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Possible Improvements in the Supply of Electrical Energy.-By S. Z. DE FERKANTI.-High tensionelectric lighting and power supply, and their prospects in the future

LESSONS OF A GREAT DISASTER.

The North German Lloyd steanship Elbe, bound from Bremen for New York, was sunk in a collision with a small steamer fifty miles off Lowestoft, England. between 5 and 6 on the morning of January 30.

But twenty survivors escaped in one of the boats. All the other passengers and crew, numbering about 334 souls, were lost. The weather was clear, but cold. and a strong wind, almost a gale, was blowing.

Chief Engineer Neussell, who was saved, says the stem of the steamer which rammed the Elbe struck her about 150 feet forward of the rudder, or just abaft the engine room. The engines were not damaged by the collision, but the water soon poured in, and although the steam pumps were put to work, in about three minutes it proved to be useless. The fires were soon extinguished and the engines and pumps stopped working.

Mr. Keller, the London manager of the North German Lloyd Steamship Company, says:

"The Elbe was struck right on a bulkhead partition, so that both the watertight compartments which it divided were instantly filled."

There was no longitudinal bulkhead.

The shock and crash of the collision aroused everybody. The steerage was in a panic in a moment, and men, women and children, half dressed, or in their night clothes, came crowding up the companionways to the deck.

As the other steamer backed off and drew her stem out of the great cut made in the side of the Elbe, the latter careened over to port and began to settle by the stern. Three boats on the port side were lowered, but all except one were lost. By this time the list of the ship to port was so great that the starboard boats could not be lowered; and soon after the ship went down by the stern, and the whole crowd of people on board were engulfed in the waves. The single boat with twenty-two persons was picked up by Readers are specially requested to notify the publisher in case of a fishing smack. The colliding vessel was a small any failure, delay, or irregularity in receipt of papers. steamer from Rotterdam named the Crathie. Her stem was badly crushed, but she succeeded in reaching port in safety.

Among the lessons derivable from this disaster, we may note the inadequacy of the present means of saving life. The Elbe was provided with ten life-boats. besides life-rafts and collapsible boats. In consequence of the careening to port, the five starboard life-boats could not be launched. The life-rafts and other boats appear to have been of no account. Is it not possible his disk, eastern standard time : for ingenious minds to study out new forms of life-savin which the Elbe was placed ? Cannot some practical will be half way across about 9:55. system be devised for launching boats from the upper side of a careened vessel?

almost always proved fatal. Knowing this weakness, A. M., satellite II will disappear behind Jupiter. cannot some ingenious mind discover a remedy ? Can-TIFIC AMERICAN engravings of ships that were cut in were the engines, boilers and propeller; and this sec. half way across about 1:45 A. M. tion was still able to navigate, and also tow the other passing the canals, the sections were again united.

The Elbe was built in 1881 by the Fairfield Ship- nitude star i. building Company, of Glasgow, better known as the Elder Company. She was the first express steamer in which constellation it reaches first quarter on the 2d, built for the North German Lloyd Steamship Company

folding, life-boats, three life-rafts, and was divided into at 8 A. M. on the 15th. It is in perigee on the morning nine water-tight compartments.

35 feet. She had two funnels and four masts, which This tends to the production of high tides. were schooner rigged. Her speed was 16½ knots an The new moon of February will occur just before hour, and her horse power 5.600.

recognizable as the more northerly of the two, the distance separating them being about three degrees.

It will be interesting to remember when looking at Mercury on this occasion that the planet is, at the time, close to its perihelion point or nearest approach to the sun.

It will receive (shall we say enjoy ?) a degree of heat ten times as intense as that which the sun pours upon the earth, and yet toward the end of last December the solar heat on Mercury was less than half as great as it will be on February 9. This arises from the fact that the orbit of Mercury is very eccentric, so that its distance from the sun, which is only 36,000,000 miles on the average, varies to the extent of nearly 15,000,000 miles. Luckily for us, the sun doesn't sport that way with the earth.

Every lover of the stars will rejoice at the return of Venus to the western sky. During the month she will gradually draw away from the sun and brighten a little, but she is still far in the distant part of her orbit and the real glory of her re-entry as the queen of the evening is a spectacle reserved for the spring. At the end of February, however, she will already have become a conspicuous object, brightening the barren region that lies on the borders of Cetus and Pisces.

Mars remains in Aries during the first half of the month. In the latter half his eastward motion will carry him over into Taurus and he will swing slowly past the Pleiades on their southern side. His splendor has departed, he is moving farther away, and the sun is getting lower on that southern pole of his, whose snows (if snows they are) sparkled so brilliantly and vanished so swiftly at the touch of summer last year.

