



ter thought Westinghouse visionary when they were told that he proposed to stop a train by air. Nobody ed inclined.

Ottawa, July 9.—Cornelius O'Leary for 40 years a railway conductor by all his friends.

THURSDAY, JULY 12, 1906

IN AN IMPERIAL KITCHEN

THE INTRICATE TASK OF FEEDING AN EMPEROR.

Francis Joseph is Frequently Compelled to Entertain Two Thousand Guests.

From the days of Marie Theresa, whose splendid entertainments amazed the courts of Europe, the imperial kitchens of Vienna have been regarded as holding first place among their kind. The capacity of this culinary plant—or several plants, as there is one connected with each imperial palace—may be judged from the fact that one kitchen, recently abandoned and converted into a riding school, contained copper ware alone that weighed nearly a ton.

Until recently state dinners and court balls a large detachment of soldiers would carry the courses of the meal, in specially made vessels, from the kitchen to the door of the dining hall.

Such service is no longer necessary, as the new kitchens are located immediately beneath the state dining rooms. A system of electric elevators transfers food and plate more speedily and with greater satisfaction than would be possible by hand.

Most interesting, perhaps, of the new culinary arrangements is the mundliche or tasting kitchen, as it might be called; which is directly beneath the Emperor's private dining room.

Here the meals of the private family—in fact, of all gatherings of fewer than thirty persons—are prepared. The cooks in this division are supposed to be especially acquainted with the imperial tastes.

A FOOD CENSOR.

Before each meal is served, a high official of the household, the kitchen master, and carefully tastes every dish. This is intended, not only to guard against attempts of poisoning, but to insure palatable preparation of the food.

It is well known that the aged Emperor pays little attention to table joys. His tastes are simple, as strong soup, a juicy bit of beef, with a few ordinary vegetables and a glass of beer constitute his usual dinner. It is not uncommon for him to scarcely touch anything ordering the table cleared almost as soon as the meal is served.

To this private kitchen is attached the pastry department, and the department in which ice cream and sherbets are made. When the Emperor's daughter-in-law, widow of the late Crown Prince, and her daughter, the Princess Elizabeth, made their homes at the palace, dainties from these departments were in demand every day, but of late the pastry and confection makers have not been kept busy, except upon special occasions.

The other important apartments are the ordinary palace kitchen, where the meals are prepared for the general household outside the imperial family, and the great plant needed to provide refreshments upon festival occasions, great banquets and balls, so frequent at the Austrian court.

At a court dinner from 200 to 400 guests may be present; at the palace balls supper is often served to 2,000. So well ordered is the service, however, that a meal of almost any size can be served at comparatively short notice.

In the roast room of the great festival kitchen the ancient pit is still employed. There are six systems of ovens. Four ovens occupy part of the pastry room, in one section of which eight experts do nothing but make cakes.

Here, too, is what is termed the olio kitchen, the practical function of which is to prepare

THE REFRESHING CONSOMME served in the morning hours of formal balls.

Being made from beef, veal, mutton, hares, chicken, quail and vegetables, and requiring at least eight hours for its preparation, the extent of the kitchen outfit devoted to this soup alone is apparent.

When the late Empress had personal charge of domestic affairs the candy kitchen was an important adjunct to the culinary industry at the palace; but of late not so much attention has been paid to it, although the confections and set pieces manufactured there are still wonders of art in their way.

These immense kitchens with their corps of chefs, cooks and helpers entail only a part of the cares that rest upon the shoulders of the master of the household—usually an official of rank who is related to the imperial family.

There are great storerooms, vaults for wines, linen lockers and strong rooms for the valuable china, silver and gold ware, all of which must be carefully looked after.

One large room is set apart for the storage of the imperial silver, which is infinite in variety and incalculable in value. Another apartment holds the big collection of rare old Vienna porcelain and the imperial service of solid gold.

