

TAKES SKILL TO CUT DIAMONDS

Methods of Turning the Rough Stones Into Brilliants Explained by Expert.

WORLD WAR PUT PRICES UP

But They Are Being Bought and Displayed in This Country More Than Ever Before—Very Few Are Perfect.

New York.—Diamonds as coveted gems and ornaments have lost none of their popularity. Since the late war many persons who never possessed these brilliants are wearing them today, even though they cost more than formerly. Few persons realize the skill it takes to cut and polish diamonds for the market.

"Diamonds as they are found in the rough state," Herbert P. Whitlock, curator of the department of mineralogy at the Museum of Natural History, said, "are not impressive. They have none of the magical flashes of light which in the polished stone makes them unique among the noble family of gems. And it is here that a goodly part of the price of diamonds is accumulated. For the art of turning a rough diamond into a polished brilliant is a long process requiring a superlative degree of skill. There is no better way to appreciate this than to follow the diamond from the mine to the jeweler and see for ourselves just what happens to it.

"When the diamonds are recovered from the mine they are not by any means all of them clear and colorless, as a self-respecting diamond should be; indeed, only about 25 per cent of the stones found are without some faint color.

"So we find that at the beginning of its travels the diamond is introduced to the sorter. The sorter is a kind of super-expert on diamonds, whose eye has been trained through years of practice to detect the slightest variations in color of diamonds and to find flaws in the stones with an ease which is little less than uncanny.

Sorting the Diamonds.

"The first consideration in sorting diamonds is the adaptability of the stone for cutting. Let us assume that the stone whose travels we are following is sorted into the grade known as 'close goods,' comprising flawless crystals from which fair-sized brilliants can be cut, or, to use the trade term, 'made.' These usually have eight sides or facets triangular in shape. Next come a re-sorting of the 'close goods' into eight grades, ranging from blue white, which comprises the finest quality stones, to yellow and brown, which are so badly off color as to be unfit for gems.

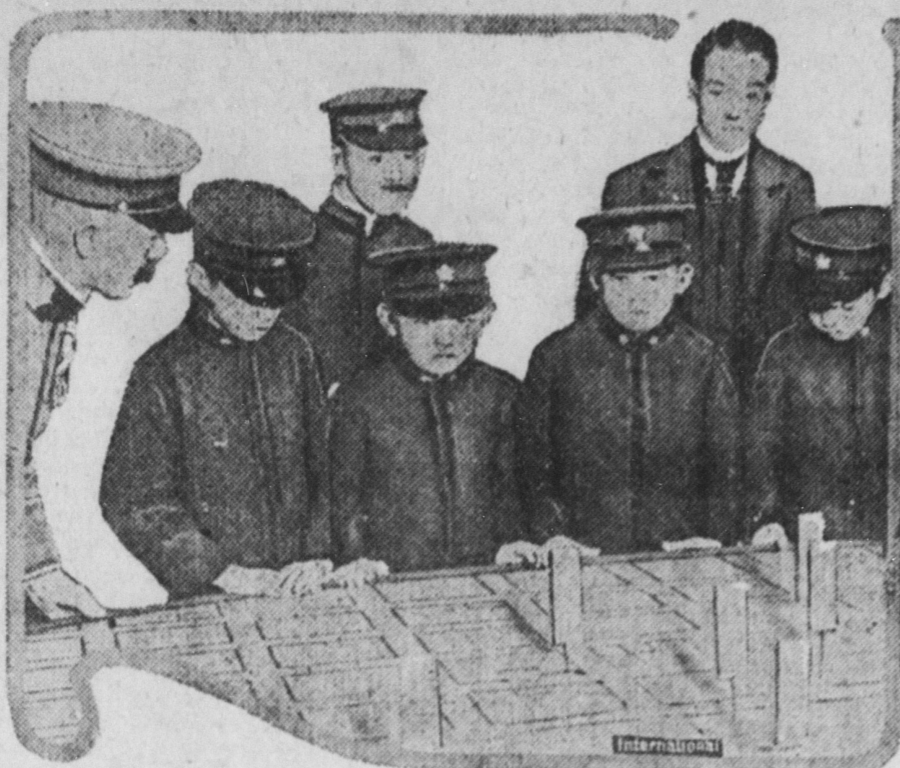
"If our stone has passed the critical test of the sorter and is placed in one of the higher grades, it is weighed, wrapped up in a parcel with others of its kind, a price per carat is assigned to it and it is sold to a diamond dealer and ultimately finds its way to the workshop of the diamond polisher. Here at the hands of a highly skilled workman it is destined to be turned into a gem fit to grace beauty or opulence.

