

SETTING DIAMONDS.

Great Skill Required in Fastening Valuable Gems.

The Art Is Simple, But So Delicate as to Take Years of Practice to Make Perfect--The Clamp Setting Described.

Few people outside the jewelry trade have any idea how the brilliants they buy and wear are fastened into their settings, and a great many retail jewelers, who have sold jewelry for years, are equally ignorant. The art of setting jewels is comparatively simple, the skill of a setter depending upon his knowledge of the strength of the material and the delicate touch required, which can only be gained by years of practice.

He then, with a thin file, sharpens all the clamps, bringing them up to sharp points. Then, with a scraper or graver shaped like a chisel (all of his cutting tools are miniature chisels of different shapes), he digs out a bearing or shoulder for the edge of the stone on the inside of each clamp; he now, with a pair of sharp-pointed pliers, bends the clamps inward or outward, as they happen to require, until the stone will just squeeze into the circle of clamps.

When the clamps are all firm in their places they are bright-cut, as the term is. The clamps are trimmed to a point with three cuts, two on the sides and one on the top. The setter cuts away from the stone, and must be careful not to dig too deep into the gold or he will push the whole clamp away from the stone; then, to make a good job, the stone must come out and the clamp be bent forward again. Some who manufacture the finest goods do not believe in bright cutting clamps on rings, as the sharp edges left are very severe on gloves worn over them.

Racing Railway Trains.

The "bridge junction" is a point above East St. Louis where the Wabash, Big Four and Alton roads strike the terminal tracks. From the junction to the Relay depot, all trains of the three roads run on the same track, and as the roads named run parallel and close together for several miles north, exciting races sometimes occur, as two or more trains occasionally approach the junction at about the same time. The early morning incoming trains on each road are scheduled to arrive at the junction within a few minutes of each other.

It often happens that two of them pass the merchants' bridge close together and then there is a race to the junction as the first one to reach it gets the track to the Relay depot. It is said that the rivalry between the engineers sometimes prompts them to put on a full head of steam and carry their trains along at the rate of seventy miles an hour. Very few accidents occur at the junction, but it is claimed that nearly all that do happen there are caused by the racing of trains.--St. Louis Post-Dispatch.

A Singular French Timepiece.

The latest among these curious timepieces is constructed as follows: A sunflower of silver protrudes from a white crystal vase, graceful in shape and soberly decorated. The stalk is of brown gilt, the leaves green, the petals yellow, and the heart of the flower oxidized. Hour and minute marks are engraved around the heart of this sunflower, which faces the looker-on. A ladybird of spotted red enameled gold apparently rests on the flower, on the line dividing the heart from the petals. This pretty insect, which moves imperceptibly by means of a mechanism hidden within the flower, shows the time. By only close inspection can one detect the time divisions on this original dial, which is granulated all over and is bluish-black. As to the hollow circular line on which the ladybird travels, it is completely invisible.--Jewelers' Circular.

A CURIOUS PLANT.

It Entraps Certain Moths Which Perish Miserably.

A New Zealand correspondent suggests that the ravages of certain larvae, in some countries, might be greatly restricted by the introduction of the New Zealand moth-catching plant, "Araugia albena." This plant, which is a native of southern Africa, was introduced to New Zealand quite accidentally about seven years ago, and since then it has been extensively propagated there, on account of its effective service as a killer of destructive moths.

Whenever the climate is mild the plant is an exceedingly free grower; it twines and climbs with great luxuriance, and produces immense numbers of white or pinkish flowers, which have a very agreeable scent. These flowers attract innumerable moths, and in the morning there will not be a single flower that does not imprison one or two, and sometimes as many as four, insects of various sizes and genera. The action of the "araugia" is purely mechanical. The calyx of the flower is rather deep, and the receptacle for its sweet juices is placed at its base. Attracted by the powerful scent and the prospect of honey, the moth dives down the calyx and protrudes its proboscis to reach the tempting food. But before it can do so the proboscis is nipped between two strong, hard, black pincers, which guard the passage, and once nipped there is no escape for the moth, which is held as in a vise, by the extreme end of the proboscis, and dies miserably.

