

# The Bondman

By HALL CAINE.

A....  
Continued  
Story.

CHAPTER VII.—(Continued.)  
"Why she?" interrupted Sunlocks.  
Jason paused, and said, "Have you anything against her?"

"No indeed," said Sunlocks. "A good, true woman. One who lately lost her husband, at the same time all the cheer and hope of life. Simple and sweet, and silent, and with a voice that recalls another who was once very near and dear to me."

"Is she not still?" said Jason.  
"God knows. I scarce can tell. Sometimes I think she is dearer to me than ever, and now that I am blind I seem to see her near me always. It is only a dream, a foolish dream."  
"But what if the dream came true?" said Jason.

"That cannot be," said Sunlocks. "Yet where is she? What has become of her? Is she with her father? What is she doing?"

"You shall soon know now," said Jason. "Only ask tomorrow and this good woman will take you to her."  
"But why not you yourself, Jason?" said Sunlocks.

"Because I am to stay here until you return," said Jason.  
"What?" cried Sunlocks. "You have to stay here?"

"Yes," said Jason.  
"As bondman to the law instead of me? Is that it? Speak!" cried Sunlocks.

"And why not?" said Jason, calmly. "There was a silence for a moment. Sunlocks felt about with his helpless hands until he touched Jason and then he fell sobbing upon his neck."

"Jason, Jason," he cried, "this is more than a brother's love. Ah, you do not know the risk you would run; but I know it, and I must not keep it from you. Any day, any hour, a dispatch may come to the ship outside the order that I should be shot. Suppose I were to go to the dear soul who calls for me, and the dispatch came in my absence—where would you be then?"

"I should be here," said Jason, simply.  
"My lad, my brave lad," cried Sunlocks, "what are you saying? If you cannot think for yourself, then think for me. If what I have said were to occur, should I ever know another moment's happiness? No, never, though I regained my sight, as they say I may, and my place and my friends—all save one—and lived a hundred years."

Jason started at the thought, but there was no one to look upon his face under the force of it, and he wriggled with it and threw it off.  
"But you will come back," he said. "If the dispatch comes while you are away, I will say that you are coming, and you will come."

"I may never come back," said Sunlocks. "Only think, my lad. This is winter, and we are on the verge of the Arctic seas, with five and thirty miles of water dividing us from the mainland. He would be a bold man who would count for a day on whether in such a little fishing smack could live. And a storm might come up and keep me back."

"The same storm that would keep you back," said Jason, "would keep back the dispatch. But why hunt after these chances. Have you any reason to fear that the dispatch will come today, or tomorrow, or the next day? No, you have none. Then go, and for form's sake—just that, no more, no less—let me wait here until you return."

There was another moment's silence, and then Sunlocks said, "Is that the condition of my going?"  
"Yes," said Jason.  
"Did this old priest impose it?" asked Sunlocks.

Jason hesitated a moment, and answered, "Yes."  
"Then I won't go," said Sunlocks, stoutly.

"If you don't," said Jason, "you will break poor old Adam's heart, for I myself will tell him that you might have come to him, and you would not."  
"Will you tell him why I would not?" said Sunlocks.

"No," said Jason.  
There was a pause, and then Jason said, very tenderly, "Will you go, Sunlocks?"  
And Sunlocks answered, "Yes."

Jason slept on the form over against the narrow wooden bed of Michael Sunlocks. He lay down at midnight, and awoke four hours later. Then he stepped to the door and looked out. The night was calm and beautiful; the moon was shining, and the little world of Grimsey slept white and quiet under its coverlet of snow. Snow on the roof, snow in the valley, snow on the mountains so clear against the sky and the stars; no wind, no breeze, no sound on earth and in air save the steady chime of the sea below.

It was too early yet, and Jason went back into the house. He did not lie down again lest he should oversleep himself, but sat on his form and waited. All was silent in the home of the priest. Jason could hear nothing but the steady breathing of Sunlocks as he slept.

After a while it began to snow, and then the moon went out, and the night became very dark.  
"Now is the time," thought Jason, and after hanging a sheepskin over the little skin-covered window, he lit a candle and awakened Sunlocks.

Sunlocks rose and dressed himself without much speaking, and sometimes he sighed a rifle on with idle talk, and kindled a fire and made some coffee. And when this was done he stumbled his way through the long passages of the Iceland house until he came upon Greeba's room, and there he knocked softly, and she answered him.

