BRICK

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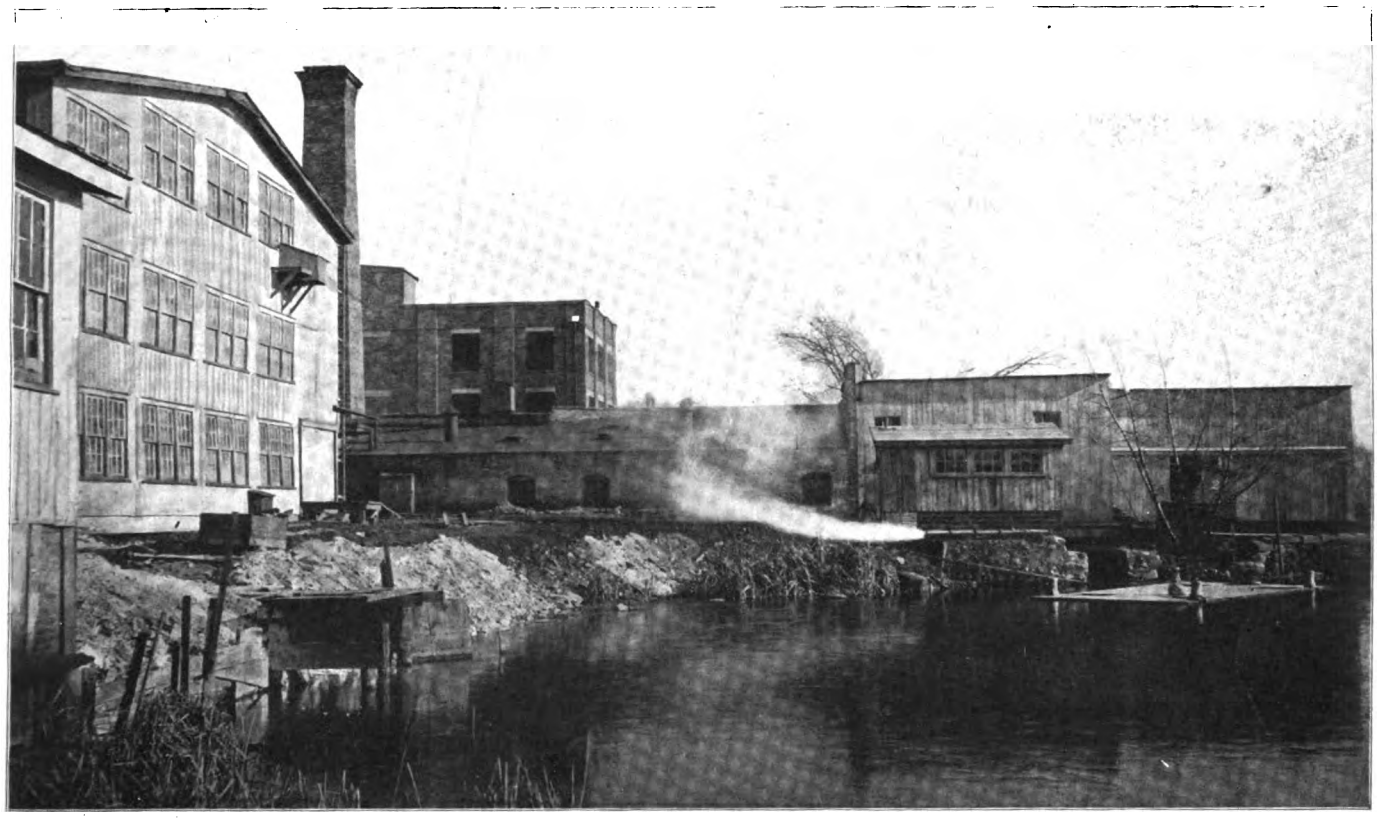
The American Terra Cotta & Ceramic Co., Terra Cotta, Ill.

