronze. The completion of the work would require about five years. -Illustrirte Zeitung.

Dinimfection by heat.
The disinfection of articles of clothing, and of dwellings, after infectious ailinents, is admittedly one of the most important duties which aftends the work of preventing disease. A recent report of the uedical officer of the local government heard, London, presents the entire question of the destruction of germ life in a new aspect, includirg, as it does, a memoir on disinfection by heat, from the pen of $\mathrm{D}_{\mathrm{r}}$. Parsons. The derree of dry heat necessary to kill the gerins of diseases well known to be infectious was firet investigated. The bacilli of splenic fever, for example, were killed by exposare for five minutes in adry heat varying from $212^{\circ}$ to $218^{\circ} \mathrm{F}$., but their spores did not yield to two hours at $220^{\circ}$. One hour at $245^{\circ}$, and four hours at $220^{\circ}$, achieved the result. - Some very remarkable practical instances are given of the difficulty with which ary heat penetrates such articles as hodding, blankets, and pillows. For example : A thermometer enveloped in a roll of thanuel, placed in a bot air bath at $212^{\circ}$, only r"gistered $130^{\circ}$ at the end one hour! Dr. Parsons demonstrated by numerous experiments that steam at or above $21 g^{\circ}$ possesses a very much greater power of penetration ard disinfection than dry heat, and that, where actual steam cannot be employed, motatening the air of the heated chasuber materially reduces the time required for efficient disinfection. Apparatus for thus treating the clothes, etc., of the sick poor ought to be a feature of the municipal arrangements of every city.