The "rationale" of the process is not yet explained. The proboscis is so very slightly inserted between the pincers (only a minute fraction of an inch) that it apparently cannot affect the generative organs of the plant, unless these may be the pincers themselves, whose actual contact may be necessary for reproduction. Upon dissection, the pincers, even in their ordinary position, are invariably found to be almost in contact, the separating interval being apparent under a strong lens. It is, therefore, hard to understand why such a process as the destruction of a moth should be necessary to close this already minute gap. But, at all events, the thing is done, and effectively, and a plant of araugia covering a space of ten yards in length will destroy as many hundred moths every night, and, consequently, prevent the ravages of fifty times as many larvae. It is, however, a singular fact that in New Zealand, where the plant has often been cultivated for the express purpose of destroying the detested codlin moth ("Carpocapsa pomonella,") that wily insect declines to enter the trap.

SARDOU'S FATHER.

He Wanted His Son to Be a Doctor Rather Than a Dramatist.

If Sardou's father had prevailed with his son the latter would, it seems, never have been the illustrious dramatist of France. The father was a doctor, and he induced his son, after listening to his dramatic proclivities, to enter the medical college and ardently pursue the study of dissecting the human being's flesh. Sardou, the son, preferred, after a time, to depict the character of man and woman. He wrote a play, read it to his father, who declared it to be detestable stuff. It was called "Amis Imaginaires." The second play was entitled "Premieres Armes de Figaro." It was a great success. All the world then congratulated the father on having such a clever young son. Upon this honest old Sardou wrote to Le Figaro relating the facts, and begged the world would in future compliment the son, who had more to do with himself than he, the father, had had.--Philadelphia Record.

Shot the Wrong Bird.

The other day a gentleman entered a restaurant and ordered a chicken. The chicken was evidently tough, for, when the waiter came in, he held the gentleman with his coat off and in a great state of perspiration. "Waiter," he said, "this chicken is very tough." "Very sorry, sir, but you see, that chicken always was a peculiar bird. Why, when we came to kill it, we couldn't catch it, so at last we had to shoot it. It flew on the houstop, and--" "Then you must have shot the weathercock by mistake."--Indianapolis Sentinel.

Stocking Darning Made Easy.

Mothers who are confronted weekly with tremendous holes in almost new stockings, and it is remarkable what two days' wear by an active child can accomplish in this respect, will do well to follow the lead of one home darning who has worked out her own salvation in the matter very cleverly. She takes a piece of strong net, bastes it over the hole, and then darns over it, thus accomplishing a neater and stronger darn than in the old way, and in a shorter time. The same method is successful in mending long woven underwear.--N. Y. Times.

RARE WOODS.

South America Is Rich in Lumber of the Choicest Kinds.

Most of Them Are But Little Known to Manufacturers--Railroads Will Develop a Wonderful Industry in the Southern Republics.

Many of the finest woods in existence are yet unknown, or only slightly known, to the manufacturers of wood in the civilized world. The woods of Central and South America are perhaps the most remarkable as well as the least known. In the yet untouched forests of this continent are many woods far finer than any of those now in use. These woods range from pure white to jet black in color, and many of them are most beautifully marked and veined. Some of them are so hard that they turn the edges of axes, chisels and other tools, while the band-saw cuts them only slowly. In the Columbian exposition there were many displays of little known woods, and the finest of them were those from Argentine Republic, Brazil and other South American countries.

Some of these southern woods yielded to the teeth of the band-saw, not the ordinary sawdust, but fine powder, fine as the finest flour, so hard were the woods. Some of them burned very slowly. Others possess qualities that keep them free from insects. Some of them seem to be practically indestructible by air and water. All along the eastern slopes of the Andes up to the snow line on those great elevations, throughout all the great river valleys and in some of the wild areas of level country in South America, are great forests of fine woods that are specially fit for the finest cabinet and furniture work and also for shipbuilding, carpentry and other industrial arts in which wood is the "raw material." These great forests are now an unknown quantity in the commercial world, but they will come rapidly into the knowledge of men and into industrial use when once the railroad has reached them. Before many years, it is safe to predict, the South American and Central American republics will be threaded by railroads, and then those wonderful woods will be drawn upon to supply the demand for new and fine woods in all the civilized countries.--Lumber World.

Neither One Nor the Other.

