

Correspondence.

Honey in Tasmania.

To the Editor of the Scientific American:

I beg to call your attention to the article which appeared in the SCIENTIFIC AMERICAN of May 28, 1887, copied from the New York Medical Journal. There is something wrong somewhere. Evidently a mistake has been made in the locality. The author has been, to use a vulgar phrase, "barking up the wrong tree." It is certainly true we have the eucalyptus tree to any extent, but his imagination has assisted his memory as to the size of the trees. As to honey, we have it, but in very limited quantities; in fact, there is very little exported, if any. Of late the Ligurian bees have been introduced here, but I do not think they have been very successful.

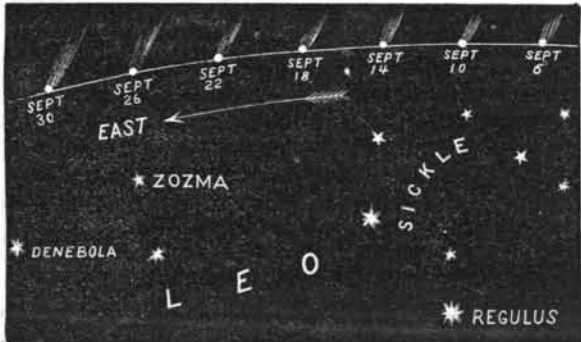
E. HAWSON, Secretary.

Chamber of Commerce, Hobart, Tasmania,  
July 9, 1887.

THE OLBERS-BROOKS COMET.

To the Editor of the Scientific American:

The comet it was my privilege to discover on the morning of August 25, 1887, in the eastern heavens, proves to be a very interesting one, viz., the return of the Olbers comet of 1815. It is its first return since 1815, thus establishing its periodic character, with a revolution about the sun in a period of about seventy-two years. It is therefore a member of our own solar system. It now takes its place as the third in the known list of comets of long period, established by an observed return to perihelion. The first of these is Halley's, with a period of seventy-six years; the second the 1812 or Pons-Brooks comet, rediscovered by the writer on September 1, 1883, and having a period of 71 years 4 months and 10 days.



THE OLBERS-BROOKS COMET, 1815 AND 1887.

I present herewith a chart showing the positions of the Olbers-Brooks comet during the month of September, and from which its course through the heavens may be traced still farther.

It makes its perihelion passage, or nearest point to the sun, about October 6, 1887. The comet is slowly increasing in brilliancy, and may be readily observed with telescopes of moderate aperture. It has a star-like nucleus and a short tail.

WILLIAM R. BROOKS.

Red House Observatory, Phelps, N. Y., Sept. 5, 1887.

Solid Truth.

Every thinker knows that the man who would succeed must do more work than he gets paid for, in every profession and trade. We take it for granted that the man who will do only \$20 worth of work a week because his salary is but \$20 will never get more than \$20 a week, for the simple reason that he has never shown his employer that he is worth more. We figure it that an employe who means to succeed has to do from 10 to 20 per cent more work than he gets actual pay for. This he has to do until he reaches a certain point, and, having reached that point, he will find that by so much as his income has increased, by so much has the demand for amount and intensity of his labor diminished. To put this theory into figures, we will say that a man receiving \$20 a week should do \$30 worth of work; a man receiving \$30 should do \$40 worth of work; and so on until say the salary reaches \$75, and then the laborer can give himself somewhat a rest, that is to say, about \$50 worth of work will satisfy his employer. Labor brings its market value, and is seldom overpaid, oftener underpaid. It is the experience, the "know how," that brings the money.—*Industrial Gazette.*

Safety in Mines.

Mr. Ellis Lever has decided to renew his offer of \$2,500 for a perfectly safe, practical, and efficient means of blasting without gunpowder. He has communicated his intention to the British home secretary, and, on the condition that the government will undertake the necessary tests and make the awards, he has offered to place in Mr. Matthews' hands \$5,000, to be awarded in two premiums of \$2,500 each—one for the best method of safe blasting in coal mines without the use of gunpowder and the other for a perfectly safe system of electric lighting in mines, to supersede the present so-called safety lamps.

