Thioketone, the Worst Smelling Substance Known.

An amusing instance of the inconveniences of carrying on chemical research in populated districts (*Brit. and Col. Drug.*) appears incidentally in a paper on Thioderivatives of Ketone, by E. Baumann and Fromm. By the reaction of sulphureted hydrogen on acetone in the presence of condensation agents they obtained principally trithio-aceton $C_9H_{18}S_3$, and small quantities of a non-volatile, definitely crystalline compound $C_{15}H_{28}S_4$, tetrathiopeuton. At the same time, however, an exceedingly volatile body was formed which possessed a smell so horrible that, in comparison therewith, ethylmercaptan, ethylenmercaptan, and other volatile sulphides must be considered as faint-smelling substances! The authors could not obtain the compound pure (for a reason which they mention further on), but there could be no doubt that it was the monosulphureted acetone C_3H_6S or thioketone. As they were once distilling the reaction product of 100 gr. aceton, concentrated hydrochloric acid, and sulphureted hydrogen, with the most perfect arrangements for condensation, so that no perceptible loss of the product occurred, the atmosphere of the surrounding district of the town was infected over an area more than 800 yards wide! Every attempt to obtain the substance pure brought down such a storm of protest and complaint against the laboratory that the authors were compelled to relinquish the research.

Armor Plate Tests.

An armor plate 4 feet square by 4 feet thick, manufactured by Messrs. Wm. Jessop & Son (Limited), Brightside Works, Sheffield, was recently subjected to a severe trial on board the Nettle, off Portsmouth. Three shots were fired at the plate from a 6 inch breech loader only 30 feet distant, with special charges of gunpowder and chilled projectiles. The first shot directed at the plate was fired toward the bottom, 12 inches below the center. It made a slight penetration, but was hurled back broken into fragments, leaving only a very small and almost imperceptible crack from the point of impact to the bottom edge. The second shot, fired at a spot equidistant between the center and the top left-hand corner, gave even better results. It hardly penetrated the plate at all, and was thrown back in several pieces. No crack appeared at all near the point of impact, but a slight start of an appearance of a crack was formed on the outside edge nearest where the shot struck. The results of these two shots were considered so remarkable that it was decided to fire a third, which was launched against the plate before it had recovered from the vibration of the second impact. This shot, which took effect 12 inches from the side and 12 inches above the center, caused two cracks, one extending down to the impact of the first shot, and the other going upward to the top outer edge. Nevertheless, the shot did not penetrate half way through the plate, but was returned into the arena almost pulverized to dust. The general opinion of those who witnessed the trial, we are informed, was that the plate was the best of its kind yet tested. The plate was manufactured of special steel recently patented by Mr. J. F. Hall, the works manager of Messrs. Jessop's works.—*Colliery Guardian.*

Hemp Silk.

Mr. Nayemura Sakusaburo, a druggist of Hikone, in Omi, Japan, has succeeded in converting wild hemp (yachyo) into a substance possessing all the essential qualities of silk. Nothing is said about the process, but it is asserted that trial of the thread has been made at the first silk-weaving establishment in Kioto and at other factories, with excellent results in every case. The plant in question grows on moors and hillsides. Its fiber is said to be strong and glossy, in no wise inferior to silk when properly prepared. Cultivation on an extended scale would present no difficulties.

ORNAMENTAL IRON WORK FOR AMATEURS.

Although artistic wrought iron work dates from very early times, it was never more popular than it is at present. This remark applies especially to movable articles such as tables, stands, racks of various kinds, fuel baskets, lamp supports, etc. Many of these articles of recent manufacture are copies of antique objects, while others are of modern design. As works of art they are fully equal, if not superior, to the specimens of earlier work.

Now, while no imitation can ever equal the original article, it must be admitted that imitations often

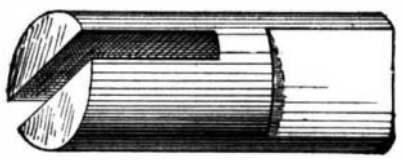

Fig. 3.—JAW FOR BENDING.

prove very satisfactory to those who can neither make nor purchase the real article.