An elderly Irish woman who was in a Madison avenue car wished to get out at Forty-second street. The conductor was on the front platform, so the woman, addressing a gentlemanly looking young man opposite her, said:

"Shtop the car." The young man looked over her head. "Shtop the car, I say," she repeated, glaring at him savagely. Still no response. "Didn't I tellye to shtop this car," she shouted, gripping her umbrella. "I am not the conductor," remarked the young man with sarcasm, while the young women in the car tittered. "Faix, an' you're not," replied the Irish woman scornfully; "an' you're no gentleman, nayther. Moreover, you're no blessin' to your mother, you're not. If you were you wouldn't let a respectable woman get carried two blocks out of her way without any askin' from her either."--N. Y. Herald.

Ancient Japanese Order.

Sir George Tyler, lord mayor of London, has been decorated with the Japanese order of the Sacred Treasures. These treasures are of divine origin, and were given as heirlooms by the sun goddess to her grandson, the first mikado. They are three in number--a mirror of metal, a stone sword and a stone necklace. The last has disappeared, or perhaps the legend of its existence may have arisen out of a confusion with the material of which the sword is made. The treasures were at first kept in the mikado's palace, but are now preserved in separate temples. The mirror has been at Itso for 1,898 years; the sword is at Atsuta.

How Chinese Burglars Work.

The Chinese burglar takes an ingredient of his own, burns it and blows the smoke through the key-hole of the bedroom where the master of the house is asleep. The fumes dull the senses of the victim just enough to make him helpless, while at the same time permitting him to hear and see everything that goes on in the room. The only antidote against the charm is pure water, and most of the wealthy Chinese Chinese folk sleep with a basin of this near their heads.

The Cause of Education.

Yale made nearly twenty thousand dollars at football last summer and fifteen hundred dollars at baseball. Who shall say, in face of this showing, that the cause of education is not in a flourishing condition in America?--Boston Transcript.

LET THEM SLEEP.

Don't Wake the Little Tots Too Early in the Morning.

Good Reasons for Getting Children About, But Better Reasons for Letting Them Have a Good Rest--Sluggards Need More Heroic Treatment.

Various remnants of the old Puritanic way of thinking and doing still survive among us, and notable among them, says Harper's Bazar, is the heroic method of dealing with children, and of trying to make their lives conform to the standard which in its day eliminated all but the soundest and strongest from any sort of life. This is seen, as often as in any other form, in the way the mother will have all her children out of bed at a given early hour, regardless of eyes still full of sleep, of little limbs not yet quite over their weariness, of the faint answers and long lingerings after a second call, either because she likes to have her family breakfast together, or wants to make one piece of work of it, or has a notion that early rising is good for the health. Each of these reasons is a good reason. Certainly it is pleasant, conducive to good cheer and family life to have all the household breakfast at once; and quite as certainly it adds to the heaviness of the household struggle very materially if there are stragglers at the morning meal, and one breakfast has to be served after another, while of course early to bed and early to rise is a saying not without truth in relation to making one healthy, wealthy and wise.

But there are always the circumstances which alter cases. The stout and hearty child who went to sleep with the birds can afford to get up with the birds; his body, his brain, his nerves, have had all the rest they need in long sweet hours of slumber, and if he does not respond to the call he is possibly a sluggard whose fault must be amended. But the mother will do well to make sure of the fact that he has in reality had all the sleep he needs before she wakes him with an imperative summons. If he is not a stout and healthy child it is not certain that he has slept well, for both restless nerves and indigestion have a part to play in the night, if there is no other more potent trouble. And if he is an excitable child, precocious or studious, then, the hours of sleep being the only ones in which the brain repairs its loss and hurt, it is a matter of vital moment that those hours should have their full number.

What We Are Coming To.

A master of statistics has made a prediction of what the world will be at the end of another hundred years. First, the climate will not have changed sensibly.

Secondly, in population Europe will have 780,000,000 of inhabitants; Asia, 1,000,000,000, while America will have reached 685,000,000; Australia 30,000,000 and Africa 100,000,000. The chief increase will be in America first and Europe next. In the former Spanish-America will have the heaviest increase. The diminution of increase in population, which is already noticed in France, will follow in Germany, Italy and England.

As for the different nations of the time, Russia will have 340,000,000 of population, Germany 115,000,000 and France only 56,000,000. China will have passed 550,000,000, and in all probability will still remain outside of modern civilization.