Auto-Stereotypic Printing.

BY HERMAN REINBOLD.

A new process of auto-stereotypic printing, especially adapted for the reproduction of books and engravings, has lately been invented in Switzerland, and is already used with advantage at the establishment of Orell, Fussli & Co., at Zurich, a printing office of European fame.

The process will cheapen the reprinting of the works of foreign authors, which is done considerably here in this country. By this method the type setting and copying of engravings is saved, and an accurate stereotyped plate is obtained directly from the original. It is a transfer process, and for the reproduction two newly printed copies of the publication to be reproduced are necessary to insure complete success.

It is done in the following manner:

Plaster of Paris, best quality, is mixed with water to make it a thin putty without lumps, and to this a little alum or salt is added to make it set quickly. To every five pounds of the plaster are then added:

Silicate of potash or silicate of soda.....	3 oz.
Phosphate of lime.....	2 "

The mixture thus obtained is then put upon a perfectly level piece of plate glass of the desired size, around which iron rods are placed, and left to get hard. The plaster cast ought to be at least type high, to prevent breakage. While the mass is setting, the back ought to be scraped level, and should remain undisturbed until it is perfectly dry and hard. After that it may be taken off, and it will be found to be as smooth as the glass itself.

The paper to be reproduced is next placed, with the side to be copied down, in a dish which contains the following transferring solution:

Distilled water.....	16 oz.
Alcohol, 90°.....	5 "
Acetic acid.....	¼ "
Phosphate of soda.....	¼ "

Care should be taken not to get the solution on the back of the paper, which is not to be transferred, as it is then liable to print through when it is drawn through the transferring press. Should the print to be copied have been printed for some time, it is desirable to warm the solution and float the paper longer on it. The sheets should be left on the solution for at least two hours to insure perfect action.

In the mean time, the plaster of Paris plate, which was completely dried before, is prepared in a dark room.

A solution of five ounces of gelatine in twelve ounces of water is prepared by letting the former soak for half an hour and then heating it to about 190°. Care must be taken to prevent the boiling of the solution. To this six drachms of citrate of iron and ammonia and two ounces of alcohol are added and well filtered. This is when still warm. Put into a flat dish covered to a depth of about a quarter of an inch. It is well to put this dish upon a hot metal plate, as it gets hard quickly when getting cold. The plaster of Paris plate, which itself is warmed first, is dipped in the solution on the smooth side for a moment, thus letting it take up some of it, whereupon it is taken out and dried in the usual way, the plaster having been placed between rubber sheets to prevent it from breaking. Of course, also, this has to be done in the dark room, that is, at lamp or gas light. The plate is then dried once more and exposed to direct sunlight for fifteen minutes. When taken out, the places where the light has acted will be found to be quite hard, while at the other places the plaster is soft and will fall off as fine powder as deep as the solution has penetrated, if brushed with a hard brush. After that the plate is ready to be stereotyped.

Curious Effects of Lightning.

The steamship Anchoria of the Anchor line, which lately arrived in New York, met a tornado 180 miles from Sandy Hook. The wind came on from the northeast, and in a very short time there was a tremendous sea running. The rain came down in such floods that the crew were scarcely able to stand upon deck. The lightning poured in streams of a minute's duration from the clouds to the water, while globes of blue flame played up and down the rigging and danced along the yards, and leaped from the masts incessantly, terrifying passengers and seamen alike. For about two hours the wind blew at eighty miles an hour. Neither lookout nor pilot could see beyond the ship's rail, because of the solid sheets of rain and flying clouds of spray in which the ship seemed to be walled up as by a fog. The engines were run dead slow, and the ship lay to head to the gale. At the end of two hours the gale broke, and pleasant weather soon followed. No damage was done by either wind or electricity.

The steamship Glenartney, from Shanghai, was in the same storm, and had well-defined tufts of electric fire on each masthead.