"Most of this is done in Holland, and especially in Amsterdam, which, since the fifteenth century, has been famous for this industry.

"The surface irregularities, together with any superficial flaws, are first split away from the stone. . . . Sometimes when the stone is large it is of advantage to saw it into two or more pieces so as to save as much as possible of the weight in cut diamonds.

"The rough shaping of the diamond is done through an operation called 'bruiting,' which consists of wearing away the corners by rubbing one stone against another. This was formerly a manual process, the two diamonds being mounted on sticks held in either hand by the lapidary. But even in the ancient and conservative art of

Four Little Princes of Japan



The four sons of the crown prince of Japan, on a visit to Nikko, studying a map of the city in the municipal offices. Their tutor, an army officer, is pointing out the various locations. The lads are studying municipal government in the various cities of Japan.

diamond cutting some mechanical improvements have crept in, and now in most of the shops a rapidly turning spindle takes the place of one of the hand sticks.

"Having rough-shaped our diamond, we now come to the finishing operation, the producing of the facets which give brilliancy and sparkle to it and which is technically known as polishing. The holder of the stone during the polishing consists of a small metal cup on a long stem which is called a dop, and much resembles a tulip. A soldier composed of one part tin and three parts lead is placed in the dop and heated until soft. The diamond is then imbedded in the sol-

er with a portion of the stone on which the desired facet is to be cut placed uppermost and almost completely surrounded by the solder.

"The dop is now fastened by means of its stem in a heavy iron arm called the tong, in such a position as to bring the position of the facet to be cut exactly undermost when it is placed in contact with the polishing wheel or lap. The latter is made of soft iron and turns at the rate of about 1,000 revolutions a minute. Several hours are required to cut one facet, then the stone is readjusted for another one, until all of the 58 little facets in which lies the secret of its brilliancy are produced."

Tells How to Kill Trichinae

Department of Agriculture Carries on Experiments With Aid of Packers.

MAKE PORK SAFE TO EAT

Salt and Suitable Temperature Fatal to Parasite—Time Element is Also Figured Out for Each Variety of Product.

Washington.—A long series of experiments to ascertain what treatment, other than cooking, will thoroughly destroy trichinae and render pork products safe for consumption has recently been conducted by the United States Department of Agriculture. It is hoped that the findings from these experiments will save many from the dreaded disease trichinosis. Hygienically, the custom of eating uncooked pork and pork products is regarded by the medical profession as very much to be discouraged; but the toothsome summer sausage, smoked sausage, pepperoni, pickled sausage and a number of other dainties continue to tempt the American public to defy the physician. The experiments proved of double service. In addition to fixing the safety in the various methods of curing pork without cooking, they cut down the time consumed in the processes in some cases as much as five days, permitting considerable saving in the cost of manufacture. Prior to these investigations comparatively little was known concerning the effects of processes used in curing pork upon the vitality of trichinae, which is the cause of trichinosis.

It has been assumed as a governing principle by the department's specialists that the consumer is himself responsible for the proper preparation of fresh pork and pork products that are usually cooked before eating, but that the manufacturer is under obligations to make sure that pork products sold as cooked products are properly cooked, or, if of a kind customarily eaten without cooking, to make sure that the products are free from live trichinae.

In the federal meat inspection regulations it is therefore provided that products cooked in establishments under inspection must be cooked in accordance with methods approved by the bureau of animal industry.

Most of the department's experimental work was carried out in cooperation with certain meat packing establishments in Chicago. The investigators selected the methods of preparing pork without cooking that seemed likely to be efficacious in destroying trichinae and at the same time suited to practical requirements of manufacture. Several new methods were devised.