In America these figures have the greatest meaning. The United States will have 400,000,000, Mexico and Brazil 150,000,000, Canada 40,000,000, the Argentine Republic and Chili 30,000,000. The two civilized nations which will have the greatest power will be the United States and Russia, having together over 700,000,000 inhabitants.

Quick Repentance.

Eight divorces were granted in this state in 1893 to persons who had been married less than six months and to seventeen persons who had been married more than six months, but less than a year. One hundred and ninety-six persons had been married more than twenty years, and forty-nine persons had been married more than thirty years before applying for a divorce. The whole number of divorces granted last year was 1,045.--Boston Herald.

He Could Be Trusted.

A small colored boy who stole some zinc from in front of a new building was arrested and taken before a magistrate for a hearing. He was severely reprimanded by the magistrate, who instructed him to take back the stolen zinc, and, turning to the officer, requested that he should see that the boy did it.

"Dat's all right, boss," said the prisoner, "Ise gwine to take it back, and yo' peedn't send no cop wid me, fo' Ise hones'."--Philadelphia Call.

PROSPECT OF FLYING.

An Inventor's Ideas on the Probability of Human Flight.

Lord Rayleigh, in speaking of my experiments at the Oxford meeting of the British association, said he considered that of the five great problems to be solved before flight could be accomplished I had already solved three. I presume he referred to the motive power, the propelling power and the lifting power. What remains to be done is to learn to steer and maneuver the machine, and when once free flight is accomplished to practice landing until the navigator is able to bring the machine slowly to the earth and land without injury or shock. Of course it would be necessary to approach the earth slowly in a vertical direction while running at a very high speed and to shut off steam the instant the machine touches the earth. The machine will then run forward over the earth and be brought to a state of rest in about one hundred feet.

Now that it has been shown that a machine may be made which will actually lift itself and travel through the air at a very high velocity, I believe that some of the military powers who have so long been experimenting in this direction will take advantage of what I have accomplished, that they will obtain sufficient appropriation, and that an actual flying machine for military purposes will soon be evolved, whether I continue my experiments or not. As for the commercial value of flying machines I do not think it is likely that they will be employed for freight or passengers. Perhaps they might be used for sporting purposes, and it is not altogether unlikely that in the daily journals of twenty years hence we shall find illustrations of some popular prince of the realm on a flying machine pursuing a flock of wild geese through the air and firing on them with a Maxim gun.--Hiram S. Maxim, in National Review.

ITS DOOM PRONOUNCED.

The Black Scale No Longer Infests California Orchards.

The black ladybird of Australia, which was introduced into California two years ago to exterminate the black scale and like orchard parasites, has not belied its reputation. To these pests it has proved so relentless an enemy that in some parts of the state, notably Santa Barbara county, scarcely any insect life remains for the sustenance of the ladybird. Trees which, two years ago, were covered with the secretions of the scale, which, in fact, seemed irremediably ruined, are now clean, bright and vigorous. "It is difficult," says an expert, "to place a pecuniary estimate on the value of the enemy of the black scale. In one respect, however, the saving in spraying and fumigating will probably represent one hundred thousand dollars a year to the horticulturists of California. One fruit-grower alone has of late years been compelled to expend from three to five thousand dollars per annum for this purpose, while there are four or five growers in Los Angeles county alone who each pay out an average of ten thousand dollars annually in battling against the black scale. All this will be saved, for the little beetle costs nothing. Then, in addition to the economy, the trees will be more healthful and consequently will bear more plentifully and a better quality of fruit. The officers of the board of horticulture are satisfied that the black scale is doomed, as was the cotton cushion, and are now turning their attention to the discovery of a parasite that will war on the red scale, which is causing much annoyance and loss to the orange-growers of the south."

According to His Light.

A teacher of a Virginia district school recently asked one of her little colored pupils to go to the black-board and write a sentence thereon containing the word "delight." George Washington Jackson went pompously to the front of the room and wrote in a large, scrawling hand these lines: "Do wind blowed so hard dat it put out de light."--Harper's Young People.

When Too Wakeful.

For sleeplessness, tire one of the special senses, say sight or hearing, by letting the eyes wander, or by listening to some monotonous sound, without fixing attention. It may succeed or it may not, but cannot do worse than the rest of the thousand and one prescriptions for the same purpose. A dull reader or, better, hum-drum preacher, is the only infallible soporific.--Sanitary Era.