This gold service is among the most beautiful and elaborate ever designed. It is used only when foreign visitors of royal or princely rank are the guests of the Emperor.

Originally it was intended to meet the needs of only eighty dinners, but a few years ago a hundred additional gold plates were added. As each plate weighs something over two pounds, the value of the gorgeous service may be imagined.

Not an item of food from the imperial table is taken back to the kitchen or the storerooms. Whatever is left becomes the property of the servants. Very often entire dishes are removed untouched; bottles of wine are taken away unopened. In this way the butlers and waiters not only fare as sumptuously as royalty, but their families also.

FLLOURISH ON KINGLY FOOD.

One of the most exclusive regal establishments in Europe is that of the Grand Duke of Baden, at Karlsruhe, Germany. The Grand Duchess was a sister of the present Emperor's grand father, and her methods of management are followed to a great extent at the courts of both Berlin and Vienna.

In this kitchen, in addition to the chefs and cooks, there are always four or six apprentices, whose term of service is four years. There are always plenty

of volunteers for this service from members of the highly respectable families. Although no wage is paid them, the prestige derived is so great as to be eagerly sought, as it insures profitable employment almost anywhere, especially in the big restaurants and hotels of the cities. The lives of employers in the royal kitchen are exceedingly pleasant. Each gets his bottle of wine and his beer at every meal, and is otherwise treated with great consideration. When the family is staying at one of its summer homes in the country, the servants are permitted to fish in the preserves, and to enjoy many other liberties. Even the unsalaried apprentices fare pretty well in a financial way, as nearly all visitors give liberal tips. Such tips are deposited with a trusted official of the household, and at the end of the year the total sum is divided among the employees. One visitor to the palace of the Grand Duke of Baden gave \$1200 to this fund.

THE CHEF'S COUNCIL.

Each afternoon the chief steward confers with the official in charge of the household, and the menus for the next day are decided upon. Early the next morning the steward gives this to the chef who is on duty for the day, and he at once makes his requisitions for supplies.

Only one hour a day is the storeroom kept open, so that should the chef neglect to order, he must provide himself with everything needed during that time, he must supply the deficiency from his own pocket.

It is the duty of the chef to see that all required dishes are properly prepared, and that suitable wines are sent in with the courses. There is a master in the wine cellar and ten assistants. These men do nothing but buy wine, bottle, label, age and serve it on demand.

While the members of a royal family may be few in number, there are always a great many others who take their meals in the palace.

In the palace of the Grand Duke of Baden, for instance, approximately 120 persons are fed every day. In addition there are more than forty men employed about the stables and grounds who live in their own cottages.

This grand local establishment is by no means as large as that maintained by the Emperor Francis Joseph.

Similar dining-room arrangements are maintained by the Emperor of Austria and the Grand Duke. The tables of both are served by men who have long worn the palace livery and have learned discretion.

Important matters of State may be discussed in their hearing, but nothing ever leaks out.

Nearly every royal palace is under the care of a master of the house, whose title is varied at different places, but the supervision of all the servants and of every detail of household economy.

If a carriage is to be sent for a visitor, he attends to it; should the gardens need special attention, he gives the proper direction. When there is to be a great entertainment or state function, he sees to the decorations and arrangements. He is a man of importance in the household and not infrequently the bearer of a title.

FIREBALL IN CHURCH.

While congregation sang hymn, fireball split the steeple.

As the congregation at Wokey church near Wells, England, one evening recently were singing the hymn, "Oh, what joy and the glory and the peace, and will split the steeple in two and passed through the roof. Explosions followed in the church, and the congregation, panic-stricken, rushed to the doors. Several persons were slightly injured, and in response to an appeal by the vicar the congregation uttered prayers for their marvellous escape. The congregation was a small one, owing to the inclemency of the weather.

There was no lightning conductor to the tower, which was 90 feet high, and the electrical discharge first struck the steeple, and then passed down the spire, and the oil spread about the floor.