Terra Cotta, Ill., is a small town. It derives its name and its right to exist from a thriving clayworking industry, a globe of ever-increasing proportion borne by W. D. Gates and his two sons. W. D. Gates, president of the American Terra Cotta & Ceramic Co., has long been known and loved by clayworkers, and at the various conventions there is possibly no more popular man in the clayworking fraternity at the present time. In 1880 Mr. Gates, who was then practising law, became interested in clay and subsequently abandoned the pulverizing of men for screening of raw materials. It is to be presumed that good results followed in both instances. The product of the company at first was terra cotta and on this the fame of the Terra Cotta works has been built. Many beautiful buildings have taken form and solidity from the clay mined and molded by the Gates trio. September 12, 1894, Nemesis visited Terra Cotta, obliterating the works from the landscape by a severe fire. Such, however, was the energy displayed by principals and employes that on the next day modeling and plaster work were busily carried on under tarpaulin roofs and three weeks later the principal permanent buildings had again been constructed. A remarkable proof of good feeling existing between Mr. Gates and his employes was given, in that most of the men who worked for the first few weeks after the disaster refused to give in their time or take any payment for their labor whatever. This good feeling has been continued from that time to this.

At the present time the enterprise is assuming a colossal character. Many improvements have been made during the past 12 months. The works are situated on the line of the Chicago & Northwestern Ry., which affords excellent shipping facilities. The surrounding countryside is a delightful one and the employes live within a radius of five or six miles, many of them riding in to work on their bicycles or driving in by buggy.



A VIEW OF THE WORKS OF THE AMERICAN TERRA COTTA & CERAMIC CO.

The bulk of the raw material is procured on the company's own plant, though several English ball clays are used in the preparation of the glazes. The clay is passed through a 9-ft. Frost dry pan and from there is conveyed by elevator to a shaking au-

tomatic screen, the tailings then being returned to the pan. Huge storage bins hold the ground material. The mixing room is 54 x 77 ft. and here the various clays are mixed in proportions suited to the needs of the product desired. A Link-Belt conveyor threads a tunnel, carrying buckets, which pass to the various floors, providing the material where needed.

The main building, called the pressing building, is of brick and has three floors. To each floor is attached a drying department, the drying being effected by live steam.

The modeling building is a two-story building of frame, the upper story being devoted to modeling and the lower being used as a plaster shop. The dimensions are 48 x 60 ft. Nearby is a complete carpenter shop, 18 x 32 ft.

The pottery building is of four stories, 36 x 72 ft. This is also of brick. The lower floor is devoted to shipping purposes and also holds the filter presses. The second story comprises the laboratories and the blunging, glaze grinding and pottery manufacturing rooms. The third and fourth stories are also used for pottery and terra cotta work. This structure is connected with the pressing building by bridges. New boiler and engine rooms have been built of brick and the engine and boiler capacities have been enlarged. The engine is of the "Phoenix" slide valve type,

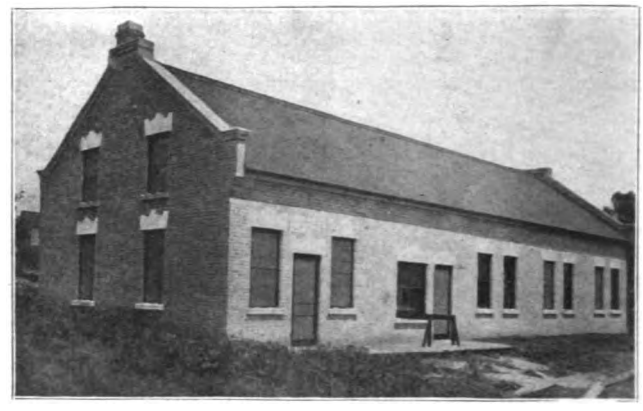
CERAMIC PICNICKERS FIND GATES A-JAR.

of 150 h. p., carrying an 80 lb. steam pressure. In the boiler room are three boilers, two of 50 h. p. and one of 150 h. p. These boilers were supplied by the Atlas Engine Works. An admirable installation is the fire-fighting department. The system of pipes runs to over 20 stations, each supplied with 50 ft. of 2-in. hose which is ready for action at any time. A duplex fire pump has been installed with a capacity of 600 gallons per minute. There has also been built a new office building of brick shown in the illustration which is most commodiously arranged. It is 28 x 73 ft. and contains a large room for drafting purposes, a dark room for photographic requirements and excellent office facilities. Between the office and the other buildings and close to the tracks is the fitting room, 80 x 108 ft., in which all the terra cotta fitting is done previous to shipment.