The investigation shows that pork products of the kinds customarily eaten without cooking may be rendered safe for consumption, so far as trichinosis is concerned, but that it is necessary to follow a special curing process adapted to each. Salt is an essential in most of the processes.

Sausages of moderate size have been rendered harmless by mixing not less than three and one-third pounds of salt with every hundredweight of meat, followed by preliminary curing and then by drying. After the salt has been introduced the sausages must be dried at least 20 days in a temperature not lower than 45 degrees Fahrenheit. A period of five days is allowed for preliminary curing, which may be curtailed, provided the time in the drying room is correspondingly increased.

Treating Other Varieties.

In the case of pepperoni, which are sausages stuffed in long, narrow, thin casings, it was found feasible to reduce the curing period to 20 days, of which at least 15 days must be given to drying.

Smoked sausages may be rendered harmless by being subjected to a preliminary cure and then smoked at temperatures ranging around 80 degrees Fahrenheit for 40 hours, followed by drying for ten days. Sausage smoked at a temperature of 125 degrees to 130 degrees Fahrenheit, for a relatively brief period, following a preliminary curing period of six days, is rendered harmless without subsequent drying.

Hams are rendered free from trichinae by two methods. One is to cure them with dry salt—four pounds or more to the hundredweight—for a period of 40 days, and then smoke or pale-dry them for ten days at a temperature not less than 95 degrees. The second method is to cure them on the basis of three days for every pound of meat, followed by 48 hours of smoking at a temperature of not less than 80 degrees, and finally by 20 days' drying at a temperature not lower than 45 degrees.

Salt and suitable temperatures are the principal means of destroying trichinae.

Navy Tales

By a Lieutenant in the United States Navy



WASP

THE U. S. S. Wasp had a transient glory about her that was almost modern. She fitted into being in April, 1814, and buzzed out during the fall of the same year.

There was a first Wasp in the war of 1812. This second one was smaller but better built. Her 500 tons made her little more than an overgrown yacht.

She was armed with 20 sawed-off 32 pounders and a pair of lean 12-pounders. Cutting loose all together she could hurl the tremendous broadside of 315 pounds of metal—or about the weight of one modern 8-inch shell!

Captain "Johnnie" Blakeley took her out on May 1, 1814. He wasted no time but headed straight for the English channel. In six weeks he had cleaned up enough prizes to retire on a chicken farm.

But Johnnie was not the retiring kind or we shouldn't have named one of our late destroyers after him.

On June 28 H. M. S. Reindeer gave a sight. With Laplandish pertinacity the Wasp perched on the Reindeer's saucer and stung her venomously.

But the Reindeer was known as the "Pride of Portsmouth," so she bucked and kicked and fetched other vicious efforts to dislodge her adversary. Her skipper Capt. William Manners, leaped into the rigging and gallantly promulgated a boarding party over the rail of the Wasp, which had come along-side.

Followed a unanimous and successful prohibition movement amongst the Americans.

Bill Manners and 67 of his crew and officers were killed or wounded. The ship's clerk was the only officer left to surrender.

Thence the Wasp sailed to France to recoup. She did it so well that soon after leaving port she attacked a convoy of ten vessels escorted by the 74-gun ship-of-the-line Armada. With sentimental partiality she cut out the brig Mary, captured valuable military stores and escaped.

With her blood still up she fell in with H. M. S. Avon. After a running fight of two hours in the darkness of night the enemy surrendered. The Avon's mainmast fell over her after guns and blanketed their fire.

At the moment the British surrendered several more of the enemy hove up over the horizon. Capt. Blakeley prudently beat it.

On Sept. 21 the brig Atlanta was taken. She was the fifteenth prize. October 9 the Wasp fell in with a Swedish brig and was reported for the last time. She was never seen nor heard of again.

DEVIATION

I CAN'T vouch for this tale. I wouldn't if I could. If there's any vouching to be done a sailor must save it for his own tales. To the nautical raconteur Truth is an abortion of scientific intrigue calculated to put the bug on romance and adventure.

It is true, however, that a compass needle is of weak and vacillating character. Let so much as a bally hunk of low-caste iron approach the binnacle bowl and our high-priced guide becomes a creature of decidedly easy virtue. The needle abandons its straight and narrow north-south line and submits to the magnetic charm of a baser metal.