A huge block of freestone was prevented by a lead-covering and two pillars from crashing through the roof on to the heads of persons in the church. A ball of fire travelled diagonally across the church. The steeple of the church, and several ladies among the congregation fainted.

One lady states that she saw several small balls of fire "playing" quite close to her, and a male member of the congregation saw a ball of fire, after traversing the church, disappear through the south door. Three persons had their legs burnt.

The service concluded without a sermon, the congregation retiring after singing the Vesper Hymn.

PRISONS MAKE CRIMINALS.

There is a growing feeling that our system of punishing criminals does more than anything else to promote crime. Dr. Forbes Winslow has made a careful study of the question. "In a word," he says, "a kind of school of crime should be kept for first offenders. Often the very fact of having been in gaol acts as an impulse to commit crime. An ex-prisoner cannot throw off the recollection of what has taken place." Most medical men agree that no child under the age of fifteen should be committed to an ordinary prison. Make a good-bird of him, and he becomes callous and unfeeling at once. Merely put him under strict discipline in a good training school, however, and he retains his self-respect, and probably becomes a good and useful citizen. Women criminals are a great trial to the authorities. They do not offend so frequently, but their misdeeds are far more diabolical.

ANTAGONISTIC FLOWERS.

A French horticulturist has discovered that a rose and mignonette cannot live together. He placed a specimen of each flower side by side in a vase, and at the end of half an hour they had both lost all their freshness and every trace of their scent.

CHARM AND WITCHCRAFT

MEDIEVAL SUPERSTITIONS OF RURAL ENGLAND.

Cures for a Cough—Quaint Scene at a Church Door—Preventive for Fits.

Those who do not happen to have been born in Devonshire or to have spent part of their lives in the fair county will no doubt find it hard to believe what a strong hold the extraordinary superstitions enumerated below still possess over the minds of dwellers in remote parts of the Western shire. Writes a correspondent of the London Chronicle. Even people born and bred in Devonshire towns fail to realize to what an extent weird forms of credulity still linger in rural parts of the county.

How strongly some of the strange folk-lore and superstitions beliefs still survive in some of the rural parts of Devonshire is illustrated by the following incident, which took place recently at Sultcombe, and which is thus described by the rector, Rev. F. G. Scrivenor.

"On Sunday the parish church of Sultcombe, a small village between Holworthy and Hartland, was the scene of a revival of an interesting old faith cure. A woman in the parish has suffered from epileptic fits, and at the persuasion of a neighbor, who nineteen years ago had done the same thing, and had not suffered from fits since, she went around the parish and got thirty married men to promise to attend the parish church.

"At the close of the service the rector desired the selected men to pass out one by one, and as they passed through the church they found the woman seated there, accompanied by the neighbor who had done the same thing nineteen years ago (as many who were present remembered). Each man as he passed out put a penny in the woman's lap, but when the thirtieth man (the rector's church warden) came he took the twenty-nine pennies and put in half a crown. A silver ring is to be made out of this half crown, which the woman is to wear, and it is to be hoped that the result will be as satisfactory in her case as it was on the previous occasion.

"In a small parish (less than 300 population) it was not easy to find thirty married men, but all were willing to help—farmers, laborers and tradesmen—and the whole incident passed off very quietly, and all was done with the utmost reverence and decorum. The woman takes her seat in the porch when the preacher begins his sermon, and from the time she leaves her house until she returns she must not speak a word. We have not heard whether she complied with this condition."

The Rev. Roger Granville of Pinhoe, formerly rector of Bideford, also tells an interesting story of Devonshire superstition. "One occasion," he says, "a young farmer from the neighborhood of Torrington called on me and asked me to tell him what was contained in a bag which he had worn round his neck since infancy, and which a white witch had given his mother as a preventive against fits. After cutting open several outer cases, well worn and sweet stained, I came upon the original inner one, which contained a number of bits of paper.