The examples of iron work here illustrated are styled imitations, as they are made without forging, *i. e.*, the iron is bent either cold or hot, without the use of a hammer, while the iron bars or rods maintain their original cross section. Any one used to the hammer and anvil can, in addition to the curves, apply forged portions, or twist and forge the bars used in the scrolls.

The only special tool used in making articles of this class is the steel jaw shown in Fig. 3. Its slot receives the bar to be bent, and its flattened shank is designed to be held in an iron vise. A scroll is formed by placing the end of a bar in the jaw, and winding the bar around the jaw and upon itself, afterward unwinding the bar to open the spiral as much as may be required. After the scroll is complete, the inner straight end of the bar is cut off by means of a hack saw. The sharp angles may also be bent by the use of the jaw. It will facilitate the operation if the bar is heated red hot at the point of bending. A hammer may prove useful in this part of the operation.

The standard of the lamp support consists of a piece of gas pipe. The feet are attached by means of screws, and the different parts of the iron work are fastened together by means of small screws or bolts.

A rod is fitted to the gas pipe and has at its upper end a frame or cup for receiving the lamp. A clamping screw passing through the gas pipe holds the rod at the desired height.

An easy and satisfactory way of blacking the work after it is finished is to coat it with a thin varnish of stick or seed lac cut in alcohol, with refined lampblack stirred in to give it the required color. The varnish should be made quite thin to avoid any gloss.

It is obvious that grilles, gates, screens, doors, and other objects may be made from iron in this way with little trouble or expense.

Figs. 1 and 2.—IRON LAMP SUPPORTS.

A New Era of Prosperity.

It is the opinion of many close observers of the times that this country has entered upon a new era of prosperity. One of the chief reasons for this belief that they cite is that wheat values, which, with the exception of two or three instances of temporary abnormal inflation, have for a number of years past been unusually low, must in the future inevitably maintain a higher range, owing to the simple fact that our home consumption is increasing much more rapidly than the production of wheat—that there will be less new land to subdue, less bonanza wheat farming, and a greater diversification of crops in the future than in the past. As the prosperity of the country depends upon that of the farming community, it is easy to see that a steady, legitimate advance in the price of breadstuffs under the conditions cited would inevitably bring better times to the people. Increase of home consumption is the factor upon which the farmers and millers must mainly rely to enhance their prosperity. The foreign market will cut much less of a figure in the future than heretofore, and the sooner those who are banking so heavily upon it now arrive at an understanding of this fact, the more contented in mind will they be.—*The Modern Miller.*

Make an Agreement.

It is a difficult matter to deal with that class of men who will neither give nor receive a definite proposition looking toward compensation. If, on the one hand, you meet a man who says, "That will be all right; I guess we won't have any trouble about that part of it," set it down that there will be trouble on just "that part of it." If, on the other hand, you find a man who is always declaring, "You'll not lose anything by this; I'll see that it's all right," you may be sure it will be all wrong in the end. When two men of this sort get together, and the services are of such nature that to determine their exact value at the time of their inception is impossible, the end will be a misunderstanding, mutual dissatisfaction, possibly an estrangement. Yet there is no case in which a probable value cannot be got at. If you consider matters as a complete affair, and estimate the value of results as you plan them to happen, you can never be far wrong. If one cannot do that, he has no business to undertake to make contracts at all. It may be that there are times when a man may go into a business engagement without a definite idea of what his pay is to be, and there may be men who will always settle satisfactorily. But one is never safe to make engagements in such a lax way. False modesty always stands in the way of sensible business arrangements. But it has no place in business. As an old merchant said once to a writer: "We are friends, and I trust will always remain so. Perhaps it is against my interest to tell you so, but when you are making an agreement for the purchase and delivery of goods, don't think of your feelings toward each other at all. Buy of me as you would of a stranger; consider your own needs and profits, and don't hesitate to buy when you can do best." It should be exactly this way in making arrangements for employment. Treat the matter simply as business, pure and simple. You can't afford to do business without making proper arrangements for all points. These sensible suggestions from the *National Grocer* have more than a money value. "Business is business" seems sometimes like a heartless proverb, but it is a fact that no business is likely to prove so satisfactory as that which is done strictly on business principles. Here is where the great value of business education comes in. It impresses upon the mind at every stage of its course that "business is business."