Deviation is the name of the needle's sin. On a steel vessel each compass points out of true. Though magnets are arranged about it to compensate for action of surrounding metal, there is always a small error. This error is deviation.

Vitally important to a skipper is it to know the amount of error. Also must be familiar with what nearby beams and braces cause most of it.

For instance one of the Canadian patrols—so the tale goes—had a wooden cargo boom secured just forward of her bridge. The heel fitting on the boom was of steel. So near the steering compass was this piece that when a gale swept the forecastle clear, taking boom and all, there was some 12 degrees change in the compass error.

Perhaps it was youth, or maybe optimism in the captain that kept him from worrying. Or it may have been that he was bound up to Sydney, his home port. Or it may even have been that he was going to see his wife. Some sailors are that way.

At any rate he kept on in spite of rain and fog and snow and sleet. No moon, nor sun, nor stars to guide him. His dead reckoning had to do.

He crawled into a "hole in the wall," which a harbor is like in thick weather. And though it was late he went ashore.

Somehow the dock looked unfamiliar. The street beyond curved the wrong way. Certainly there was something queer about the lights.

Suddenly he encountered a woman. It was his wife. But why should she have her new suit on as he discerned by the glow of a shop window.

"What are you doing here?" she exclaimed.

"Going home, of course."

She led him into a strange house and said strange things to strange people. His head whirled. He tried to remember if he had had more than one glass of grog at the landing.

Ten minutes he sat in a kind of trance. Then someone mentioned St. John's. He leaped to his feet. "The boom—the compass deviation!" he cried. "It's Newfoundland I've hit."

They thought him crazy, but in fact it was his compass that had gone looney. He had missed Sydney by just three hundred miles!

BON HOMME RICHARD

AN OLD STORY, yes. But I bet you didn't know she won her battle with a bucket!

She was the flagship of our first J. P. who was known by foreigners as "that pirate."

John Paul Jones named her after the Almanac published by a certain B. Franklin. The letter's influence in France made it possible for Americans to fit out a squadron of reprisal against the British.

In the summer of 1779 five American men-of-war crossed under Jones' command. After painting the Scotch coast red they fell in with an English fleet. For rather obscure reasons only two ships chose to engage, H. M. S. Serapis and the U. S. S. Bon Homme Richard.

The British was a first rate ship-of-the-line while the Richard was an old converted Indiaman. The Serapis could throw 600 pounds of projectiles to the Richard's 444 pounds. Crews were of nearly equal size.

At the first broadside the Richard's big 18-pounders burst and smeared their crews along the decks or splattered them on the crossbeams overhead. Besides this disaster the swift Serapis cross Jones' bow and raked him fore and aft, which in those days was as good as a home run in the ninth inning with three men on.

At this point of the combat the Limey captain staged a famous incident by his fatuous inquiry: "Has your ship struck?" To which, as every school-boy knows, Jones replied: "I have not yet begun to fight."

So they went at it again. And they got all tangled up with each other. Finally they just hung together and drifted. Yankee riflemen in the tops drove the British crew below. British gunners between decks fired through the sides of their own vessel to puncture the enemy's.

Then came a Scot, a Yankee Scot, with a bucket. He filled his bucket with bombs. He added a pinch of common combustibles. He slid out on the yardarm overhanging the Serapis. He threw a match into his bucket, dropped the bucket down the hatch beneath, and beat it.

Followed a puff and a flame and a bang, a great big boom of a bang. This disaster took all the spunk out of the enemy. After a few boarding brawls the finish came.

The Richard was sinking and on fire; her decks were gory and her sides like sieves. But she was saved; and John Paul Jones became the hero of two continents.

BATTLE STATIONS

HOW do you pick a man? By his face—yes. And figure—sometimes. His actions—mostly. His thoughts—when you are sure they are his. But there is one more method. Great statesmen like Gladstone, and others like T. R. have known and used it. Sure to the mark is: how a man waits. Not just his patience. Watch all of him while he's waiting.

The fleet leaves port for maneuvers. Complete war watches are kept on the job all the time. Submarines are the greatest immediate peril. In the course of a few days an actual war zone is reached; that is, an area in which the enemy may be lurking. Or suspicious smoke appears on the horizon.