EACH BEARING ONE WORD.

"Piecing them together, I found they formed the following sentences: 'Sinners, Jesus died for thee' (thrice repeated). 'Therefore flee from sin.' At the man's request these pieces of paper were reinserted in their several bags, and my maid servant sewed them up again, and he, replacing the charm round his neck once more, went on his way rejoicing, being now in a position to tell a neighbor, whose child had also fits, a certain cure for them."

In many parishes in rural Devon it is believed that if a lady's surname after its removal begins with the same letter as her maiden surname she will be very unlucky, and there is an old couple: Change the name but not the letter, Change for the worse and not the better.

Ladies who are unlucky in this respect are, however, believed to possess compensating advantages in that they are able to cure juvenile complaints. Whooping cough is included in the category, and when the mothers of Chittlehampton found that dragging their children through three parishes in one day did not effect a cure they promptly took them off to be "doctored" by ladies who had not changed the first letter of their name by marriage. It is claimed that whatever such women give a sick child to eat will cure the complaint.

Other strange cures for whooping cough are heard of in various parts of Devonshire. Many there who believe in the complaint can be completely eradicated from a child's system by letting the little sufferer wear a long, hairy caterpillar in a small bag around the neck. Others are foolish enough to think that if a hair is taken from a child's head, put between a slice of bread and butter, and given to a dog, the child will recover from its infirmity if the dog coughs, as it very probably will if the hair touches its throat.

Another extraordinary belief still prevalent is that a child will recover from whooping cough if, while the dew is on the ground, it is laid face downward where

A SHEEP HAS BEEN SLEEPING.

Sheep are sometimes driven into the farmyards over night so that the farmers' wives may the more easily try this reputed remedy in the morning.

When, as of course, frequently happens, the little sufferers are not relieved, it is said that the parents have not had sufficient faith.

There are cases on record where mothers have taken their offspring and placed them for a few moments in graves prepared for the reception of a body of the opposite sex, in the belief

that they will thereafter not suffer any more of the infirmities that children are heir to.

Superstitious Devonians will, when suffering from a cough, put themselves to considerable inconvenience in trying to meet a man driving a white horse. Having encountered a person thus engaged, they ask him what he thinks will cure them, believing that if they carry out his recommendations they will soon be all right again.

To insure that a wound caused by a thorn does not fester, true sons of Devon will cut the thorn. In order to make assurance doubly sure, some repeat these words after eating it: "In the name of the Father, and of the Son, and of the Holy Ghost, the prick of the thorn I do defy, and with the blessing of God it shall not ache or smart or give pain."

Toads are supposed by many Devonians to possess remarkably curative properties. Persons suffering from sores of any kind are recommended to wear the corresponding part of a toad laid up in a little bag, or otherwise attached to the person. As a cure for warts there is, according to some people, nothing like a fat slug, which has to be placed on the warts affected. To cure an adder's bite the victim has to catch an adder, fry it, and put it on the spot where he was bitten.

Some of the cures recommended for minor ailments are more curious still. Many people believe that a sty in the eye will speedily disappear if a cat's tail is drawn across the inflamed part, or if the sty is stroked with

A WIDOW'S WEDDING RING.

As is only natural, many of the medical superstitions associated with Devonshire are in conformity with the idea laid down in the old proverb which says that "Prevention is better than cure." Thus people carry about with them (when they can get them) double Barcelona nuts as a preventive for tooth-ache, and a small potato or a piece of sulphur to keep them free from rheumatism. To a limited extent this latter course is practised in the Midlands.

The number of Devonshire superstitions regarding cats is extraordinarily large.

If a cat sleeps on his brain

It's a sure sign of rain. And if puss sits with her back to the fire it is a sign that there will be cold weather. The coming of a stranger may be expected if a cat, when washing her face, puts her paw above either of her ears.