She was ready, for she had not been to bed, and about her shoulders and across her breast was a sling of sheepskin, wherein she meant to carry her little Michael as he slept.

"All is ready," he whispered. "He says he may recover his sight. Can it be true?"  
"Yes, the apothecary from Husevick said so," she answered.

"Then have no fear. Tell him who you are, for he loves you still."  
And hearing this, Greeba began to cry for joy, and to thank God that the days of her waiting were over at last.

"Two years I have lived alone," she said, "in the solitude of a loveless life and the death of a heartless home. My love has been silent all this weary, weary time, but it is to be silent no longer. At last! At last! My hour has come at last! My husband will forgive me for the deception I have practiced upon him. How can he hate me for loving him to all lengths and ends of love? Oh, that the blessed spirit that counts the throbbings of the heart would but count my life from today—today, today, today—wiping out all that is past, and leaving only the white page of what is to come."

Then from crying she fell to laughing, as softly and as gently as if her heart grudged her voice the joy of it. She was like a child who is to wear a new feather on the morrow, and is counting the minutes until that morrow comes, too impatient to rest, and afraid to sleep lest she should awake to find it.

And Jason stood aside and heard both her weeping and her laughter.  
He went back to Sunlocks, and found him yet more sad than before.

"Only to think," said Sunlocks, "that you, whom I thought my worst enemy, you that once followed me to slay me, should be the man of all men to risk your life for me."  
"Yes, life is a fine lottery, isn't it?" said Jason, and he laughed.

"How the Almighty God tears our little passions to tatters," said Sunlocks, "and works His own ends in spite of them."  
When all was ready, Jason blew out the candle, and led Sunlocks to the porch. Greeba was there, with little Michael breathing softly from the sling at her breast.

Jason opened the door. "It's very dark," he whispered, "and it is still two hours before dawn. Sunlocks, if you had your sight already, you could not see one step before you. So give your hand to this good woman, and whatever happens hereafter never, never let it go."  
And with that he joined their hands.

"Does she know my way?" said Sunlocks.  
"She knows the way for both of you," said Jason. "And now go. Down at the jetty you will find two men waiting for you. Stop! Have you any money?"

"Yes," said Greeba.  
"Give some to the men," said Jason. "Good-bye. I promised them a hundred kroner. Good-bye! Tell them to drop down the bay as silently as they can. Good-bye!"

"Good-bye!"  
"Come," said Greeba, and she drew at the hand of Sunlocks.  
"Good-bye! Good-bye!" said Jason. But Sunlocks held back a moment and then in a voice that faltered and broke he said, "Jason—kiss me."

At the next meeting they were gone into the darkness and falling snow—Sunlocks and Greeba, hand in hand, and their child slept as its mother's bosom.

Jason stood a long hour at the open door, and listened. He heard the foot-steps die away; he heard the creak of the crazy wadded jetty; he heard the light splash of the oars as the boat moved off; he heard the clank of the chains as the anchor was lifted; he heard the oars again as the little smack moved down the bay, and not another sound came to his ear through the silence of the night.

He looked across the headland to where the sloop of war lay outside, and he saw her lights, and their two white waterways, like pillars of silver, over the sea. All was quiet about her.

Still he stood and listened until the last faint sound of the oars had gone. By this time a woolly light had begun to creep over the mountain tops, and a light breeze came down from them.

"It is dawn," thought Jason. "They are safe."  
He went back into the house, pulled down the sheepskin from the window, and lit the candle again. After a search he found paper and pens and wax in a cupboard and sat down to write. His hand was hard, he had never been to school, and he could barely form the letters and spell the words. This was what he wrote:

"Whatever you hear, fear not for me. I have escaped, and am safe. But don't expect to see me. I can never rejoin you, for I dare not be seen. And you are going back to your beautiful island, but dear old Iceland is the only place for me. Greeba, good-bye; I shall never lose heart. Sunlocks, she has loved you, you only, all the days of her life. Good-bye. I am well and happy. God bless you both."