The whole plant is illuminated by electricity, the current for which is provided by two dynamos, one 75-light for day circuit and the other 650-light for night work. This light is distributed in every department, so that all operations of manufacture may be conducted with as much ease at night time as during the day.

The water for the plant is taken from a huge pond which is fed by the springs and brooks running through the long valleys, 20 acres of water being available. The fishing is good in this and in summer time the employes may obtain a bath with very little exertion. The plant covers 150 acres of ground.

There are 9 kilns, one 18 ft. in diameter and the others 16 ft. in diameter, inside measurement. These kilns are of Mr. Gates'



THE NEW BRICK OFFICE BUILDING.

own construction. The fires pass up through the bags to the crown of the kiln and down through a hollow pillar in the center of the kiln and underneath the floor through different flues to the stack. This method of arrangement insures a perfect distribution of heat through every part of the kiln and most satisfactory results are obtained. Oil is used for fuel everywhere, save under the boilers where coal is burned. The products of the plant at the present day are terra cotta, covering ordinary coping, ashlar work and all classes of ornamental and enameled terra cotta. Of late Mr. Gates has also gone into the manufacture of sanitary wares, producing some fine bath tubs, sinks and wash bowls.

In the pottery department great strides have been made and Mr. Gates has achieved many triumphs during the last two years. The "Teco" ware has made its bow to an appreciative public and its intrinsic power, its exquisite finishing and depth of color will

A GROUP OF "TECO" WARE.

justify all favorable comment passed upon it. In the show rooms of the American Terra Cotta & Ceramic Co., at the Chamber of Commerce Bldg., Chicago, samples of this beautiful product may be seen which fill the beholder with admiration. The "Teco" ware is essentially a child of love and not the offspring of duty.

for Mr. Gates took up the manufacture of pottery as a side issue and his enthusiasm crystallized in these magnificent products has grown with each successful achievement. Most of the work done has been under the direction of experts in the ceramic art. Mr. Gates' two sons, Paul and Ellis, are graduates of the department of ceramics in the Ohio State University and they ably second their father in the fields of research for fresh decorative effects. Among the designers may be mentioned such capable artists as Fritz Albert, W. J. Dodd, Hugh Garden and Blanche Ostertag. "Teco" pottery was first manufactured in red tones and in its successive stages appeared in buff and brown effects.

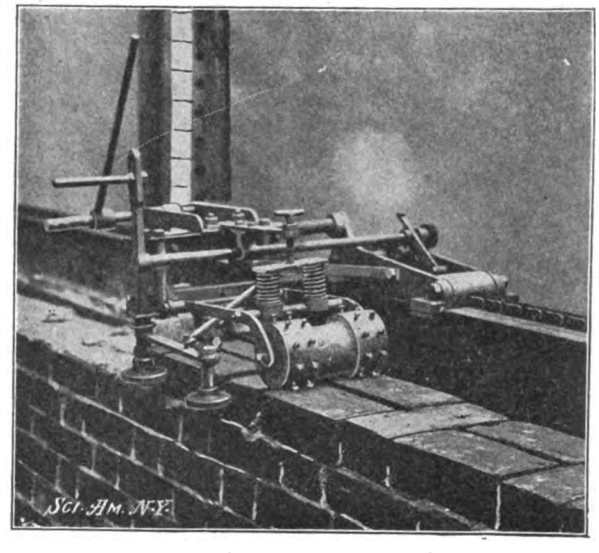
A STRUGGLE TO DEATH IN TERRA COTTA.