Many Devonian housewives will not on any account allow a kitten to be in the house at the same time as a baby, fearing that in such a case harm would come to the infant. In other households the kittens born in May are always killed. The reason assigned for this harsh proceeding is that "May kittens bring home the vermin." Being interpreted, this means that when they grow up they will not be content with killing rats and mice, but capture and carry home all sorts of unpleasant creeping things.

The only time when kittens are regarded as being absolutely essential in a Devonshire household is when thirteen persons are expected to sit down to dinner. In such a case a kitten has to take a place on one of the guests' knees at the table. This makes thirteen at table lucky instead of unlucky.

It is regarded as being extremely unlucky for wild daffodils to be taken into a house. Farmers' wives believe that if this is done they will lose a lot of their chickens. On the other hand, when selling poultry in the market, they believe they will have a good day if they spit on the first coin they take, "for luck."

Between superstition and witchcraft there is not a very wide gulf; but although reputed witches are not nearly so numerous in Devonshire as they were even a dozen years ago, there are a good many modern practitioners of black art in the county.

FISHING FOR BIRDS.

Caught With Rod and Line in Many Parts of the World.

The pastime is declared to be almost as fascinating as fishing. Gulls in Newfoundland are caught in this way in large quantities. In New England fishing for gulls and petrels is an important industry.

The method of bird-fishing is practically the same as that of ordinary fishing. Two men go out in a dory and throw pieces of cod-liver on the water, when large quantities of birds have been attracted to the spot more cod-liver is thrown out on a hook. This the birds greedily swallow, and thus fall easy victims.

Albatrosses are fished for in the same way off Cape of Good Hope. A piece of pork is attached to a long line and is thrown overboard. The bird will eye it for a long time, gradually and cautiously making towards it. Suddenly he will seize it and hold it in his beak. When he discovers that he is caught he will sit on the water and vigorously flap his wings. However, he will be drawn into the boat and made a captive. Albatross fishing is good sport, since the birds require careful handling. So long as he pulls against the line it is easy enough. The moment, however, he swims forward and the hook will drop from his beak, unless it is skillfully manipulated, and the bird will find himself free.

A POWERFUL CLEANSER.

When any one suggested to Mrs. Herlihy that the extreme whiteness of the clothes which she washed was due to anything but her exertions, Mrs. Herlihy took fire at once.

"Is the wurrk of my hands and my arms and my elbows that does it?" she cried, indignantly. "I use all me strenth on them clothes, and I'm as wake as a rag when they're done. Soap an' water is it I take to 'em, buttin' the little bit of a lovely washing powder that just puts the last touch 'em."

"Are ye sure it's only a little bit you're using?" asked the prying neighbor in a dubious tone.

"An' I sure?" and the wrath of Mrs. Herlihy flamed again. "An' why wouldn't I be sure when I use a bit more it'd ale the nails right off me fingers!"

WONDER WORKING WHITE COAL.

Thanks to It, Italy Is No Longer an Industrial Back Number.

Northern Italy is prospering beyond all record. The product of the silk industry has doubled in the last eight years; one-third of the silk thread used in the world is now produced in Italy. The cotton mills, scarcely in existence a decade ago, now have an annual output worth more than \$80,000,000. According to The World To-day, textiles have advanced almost as rapidly.

The 6,000 workmen employed in iron and steel foundries in 1881 have become 90,000 and Italy to-day is exporting steel instead of importing it.

Houille blanche, as the French call it, or white coal, has been the chief agent in the transformation. White coal is simply hydraulic power. Strictly speaking, it applies only to the power derived from glacier streams rising in the Alps. The analogous term, houille verte, or green coal, has been adopted to designate the energy provided by streams of humbler source.

Call it what you please, this newly harnessed power is revolutionizing European industry. It is more than a coincidence that the great manufacturing countries to-day are those which are rich in coal—the United States, Great Britain, Germany and Belgium.