"Signal general quarters," is the admiral's quick decision.

"Aye aye, sir," from the flag lieutenant. Flags flutter for a brief space, are answered down the column, then drop to the signal boards. On every ship alarms clang. Bugles take up the emergency call. On each superdreadnaught the whole ship's company files to battle stations.

Primarily this means that each officer and man shall roost where the ship's station bill provides for him to meet the enemy in time of battle. Captain in conning tower, surgeon in sick bay, gunner at gun, engineer in engine room, and so on.

All very pretty for a drill. But suppose the enemy actually is near. Or it turns out that the hostile fleet is creeping just behind the horizon. Then it's all hands stick to their stations. They must not leave if powder is out. Nor if the other fellow is close enough to take a pot shot pretty soon. Nor if destroyers might dart in under cover of fog or darkness. It's stick to stations for all hands.

Broadsides are not bad. There is room enough to sit and to stretch one's legs; and perhaps, if the division officer is not too near, to get a little 'shut-eye.' In turrets, though, the confinement soon grows irksome.

LIFE'S LITTLE

JESTS



FOREWARNED.

A little girl was sent to fetch some milk from a neighbor. She took with her two cans.

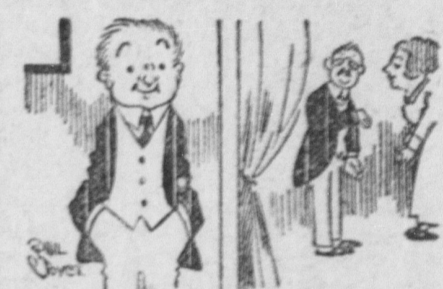
On arriving home she was crying and bespattered with mud.

Mother saw at once that her darling had had a fall and asked if she had lost all the milk.

"No, mother, not a drop."

"And how did my clever little darling manage that?" mother asked.

"I knew I was going to fall, mother, so I stood the cans down."—London Answers.



MISDIRECTED CONCENTRATION

"I'm afraid that boy of ours lacks concentration."

"Oh, he has concentration enough, only instead of using it on the work he has to do he concentrates upon how to escape doing it."

Non-Producers.

Idea, like men, Are forbidden to stir, And bring grief now and then By retiring to work.

Economy.

She—George, dear, I've just been thinking that if we could afford to buy that thousand-dollar car—

He—Yes?

She—Wouldn't it be just splendid to get that two-thousand-dollar one we saw in the window?—Cartoons Magazine.

Favored Son of the Highway.

First Tramp—Dusty Duggins is de luckiest guy on de road.

Second Tramp—Ow's dat?

First Tramp—He's a somnambulist, an' does all his walkin' in his sleep. Dat leaves 'im all day to loaf aroun' an' 'rest in.

The Reason.

"There is a fellow just got out of the dentist's chair who has his nerve with him."

"Did he stand the operation so well?"

"He wouldn't let the dentist take the nerve out."

Reversing.

"An actress in preparing herself for the stage reverses all the usual rules of art."

"How so?"

"She paints first and draws afterward."

The Provocation.

"I hear they muzzled the speaker at that meeting."

"But not before there had been some biting remarks."



SCARED STIFF

The Cur—I thought Pug Dog tails curled?

The Pug—They do, but I saw a snake last night, and it frightened me so the curl came out.

Hard Hit.

His brain's in a whirl, His years they are twenty; The cause is a girl, That's trouble a-plenty.

Not So Now.

"Do you believe in an elastic currency?"

"I want mine elastic enough to stretch from one pay day to another, anyway."

The Feline Accompaniment.

"Do you have a kitty in your poker game?"

"Not in Crimson Gulch," answered Three-Finger Sam. "What we have is something I'd be more willin' to describe as a full-grown and temperamental Bob cat."

Hidden.

"What's that you say?"

"I don't like for my wife to see me smoking."

"I suppose that's why you are throwing out a smoke screen."

Milk for the Children of Berlin



Scene in one of the distributing plants of the Salvation Army in Berlin, where 10,000 poor and hungry children have received a can of condensed milk each for ten weeks in succession.