The last, and, to our judgment, the most pleasing of the colors which have adorned the "Teco" ware is the green and in these tones the ware is very suggestive of Grueby pottery. Visitors to the laboratory are shown many interesting samples, the results of experiment and accident and among these of chief interest are pieces of pottery whose surface is covered with minute iridescent crystals. On the withdrawal of the first piece of this character from the kiln Mr. Gates' detective instincts were at once aroused. The cause was sought for this effect and by persistent experimentation the method of the production of this charming effect was discovered and now the pieces are produced at will. Every piece of "Teco" pottery has its own individuality and mechanical efforts are done away with as far as possible, the designers being given more to copy of things from nature. Matt glazes are those that are most favored at the works and the general effect upon the eye is a very pleasing one. We show in our illustration a group of visitors to the American Terra Cotta & Ceramic Works from the Art Institute under the direction of J. W. Hasburg, who is the instructor and director of ceramic efforts in that institution. The ladies and gentlemen grouped so effectively on the big vases have been having their annual picnic and express much enjoyment at their elevated position. It may be added, by the way, that Mr. Gates on that occasion last summer proved to be a royal host and everything was done that could possibly add to the comfort and delight of the visiting party. At the close of the excursion each excursionist was presented with a sample of "Teco" ware. The vases in question are giant products. They are 7 ft. in height and weigh over 800 lb. They are suitable for lawns or large club halls and are made in a variety of colors to suit the purchaser. Mr. Gates has a large frame dwelling house on the grounds and lives there during the summer time, but during the winter he takes up his residence in the South. Over 200 men are employed and work is carried on all the year around.

The chief of the modeling department is Fritz Albert, to whom are due many beautiful designs. Outside of the office building is a product of Mr. Albert's which we deem well worthy of reproduction—an elephant in deadly combat with a tiger. Mr. Albert has, since his connection with Mr. Gates, been to Rome and Italy for a completion of his studies in modeling.

A Machine for Laying Bricks.

An Englishman, John H. Knight, has designed a machine for plain brick laying, shown in the illustration. Vertical posts are set in the ground about 15 ft. apart. Adjacent to the wall to be built to these posts is secured a wooden girder upon which is screwed a 6 in. x ¼ in. steel plate. This steel plate forms a bed on which the machine runs. The driving mechanism consists of a toothed pinion meshing with a pitched chain along the girder, motion being given to the pinion by gears and handle. A guide bar secured to the girder forms the straight-edge for the face of the bricks which are fed to the machine by hand. A pawl operated by a separate handle serves to press one brick back against the previous brick. Each brick as it moves back pushes a ridge of mortar in front of it, so that the vertical joint between the two bricks is filled. The mechanical bricklayer pats the top of each brick, this being done by a spiked roller which derives its downward pressure from a stout spiral spring regulated by the



BRICK LAYING MACHINE.

adjusting screws. The mortar is run out by hand in front of the machine. As each course of bricks has been laid the girder is lifted by hand 3 in. Holes are bored in the upright posts to form catches for a lifting lever. Two men and a boy can operate the machine. One man spreads the mortar, the second feeds the machine and the third operates it. Mr. Knight claims that the machine will lay from 500 to 600 brick an hour.

Reports from Lincoln, Neb., state that S. W. Burnham of the Yankee Hill yards will have his plant ready for operation by March 1st. The daily capacity will be 75,000.

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We want our readers to always feel that BRICK is their paper, and that what interests them interests its publishers and subscribers. We will therefore appreciate most highly any communications, questions, experiences or suggestions, or marked copies of local papers containing items of news pertaining to the interests of clayworking.

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The Various Conventions.