Now the tables are turned. By an almost providential compensation those nations which are poorest in black coal are richest in white. Austria is much better supplied with hydraulic power than Germany, France than England, Switzerland than Belgium, Canada than the United States. When it is further considered that the white coal is subject to neither exhaustion nor interruption by strikes the full richness of the promise it offers begins to be realized.

Italy is one of the best endowed of European nations in this regard. The available power here rivers hold is estimated at between nine and ten million horse-power, an amount equal to the total steam power of the world to-day, exclusive of that used on railways and steamships.

Although only a beginning has been made in utilizing this great heritage, more power has been developed than in any other country in Europe. Some of the Alpine lakes, twenty-five miles long and a thousand feet deep, at varying elevations above the sea, form ideal reservoirs of energy.

Wholesale emigration, again, is reducing the pressure of population; every year half a million of Italy's children leave her shores. In some sections, it is true, the drain has been so enormous as to be a danger rather than a relief. When Signor Zanardelli, the late Premier, was making an official tour through the Basilicate, he was surprised on entering a certain village to find no arches of welcome, no effusive deputations, only the Mayor with his pessimistic greeting.

"I welcome you in the name of our eight thousand inhabitants, of whom three thousand have just left for America, and the other five are preparing to follow."

On the whole the emigration has been beneficial. A new Italy has sprung up on the Plate and in Brazil, furnishing an immense outlet for Italian exports, while the remittances sent home from Italians resident in the two Americas are estimated at \$75,000,000 a year. Nor are all the emigrants lost forever. The official returns put the proportion of temporary emigration at fifty-five per cent.

SENTENCE SERMONS.

Time amends a great many prayers. Upright walking is the strongest talking.

A deaf heart soon makes a dead conscience. A virtuous man is none the worse for a few vouchers.

The ruddy eyes do not get the rosiest outlook on life.

Hearts of gold do not come by setting the heart on gold.

No man is civilized until he has learned to live with himself.

The walls of the house of happiness are built of sacrifice.

The troubles we meet are as nothing compared to those we manufacture.

The road that cuts through right to riches has a down grade extension to ruin.

Don't count too much on the virtue of owning up when you know you're on the verge of being found out.

In the kingdom of darkness might makes right; in the kingdom of light might but adds to responsibility.

It's no use talking about the way you bear the cross if you're unduly anxious to get hold of the little end of the log.

CORRECTING HIM.

Just where the lad came from is not apparent, but he was rather a crisp looking youngster of fourteen, small for his age. He entered the office of a wholesale house and approached the head of the establishment, who was in a bad humor about something.

"Do you want a boy here, sir?" asked the applicant for position.

"No, we don't want a boy here," responded the merchant, in the ordinary manner of a man in a bad humor.

"Are you sure, sir?"

"Of course I am. Don't I know my business? Get out!"

"What's that sitting on the stool over there?" asked the caller very politely, and without being at all disturbed by his reception.

"He's our office boy," replied the merchant, rather taken aback.

"You want him here, don't you?"

"Of course."

"He's a boy, isn't he?"

"Yes."

"Well, then, sir, you are mistaken when you say you don't want a boy here. What you really intended saying was that you didn't need me here. Good morning, sir," and before the merchant could pull himself together this remarkable youth had rushed out and was lost in the crowd in the street.

IN MELTING MOOD THEN.

"Wonder why there are so many more engagements in summer than in winter?"

"Well, I suppose, if you say to a girl 'Will thou?' in the hot weather, she's more apt to will."

NEW CONSUMPTION CURE

REMARKABLE RESULTS FROM STRENGTHENING OF BLOOD.

Method of Increasing the Patient's Power of Resistance Where It is Weak.

The new "opsonic" method, adopted in several London hospitals, of carrying on the war against consumption, was fully described to a newspaper representative by Mr. E. W. Morris, the secretary of the London Hospital. The treatment rests on the fact that it is now possible, by testing the patient's blood, to discover his exact power of resisting the disease, and to strengthen that power if it is below the normal.