Lightning struck Charles M. Lee, a cowboy, and also his horse, and killed them both, near Cheyenne Wells, Col., the other day. The stroke broke the iron horn of the saddle, exploded all the cartridges in his belt, and

set fire to the leather of the saddle, picket rope, blankets, tearing his hat, boots, and shirt to pieces, and the fire consumed the flesh of the left leg from the knee to the ankle.

In Cape Colony, South Africa, a shepherd drove a flock of 1,430 ewes up to a small building, in which he took refuge from a thunderstorm. As the sheep crowded around the building it was struck by lightning, and 790 of them were killed outright. The shepherd escaped with a severe shock.

The Folly of Decrying Patents.

The *Railway Master Mechanic*, a newspaper published at Chicago in the interests of railway motive power, equipment, and machinery, says in respect to patents:

We constantly hear men exclaim about the "uselessness" of patents, that such and such a person "is fooling around with patents," that "he will never get anything out of it," etc. Well, suppose he does not; do we not all of us run our chances of not "getting anything" out of our regular business transactions? If a man buys a barrel of beef, he may lose on it. What is the difference between the grocer and the patentee? Both are risking time and money for a possible gain. All the profits of all the grocers in the country do not exceed the profits derived from patents. It seems a little like sour grapes to decry patents. If one cannot invent, it is not necessary for him to decry those who can, in order to display his ignorance. We have our unsuccessful business men, lawyers, doctors, scholars, and even railroad men. Why not, therefore, our unsuccessful inventors? In most other kinds of business, men drop out as soon as they are disappointed, and live out of sight; but the inventor has more pluck, and generally goes on and keeps in view. Thus is derived the long list of poor and unsuccessful inventors. Let us in the future be more generous, and remember that inventors are our only hope while we desire to keep up this advancing civilization.

Great Losses of Fish.

In the vicinity of Galena, Ill., the fish in many of the streams have lately died by the million, and the few that are left are rapidly following suit. The banks of the Galena River branches are lined with dead fish of all sizes and varieties, from the tiny minnow to the mammoth cat and sturgeon. At Buncombe, Wis., dead fish are so numerous on the banks that the stench arising from them is almost unbearable. At Lancaster, Wis., the scene on the river bank beggars description, over 50 wagon loads of dead fish being in sight. There are numerous theories afloat as to the cause. One is that the recent rains have roiled the water with mud, so that the fish have been unable to breathe, and struggling to the surface for air, have died. Another is that during the dry, hot summer, the valleys and marshes above were filled with some poisonous growth that with the recent floods was carried into the streams and poisoned the water.

English Naval Dangers.

The Crown Princess of Germany has nearly lost her life twice since coming to England, while under the fostering care of the British Navy. Soon after her arrival there, the royal yacht on which she was traveling with her husband, the Crown Prince, came into collision with one of the troop ships, and escaped only by accident, and not by good management, from being sunk. On August 25, the Crown Princess met with another naval accident which frightened her even more than on the occasion of the previous disaster. While on her way back to the Isle of Wight from a visit to the Royal Naval Hospital at Haslar, she was persuaded to embark on board torpedo boat No. 79. It was intended to show the royal party some evolutions. In passing at full speed round the stern of the iron-clad the Invincible, which is stationed at Guardship, off Cowes, the helm of the little boat was put hard over to starboard, and then the order was given to put helm midships. It was found, however, that the wheel had got jammed and could not be moved, and before anything could be done, the torpedo boat dashed into the Invincible at full speed, striking her amidships. The collision caused a violent concussion on board the little craft and twisted her stem almost double, also straining the bow considerably. Fortunately, the barge of the royal yacht Victoria and Albert was close by, and the royal party was quickly transferred thereto. The Crown Princess and suite were naturally somewhat alarmed, but fortunately escaped without injury.—*N. Y. World.*

Potato Planter Eloquence.

In a recent infringement trial before Judge Bradley, United States Circuit for New Jersey, the learned magistrate gives the following: "The new machine is better than the old one, no doubt; the spears are differently arranged, so as to secure a potato more certainly every time, and other improvements are adopted; but to say that it is not an improvement on the old machine is to abandon the dictates of common sense for the transcendental distinctions of ingenious theory."