The convention of clayworkers which assembled at Bloomington was a decided success. Two noteworthy features marked it out from previous conventions—the conciseness and brevity of the leading papers and the straightforward discussions which followed. Secretary Stoll worked most energetically to secure interesting topics and valuable discussion. His aim was to cut down the length of the papers and to increase the value of the controversial side of the subjects under consideration. The effort was in the right direction, but we fear that no brilliant results will ever be obtained unless some other method of procedure is followed in presenting these topics before the clayworkers of this or any other state than by the usual one of reading papers at the sessions. For instance, a paper is to be read on some process in the manufacture of clayware and the respective advantages of the different systems used. Mr. A reads the paper and advocates one particular method; he gives figures on cost of installation and operation, and contrasts them with other figures taken from his own practice.

Mr. B rises to dispute the deductions or the figures of Mr. A, and Mr. C disagrees with both of them. The heaviest accumulation of statistics carries the day. The disagreements invariably are upon details of operation and on the effectiveness of these is allowed to hinge the worth of the various systems. No definite information is, as a rule, given as to the character of the clays under treatment or the quantity of defective ware produced. Thus, for example, in pitting waste heat driers against steam heat driers, often no attempt is made to calculate how many brick could be dried by the steam which supplies the motive force for the waste heat fan. All the fighting seems to be on the fuel question alone, and no data are given as to the output of bats. The fact of the matter is that to intelligently discuss subjects of such vast practical importance to clayworkers time should be given for the accumulation of reliable data. There should be no room for "I believe" or "about 15 or 20 cents per thousand."

The remedy would be to forward to each member of the association either copies of the papers or synopses of them so that those interested would attend the convention with arguments, information or questions calculated to cover the ground thoroughly. Many intelligent members are debarred from asking for or rendering valuable information by the sudden springing upon them of a barrelful of statistics based on a premise of operation unknown to them. There is room for improvement in this regard.

The convention of the N. B. M. A. at Boston should be attended by most of the eastern clayworkers. Distance will undoubtedly prevent many of the western members from participating in this annual gathering and it is scarcely to be expected that the number of clay devotees will reach the high water mark set by the Cleveland convention. Some of the machine men look askance at Boston as a meager land of promise for future business—this because of the pre-eminence of soft mud machinery in the east. Where the foe is thickest is the best chance for effective fighting. We see no reason for such a somber view. It is certain that the soft mud machine manufacturers will be there in force anyhow. Rumors are already spreading concerning the location of the next N. B. M. A. convention city. Milwaukee seems to be the unanimous desire, and Clifford Chase of Milwaukee is spoken of as the probable president of the N. B. M. A. for 1904. Mr. Chase has long been admired by clayworkers for his genial manner and sterling worth. Milwaukee made a lasting impression on the visiting clayworkers to the Wisconsin association's convention last year. It w(h)etted their appetite for more. Such a choice would certainly meet the approval of the majority of the members of the N. B. M. A. and the attendance would be phenomenal.

We cannot too strongly emphasize the value of the conventions to the clayworking cause. It is customary among certain inveterate "growlers" to endeavor to depreciate the worth of assemblies of this nature on the ground either that they have nothing to learn or that the undertaking brings with it no direct financial reward. The man who has nothing to learn in his business is ready for translation into any language or kingdom. Others state that they have nothing to give out. Their position is as bad. True progress in any art or science can only be made by perpetual mental appropriation and distribution, and nothing can be truly learnt unless it is taught again as soon as learnt. Apart from the value of the papers themselves comes the delights and benefits of lobby discussions. We have seen clayworkers dumb as oysters in the convention room become as eloquent and descriptive as Hugo in the hotel lobby when discussing the merits of some kiln banding or form of grate bar. These man to man talks pay for the expenses of the trip to the convention point. Add to this the value of the friendships formed and kept and the knowledge acquired that the other fellow wears shoes instead of hoofs and tail it will be seen that conventions have real substantial advantages which amply compensate for any sacrifices made in attending them. If you have not attended any this year make up your mind to attend a state or national convention in 1904. Whatever we plan early enough will come to pass, but it must be planned for and not merely wished for or dreamed about.