But while Mars fades, Jupiter continues a feast for the eyes of all those happy people who know the joys of the telescope. His marvelous panorama of cloud belts and changing spots, the delicate blue of his poles, and the gorgeous decoration of white and ruddy vapors that encircles his vast equator, are sights of another world that no thoughtful person should miss seeing. Jupiter is in the eastern part of Taurus some four degrees northeast of the star Zeta, and almost directly north of Orion; but he needs no star to point him out, and no constellation to emphasize his presence. He crosses the meridian about 9 P. M. at the beginning of the month and about 7 P. M. at the end.

I give, as heretofore, two or three dates on which the shadows of some of Jupiter's satellites can be seen on

February 10, at 7:41 P. M., satellite I will pass upon ing devices that shall be available under the conditions ' the disk ; its shadow will follow at 8:45, and the latter

February 22, at 9:19 P. M., satellite III will pass upon the disk; its shadow will follow at 2:08 o'clock The weakest spot in nearly all steamers appears to the next morning, and the latter will be half way be at or near amidships. A blow near this point has across about 3:38 A. M. In the mean time, at 2:21

February 24, at 8:55 P. M., satellite II will pass not an unsinkable ship be invented? We think it upon the disk; its shadow will follow at 11:18, and the can. We have given in back numbers of the SCIEN- latter will be half way across about 12:40 A. M. At 11:21 the same night, satellite I will pass upon the two, and yet each part floated. In one of the parts disk; its shadow will follow at 12:35 A. M. and will be

Saturn is in Libra, some 15° or 16° directly east of section. This was done at the West when the experi-the bright star Spica. It cannot be seen before midment was made of sending steamers through the lakes night. The same is true of Uranus, which remains to the East. The vessels when intact being too long near the fourth magnitude star Iota in Libra. Nepfor the canals, were cut in two. as stated, and after tune is in Taurus, about 6° northeast of Aldebaran and about 2° in a northerly direction from the fifth mag-

The opening of the month finds the moon in Aries, at a quarter past seven o'clock in the evening. The moon fulls in Leo, near the star Regulus, on the 9th, She had ten standing life-boats, six collapsing, or a little after midday, and attains last quarter in Libra of the 9th and in apogee early in the afternoon of the Her dimensions were: Gross tonnage, 4,510 tons; 22d. The coincidence of the perigee with the full moon length over all, 418 feet; width of beam, 44 feet; depth, phase is closer this month than it was in January.

noon on the 24th.

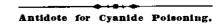
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THE HEAVENS IN FEBRUARY.

An excellent opportunity to see the shy planet Mercurv is offered this month. Since the astronomers watched it crossing the sun's face last November, Mercury has passed around the farther side of the sun and is now preparing to swing once more into line between the solar orb and the earth, but this time it will not be seen against the sun. On February 9 the little planet will attain its greatest elongation east of the sun and will be seen shining in the sunset glow low in the west. It should be looked for, as soon after sundown as possible, two or three days before and after

As the moon runs through the circle of the Zodiac she will in turn pay her respects to the various planets encountered on her way. At midnight on the 4th she will meet Neptune; at 10 P. M. on the 5th she will pass Jupiter, and at 10:36 P. M. on the 14th Saturn will bask in her rays. It becomes the turn of Uranus to meet the swift-footed goddess on the evening of the 15th. Renewing her course in the west, in the last week of the month the moon will pass Mercury, returning sunward on the 24th, and will overtake Venus on the 26th.

GARRETT P. SERVISS.



XII. POLITICAL ECONOMY.-Land Fenure in Tuscany.-An inter-esting description of the Tuscan framers.-Pleasant relations between landlord and tenant.
down as possible, two or three days before and after the sight a pretty one. Mercury will be rear the sight a pretty one. Mercury will be
XII. POLITICAL ECONOMY.-Land Fenure in Tuscany.-An inter the sight a pretty one. Mercury will be
Cobalt nitrate is found by Dr. Cobalt nitrate i Cobalt nitrate is found by Dr. Johann Antal, a fourth magnitude star Lambda in the constellation chemist of Hungary, to be an antidote to prussic acid Aquarius. But what will especially serve to identify and cyanide poisoning. First he tried the cobalt on it is the presence of Venus. Mercury and Venus will animals, and then, presumably at different times, on be in conjunction early on the morning of the 10th, forty living persons who had been accidentally poiand close enough together on the evening of the 9th soned by prussic acid, and in all cases the results are