Having written and sealed this letter, he marked it with a cross for superscription, touched it with his lips, laid it back on the table and put a key on top of it. Then he rested his head on his hands, and for some minutes afterwards he was lost to himself in thought. "They would tell him to lie down," he thought, "and now he must be asleep. When he awakes he will be out at sea, far out, and all sail set. Before long he will find that he has been betrayed, and demand to be brought back. But they will not heed his anger, for she will have talked with them. Next week or the week after they will put in at Sletlands, and there he will get my letter. Then his face will brighten with joy, and he will cry, 'To home! To home!' And then—even then—why not? His sight will come back to him, and he will open his eyes and find his dream come true, and her dear face looking up at him. At that he will cry, 'Greeba, Greeba, my Greeba,' and she will fall into his arms and he will pluck her to his breast. Then the wind will come sweeping down from the North Sea, and belly out the sail until it sticks and the ropes crack and the blocks creak. And the good ship will fly

like the waters like a bird to the home of the sun. Home! Home! England, England, and the little green island of her sea!"  
"God bless them both," he said aloud, in a voice like a sob, but he leapt to his feet, unable to bear the flow of his thoughts. He put back the paper and pens into the cupboard, and while he was doing so he came upon a bottle of brandy. He took it out and laughed, and drew the cork to take a draught. But he put it down on the table untouched. "Not yet," he said to himself, and then he stepped to the door and opened it.

The snow had ceased to fall and the day was breaking. Great shivering wafts of vapor crept along the mountain sides, and the valley was veiled in mist. But the sea was clear and peaceful, and the sloop of war lay on its dark bosom as before.

"Now for the signal," thought Jason.  
In less than a minute afterwards the flag was floating from the flag-staff, and Jason stood waiting for the ship's answer. It came in due course, a clear-toned bell that rang out over the quiet water and echoed across the land.

"It's done," thought Jason, and he went back into the house. Lifting up the brandy, he took a long draught of it, and laughed as he did so. Then a longer draught, and laughter. "Do you think you would never see it again? Did you think I would run away and leave you? Not I, old mole, not I."

"Has he gone?" said the priest, glancing fearfully into the room.  
"Gone? Why, yes, of course he has gone," laughed Jason. "They have both gone."  
"Both?" said the priest, looking up inquiringly, and at sight of his face Jason laughed louder than ever.

"So you didn't see it, old mole?"  
"See what?"  
"That she was his wife?"  
"His wife? Who?"  
"Why, your housekeeper, as you called her?"

"God bless my soul! And when are they coming back?"  
"They are never coming back."  
"Never?"  
"I have taken care that they never can."

"Dear me! dear me! What does it all mean?"  
"It means that the dispatch is on its way from Reykjavik, and will be here today. Ha! ha! ha!"

"Today? God save us! And do you intend—no, it cannot be—and yet—do you intend to die instead of him?"  
"Well, what of that? It's nothing to you, is it. And as for myself, there are old scores against me, and if death had not come to me soon, I should have gone to it."  
"I'll not stand by and witness it."  
"You will, you shall, you must. And listen—here is a letter. It is for him. Address it to her by the first ship to the Sletlands. The Thora, Sletlands—that will do. And now bring me some more of your brandy-ving, you good old soul, for I am going to take a sleep at last—a long sleep—a long, long sleep at last!"

"God pity you! God help you! God bless you!"  
"Ay, ay, pray to your God. But I'll not pray to him. He doesn't make His world for wretches like me. I'm a pagan, I am! So be it! Good night, you dear old mole! I'll keep my bargain, never fear. Good night! Never mind your brandy-ving, I'll sleep without it. Good night! Good night!"

Saying this, amid broken peals of unearthly laughter, Jason reeled back into the room, and clashed the door after him. The old priest, left alone in the passage, dropped the foolish candle, and wrung his hands. Then he listened at the door a moment. The unearthly laughter ceased and a burst of weeping followed it.

VI.  
It was on the day after that the evil work was done. The despatch had arrived, a day's warning had been given, and four sailors, armed with muskets, had come ashore.

It was early morning, and not a soul in Grimsey who had known Michael Sunlocks was there to see. Only Sir Sigfus knew the secret, and he dare not speak. To save Jason from the death that awaited for him would be to put himself in Jason's place.

The sailors drew up in a line on a piece of flat ground in front of the house whereon the snow was trodden hard. Jason came out looking strong and content. His step was firm, and his face was defiant. Fate had dogged him all his days. Only in one place, only in one hour, could he meet and beat it. This was that place, and this was that hour. He was solemn enough at last.

By his side the old priest walked, with his white head bent and his nervous hands clasped together. He was mumbling the prayers for the dying in a voice that trembled and broke. The morning was clear and cold, and all the world around was white and peaceful.

Jason took up his stand, and folded his arms behind him. As he did so the sun broke through the clouds and lit up his uplifted face and his long red hair like blood.

The sailors fired and fell. He took their shots into his heart, the biggest heart for good or ill that ever beat in the breast of man.