The Professor Was Interested.

"And you say he was defeated by one vote?" said the professor. "Yes," said his wife, who had been reading from the paper. "That's interesting, very interesting," he mused. "It's a positive paradox. It's what might be termed a singular plurality!"--Washington Star.

HOLMES IN REAL LIFE.

Interesting Story of an Incident in Sir Astley Cooper's Life.

The marvelous qualities of dissection and analysis with which Dr. A. Conan Doyle invests his mythical character, Sherlock Holmes, are manifested at times by individuals in real life. Probably it is due to the possibilities of the occurrences that make Dr. Doyle's stories so attractive.

An actual case of accurate analysis and judgment is reported in an old-time medical journal of Sir Astley Cooper, the famous London surgeon of fifty years ago, between whom and our own Dr. Valentine Mott there existed a warm personal friendship and some slight professional rivalry, each having performed for his time wonders in surgery.

It is related of Sir Astley that he was once called to perform an almost hopeless operation upon a Mr. Blight, who had been shot by an unknown assassin. The prominence of the man and the mystery surrounding the shooting rendered the case celebrated at the time of the occurrence.

Mr. Blight was unconscious at the time of the examination, and nothing could be obtained from him. The moment Sir Astley examined the wound he turned to his assistant and said: "A pistol has been fired at him with the left hand." Then he explained the reasons for his conclusions.

While he was still engaged in this Mr. Blight's partner, a Mr. Patch, a man esteemed as reputable, entered the house and was shown to the room. Something about his manner and his countenance attracted the attention of Sir Astley, and he whispered to his colleague: "If that gentleman were left-handed I should suspect him of the crime."

The next instant he turned to Patch and said: "Will you kindly hand me that lint?" Patch did so, utilizing his left hand. Mr. Blight died. Patch was accused of the murder, and upon being tried and condemned on circumstantial evidence confessed his guilt. He was duly executed.--Chicago Tribune.

A WELCOME FRIEND.

Something About the Golden-Crested Wren as Seen in England.

He was a little person whom I had not seen in my grounds for four long years, when with his wee wife he used to hop around the "arboreal vites" that grew in my wigwam windows, says the Liverpool Mercury. But I never expected to see them again, for in our district bird-catchers are ever busy, and the law which forbade the destruction of birds in season but permitted the seizure of eggs was the most foolish in existence. The consequence is that many of our most beautiful birds are seldom seen. Bullfinches and goldfinches no longer enchant us with their melody in copse and grove; blackcaps and whitethroats are rare; kingfishers are killed whenever seen, just as are innocent mice-eating owls and hawks, while away along the old romantic seashore the slaughter of gulls is dreadful to contemplate.

Well, the little person in question rejoices in the name of "Sylvia Regulus," or golden-crested wren. A very tiny individual, indeed, but charmingly pretty and hardy to a degree. These birds are to be found amid the pine-clad mountains of Scotland and Norway, and even cheer the exiles of far Siberia with their presence and sweet but simple song. They mostly all leave England in winter, but many remain. They build as early as March a dome-shaped structure and lay a large number of their tiny red-spotted eggs. They generally build in a bush, but some years ago a pair built under the cork bark of my Persian cat's house, of all the places in the world. There is one thing the "Sylvia Regulus" never knew, and that is fear. I sincerely hope my tiny friend has come to stay.

Flexible Stone.

It may be safely said that no specimen in a geological collection is more curious than the bar of flexible sandstone, which can be bent with less pressure than that required to bend a piece of wet leather of the same size. In an article upon the subject in the Mineral Collector, we are told that "when a thin slice of the stone is looked at under a lens by transmitted light, the fragments are seen to be locked together like the parts of a sectional puzzle toy, fixed, but only loosely. The simplest way of explaining how this stone was formed is to say that the grains of sand were once cemented firmly together by another material, which has been partly dissolved, leaving countless natural ball-and-socket joints of jagged shape behind."

Large Farm.

Louisiana has the largest farm in the United States. It is 100 miles one way and 25 the other. The fencing alone cost \$50,000.

The Difference.

The great difference between an ad and a cat is that an ad has nine lives while a cat hasn't.--Printers' Ink.