"To put the matter as much as possible in non-technical language," said Mr. Morris, "if you look at a drop of blood through a microscope, you will see a lot of red corpuscles, and perhaps one in 500 of larger white corpuscles. Thirty years or so ago it was a great puzzle as to what was the exact duty of these white corpuscles.

"Experiment has shown that if a sterilized tubercle culture is added to

A DROP OF FRESH BLOOD,

and the whole placed in an incubator at the temperature of the body for a quarter of an hour, and then a microscopic examination made, the tubercle micro-organisms will have been collected in these white corpuscles, by which they are carried away.

But this collection of the micro-organisms can only take place after they have been acted on by what is called the "opsonin," existing in the serum of the blood, which is the real protective agency. If this protective power is weak, the number of the micro-organisms captured, as it were, by the white corpuscles will be much smaller than in the case of a normally healthy person.

"What is needed, then, is some method of increasing the patient's power of resistance where it is weak, and this is found by injecting tubercle vaccine in a sterilized form. The immediate effect of such an injection is always first to lower slightly the power of resistance, but the decline is quickly followed by an increase, and it has been found quite possible by the use of injections to bring the patient's power of resistance up to the ordinary normal level."

"With the result that the patient has been cured."

"Some remarkable cures have been obtained, and this particularly in cases of lupus. Lupus is caused by the same microbe as consumption. We have had cases in the hospital where the Finzen light has produced no effect at all. After endless sittings the patient's condition has been virtually unchanged, or every improvement has been

FOLLOWED BY A RELAPSE.

When the blood of these patients has been tested it has always been found that their power of resistance to the disease has been far below the normal, while in other cases successfully cured, it has been nearly or quite that of the average healthy person. Many of the bad cases have by means of regular injections had their protective power raised, and the light treatment has then been attended with complete success."

"And you think this treatment will be equally applicable to phthisis and other forms of consumption?"

"I believe it will be helpful. Of course if a man has already a big cavity in his lung it will not give him a new lung; the treatment will only be helpful in controlling the disease. But if the disease is stamped out it will be by testing the blood in suspicious cases—cases where there may be hereditary tendencies—before there is any actual attack of the disease. If the resistant power is found to be low it can then be raised to the normal level. At present it has been found that an injection once a month will keep up this normal level; and in this direction we must look forward to advance. Better methods will no doubt be discovered."

CUTS WORTH THOUSANDS.

The Operation of Cutting and Polishing a Diamond.

The operation of cutting and polishing diamonds, the hardest of all known substances, demands a large amount of skill on the part of the workman. Diamond is used to cut diamond. Two diamonds are mounted on sticks or holders, and the operator, taking one in each hand, uses an angle of one gem to cut or reduce the angles of the other, and in this way the natural angles of the stones are removed, the dust being caught up for subsequent use.

Afterwards begins the real process of cutting and polishing, carried out in the mill by steam power. The diamond to be cut is mounted in solder, contained in a brass cup at the end of a piece of copper wire, which is held in long on the mill disc. The revolving disc is charged with diamond dust and oil, presenting, so to speak, a diamond surface, upon which the diamonds, soldered in a cup, are cut and polished. The mills run 2,000 revolutions per minute.

The high rate of speed of working gradually wears away the stone being cut, and when the workman considers that the cutting of a facet has proceeded as far as required, the solder is softened and the gem released, ready to be again set in another position for placing in the mill. The cutting thus proceeds by successive stages until the jewel finally assumes the proper form.

Many valuable stones are cut in this way, and a skilled workman frequently has \$5,000,000 worth of precious stones on his bench at one time.

THE MEANING OF EMPIRE.

Here is an eloquent picture of the Empire in a few sentences. The King has in Asia more than 200,000,000 subjects; in America, 7,500,000; in Africa, about 42,000,00