VII.  
Within an hour there was a great commotion on that quiet spot. Jorgen Jorgensen had come, but came too late. A single word told him everything. His order had been executed, but Sunlocks was gone and Jason was dead. Where were his miserable fears now? Where was his petty hate? Both his enemies had escaped him, and his little soul shrivelled up at sight of the wreck of their mighty passions.

"What does this mean?" he asked, looking stupidly around him.  
And the old priest, transformed in one instant from the poor, timid thing

he had been, turned upon him with the courage of a lion.  
"It means," he said, face to face with him, "that I am a wretched coward and you are a damned tyrant!"

While they stood together so, the report of a cannon came from the bay. It was a loud detonation, that seemed to leave the sea and shake the island. Jorgen knew what it meant. It meant that the English man-of-war had come.

The Danish sloop struck her colors, and Adam Fairbrother, came ashore. He heard what had happened, and gathered with the others where Jason lay with his calm face towards the sky. And going down on his knees he whispered into the deaf ear, "My brave lad, your troubled life is over, your stormy soul is in its rest. Sleep on, sleep well, sleep in peace. God will not forget you."

Then rising to his feet he looked around and said: "If any man thinks that this world is not founded in justice, let him come here and see: There stands the man who is called the Governor of Iceland, and here lies his only kinsmen in all the wide wilderness of men. The one is alive, the other is dead; the one is living in power and plenty, the other died like a hunted beast. But which do you choose to be: The man who has the world at his feet or the man who lies at the feet of the world?"

Jorgen Jorgensen only dropped his head while old Adam's lash fell over him. And turning upon him with heat of voice, old Adam cried, "Away with you! Go back to the place of your power. There is no one now to take it from you. But carry this word with you for your warning: Heap up your gold mine like the mire of the streets, grown mighty and powerful beyond any man living, and when all is done you shall be an execration and a curse and a reproach, and the poorest outcast on life's highway shall cry with me, 'Any fate, oh, merciful heaven, but not that! not that!' Away with you, anyway! Take your wicked feet away, for this is holy ground!"

And Jorgen Jorgensen turned about in an instant and went off hurriedly, with his face to the earth, like a whipped dog.

VIII.  
They buried Jason in a piece of untouched ground over against the little wooden church. Sir Sigfus dug the grave with his own hands. It was a bed of solid lava, and in that pit of old fire they laid that young heart of flame. The sky was blue and the sun shone on the snow so white and beautiful. It had been a dark midnight when Jason came into the world, but it was a glorious morning when he went out of it.

The good priest learning the truth from old Adam, that Jason had loved Greeba, although him a way to remember the dead man's life secret at the last. He got twelve Iceland maidens and taught them an English hymn. They could not understand the words of it, but they learned to sing more to an English tune. And, clad in white, they stood around the grave of Jason, and sang these words in the tongue he loved the best:

"Time, like an ever rolling stream,  
Bears all our sons away;  
They fly forgotten, as a dream  
Dies at the opening day."  
On the island rock of old Grimsey, close to the margin of the Arctic seas, there is a pyramid of lava blocks, now honey-combed and moss-covered, over Jason's rest. And to this day the place of it is called "The place of Red Jason."  
(The End.)

From Glory to the Junk Pile.  
The value of a cup defender after she has won the American cup and maintained the honor and supremacy of Yankee boat building, was aired in the supreme court in New York the other day. Like the broken-down race horse the cup defender was relegated to the junk pile after she had outlived her usefulness. William Strickler is suing J. Oliver Iselin to recover \$500 commission claimed on the sale of the Defender. Mr. Strickler, on the witness stand, said he had heard Mr. Iselin wanted to sell the Defender for junk, and he introduced M. Samuels & Sons, who bought the \$150,000 boat of two years ago for \$50,000. The jury, after a few minutes' retirement, returned a verdict for Mr. Iselin.

He Took His Messer.  
Appropos of Irving's revival of "Coriolanus" and the moderate success which it met, it is related that just before the production, Sir Henry Irving, Sir Alexander McKennis, who wrote the music, and Sir Alma Tadema, who designed the scenery, were holding a conference on the stage one afternoon. A super, who stood near, said to his chums: "Three blooming knights." "Yes," said the other, "and three blooming nights is about all the blooming piece will run."

Valuable Biblical MSS.  
Parts of a magnificent manuscript of the gospel of St. Matthew were found last year near Sinoepe and bought for the Bibliotheque Nationale at Paris. Two of the pages which were missing have been recently discovered at Maripol, on the Sea of Azov, and bought by the local museum. The volume was made of vellum, tinted with purple and written in large golden uncials in Greek.

Mayflower Descendants.  
Mayflower descendants have organized a branch society in Wisconsin. To join the order one must be a lineal descendant of a passenger who came over to this country in 1620 and landed on the stormy New England coast in the winter of 1620. Of the new society, which has twenty-eight members, all but four are women.

Chicago's Thousands of Dead Letters.  
Postmaster Coyne, of Chicago, says that about 19,000 letters of local origin for local delivery are sent to the dead letter office every month because of the defective addresses and the failure of the writers to have their return cards on the envelopes.

Tactless is praised by everybody because he praises nobody.

The most populous country, according to area, is Holland.

Be sure you are right—then pause a moment for reflection.

## NOTES ON SCIENCE

### CURRENT NOTES OF DISCOVERY AND INVENTION.

The Prevention of Skin Diseases—A Fish-Scaling Instrument—Heat from the Stars—Hand Band Dating Stamp—Hydrogen as an Illuminant.

#### THE PREVENTION OF SKIN DISEASES.

Diseases of the skin result from a great variety of causes, but as the study of them progresses, more and more are found to be due to the action of some parasitic microbe. Ringworm, acne, boils, carbuncles, certain forms of eczema, barbers' itch, and many other affections are undoubtedly caused by the presence and growth in the skin of certain microbes. These differ in the different affections, but all of them must be brought from without in the first instance, and be deposited in the skin, before the particular disease can be produced.

It is not always possible to determine how the germ of the disease is carried to the skin, but very often, probably in the great majority of cases, the infection occurs in the toilet. It is a curious fact that we are never so careless regarding the transmission of dirt from one person to another—for that is really what infection is—as we are in the process by which we try to make ourselves clean.

The common use by a number of persons of the same piece of soap, resting often in a dirty dish, of towels, and of hair brushes and combs, is one of the best possible methods of transmitting skin diseases. Children are doubtless more careless in this respect than their elders—the school wash-room is a capital clearing house for microbes, and loathsome animal parasites as well—but one need only look into the wash-room of any hotel, even the most pretentious, to be convinced that the grown man has but little more hygienic sense than his son.

Another place where diseases of the skin and scalp are freely dispensed is the average barber shop. Hair brushes, combs, scissors—more than all, the patent hair clipper—shaving brushes, razors, cups and soap, towels—often only mangled, and not boiled or even washed—sponges, powderpuffs, stick pomade, and last, but not least in their offending, the hands of the barber, may all become vehicles to distribute disease.

But there is perhaps as great need of reform in the home as in public places. Each member of the family should have soap, towel, hair brush, and every article of the toilet for his exclusive use as absolutely as he has his tooth brush; and his toothbrush should rest upon its own dish, or, better still, hang by itself, and not share a dish with one or half a dozen others.

This necessity of individuality in the toilet should be impressed by precept and by example upon every child from the very beginning, for the practice of perfect cleanliness may not only prevent some disagreeable skin eruption, but also more serious disease.

#### FISH-SCALING IMPLEMENT.

To scale a fish rapidly and effectively without tearing or otherwise damaging the flesh is the object of the invention of Elias S. Herrington of Idaho. It consists of a metal scaling blade, which is slightly curved and provided with teeth on its front edge, together with a wooden frame in which the blade is mounted for use. Directly in front of the toothed edge of the blade, when adjusted for use, is a curved wooden bar, which serves to



BLADE IN FRAME FOR REMOVING THE SCALES.

raise the scales up directly behind the bar so that the blade may engage beneath the elevated free edge and remove them without tearing the flesh, the scales being deposited on the blade as the cleaner is pushed along with the hand. Set screws are provided for adjusting the angle of the blade in relation to the frame, and the blade may be slipped out for cleaning purposes. In use the fish is grasped in one hand and the scaler plowed across it with the other, or the fish may be laid on a flat surface if more convenient.

#### CURIOSITIES OF THE COCO TREE.

The cultivation of coco, says a writer in the Scientific American, is at present an inviting agricultural pursuit in Trinidad and parts of Venezuela. The coco tree cannot withstand strong sunshine and the young plants have to be shaded by banana or plantain trees, and later, when they attain their growth, by tall trees known as "imortels," or the "mother of the coco." These make a kind of canopy over the entire plantation. The fruit of the coco tree is a pod, resembling a cucumber, and growing on the trunk or large branches, where it "looks as though it were artificially attached." The seeds

are like large, thick Lima beans embedded in pulp. These form the seeds beans of commerce. The processes of curing and drying require much attention.

#### HEAT FROM THE STARS.

From experiments made at the Yerkes observatory with an extremely delicate radiometer, Prof. E. F. Nichols has determined the relative intensity of the heat radiated to the earth from the stars Vega and Acturus and the planets Jupiter and Saturn. Acturus gives a little more than one ten-millionth of the heat of a candle placed at a distance of one meter. Jupiter gives more than twice as much heat as Acturus does. Although Vega and Acturus are equal in the brilliancy of their light, the latter gives twice as much heat as the former. Vega is blue-white and Acturus yellowish, or reddish, in color. The heat radiation of Saturn is less than one-sixth as great as that of Jupiter.

#### HAND BAND DATING STAMP.

The Commercial Stamp Trade Journal tells of a new invention called a hand band dating stamp, an illustration of which appears herewith. The peculiarity of this band date is that the bands are the same as "solid rubber type," vulcanized together at the base, and so constructed that they permit the use of a cushion base for the accompanying rubber die. The date bands are made of finest rubber that can be procured and are consequently elastic enough to give a clear print under heavy pressure without a blur. It is difficult to fit a common band date so that it will produce the most perfect results with a cushion die. This date overcomes that difficulty and works to perfection. Notice the advertisement on the last page of the cover.



#### A TALL SMOKE COLUMN.

During the burning of the Standard Oil company's tanks at Bayonne, N. J. in July, 1900, an immense column of smoke, shaped at the top like an umbrella, rose into the air, where very little wind was stirring, to an elevation, measured by triangulation, of 13,411 feet, or more than two miles and a half. Above the column white clouds formed in an otherwise cloudless sky, and remained visible for two days, the fire continuing to burn and the smoke to rise. After the explosion of a gas oil-tank flames shot up to a height of 3,000 feet, and the heat radiated from them was felt at a distance of a mile and three-quarters, where it was more noticeable than close to the fire.

#### LIQUID OXYGEN FOR BALLOONISTS.

The balloonist has long used hydrogen to enable him to ascend into the upper regions of air, and now efforts are being made to furnish him with oxygen, to prevent asphyxiation when he has risen too high to breathe with ease. The use of oxygen carried in rubber bags for this purpose has not proved satisfactory, and the French savant, L. Caillaud, proposes to substitute liquid oxygen, contained in a small bottle and allowed to vaporize as needed. The oxygen is breathed by means of a mask fitting over the nose and mouth, and the apparatus is so arranged that air, in any desired proportion, can be admitted at the same time.

#### HYDROGEN AS AN ILLUMINANT.

The production of oxygen and hydrogen on an industrial scale by the decomposition of water with electrolytic apparatus in Germany has led to the suggestion that hydrogen thus produced may find a wide field of employment as a lighting agent. It is now used for inflating military balloons. For lighting purposes it is compressed in steel cylinders. With a proper burner it is said to be a cheaper illuminant than acetylene, the relative cost for equal illuminating power being as \$5 for hydrogen to \$9 for acetylene.

#### PHOSPHORESCENCE OF DIAMONDS.

Gustave le Bon finds a striking difference in the phosphorescence of Brazilian diamonds and those from the Cape. The former, which are noted for the liveliness of their light, and which have become quite rare of late, exhibit a brilliant phosphorescence after being exposed to the radiation of a magnesium ribbon, while Cape diamonds, in similar circumstances, show very little or no phosphorescence. This is thought to be a means of detecting diamonds falsely offered as Brazilian gems.

#### Mysterious Asphalt.

Asphaltum is the puzzle of scientists and the joy and pride of roadmakers. Geologists and chemists have placed the mysterious material in the coal and petroleum family, yet they do not agree on its origin. Some of them claim volcanic parentage for the curious stuff; others trace its family back to the vegetable tribe. But all are of one mind in that it is one of the most useful and usable products of the earth's crust.

#### THE ELECTRIC ARC UNDER WATER.

Experiment has shown that an electric arc can be employed under water for fusing metal. The intense heat turns the water surrounding the arc into steam, thus forming an insulating cushion of vapor. It has been suggested that with proper apparatus the electric arc could be employed by divers for quickly cutting through large chain cables or iron plates under water.