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## 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, Eng land. 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 steawer 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 Ger man 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 compauionway 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 a fishing smack. The colliding vessel was a small 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 sav ing 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 for ingenious minds to study out new forms of life-sar ing devices that shall be available under the conditions in which the Elbe was placed? Cannot some practical system be devised for launching boats from the upper side of a careened vessel ?
The weakest spot in nearly all steamers appears to be at or near amidships. A blow near this point has almost always proved fatal. Knowing this weakness, cannot some ingenious mind discover a remedy? Can not an unsinkable ship be invented? We think it
can. We have given in back numbers of the ScIencan. We have given in back numbers of the Scien-
TIFIC AMERICAN engravings of ships that were cut in two, and yet each part floated. In one of the parts were the engines, boilers and propeller ; and this section was still able to navigate, and also tow the other ment mas mas to the East. The vessels when intact being too long for the canals, were cut in two. as stated, and after passing the canals, the sections were again united.
The Elbe was built in 1881 by the Fairfield Ship building Company, of Glasgow, better known as the Elder Company. She was the first express steamer built for the North German Lloyd Steamship Company.
She had ten standing life-boats, six collapsing, or olding, life-boats, three life-rafts, and was dividedinto ine water-tight compartinents.
Her dimensions were: Gross tonnage, 4,510 tons: length over all, 418 feet; width of bean, 44 feet : depth 35 feet. She had two funnels and four masts, which were schooner rigged. Her speed was $161 / 2$ knots an hour, and her horse power 5,600.

## the heavens in febkuary.

An excellent opportunity to see the shy planet Mercury is offered this month. Since the astronomers watched it crossing the sun's face last November, Merary 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 sin down as possible, two or three days before and after the 9th. On that particular day it will be near the ourth magnitude star Lambda in the constellation Aquarius. But what will especially serve to identify it is the presence of Venus. Mercury and Venus will be in conjunction early on the morning of the 10th, to make the sight a pretty one Mercury will 9 th
recognizable as the more northerly of the two, the dis. tance 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 ${ }^{9}$ ) 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 $15,000,000$ wiles. 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 nows (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 fo 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 anothe world that no thoughtful person should miss seeing Jupiter is in the eastern part of Taurus some four de grees 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 meridiau 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 his disk, eastern standard time :
February 10, at 7:41 P. M., satellite I will pass upon the disk ; its shadow will follow at 8:45, and the latter will be half way across about 9:55.
February 22, at 9:19 P. M., satellite III will pass apon the disk ; its shadow will follow at $2: 08$ o'clock the next morning, and the latter will be half wa across about $3: 38$ A. M. In the mean time, at 2:21 A. M., satellite II will disappear behind Jupiter.

February 24, at 8:55 P. M., satellite II will pass upon the disk; its shadow will follow at 11:18, and the atter will be half way across about 12:40 A. M. At 11:21 the same night, satellite I will pass upon the disk; its shadow will follow at 12:35 A. M. and will be half way across about 1:45 A. M.
Saturn is in Libra, some $15^{\circ}$ or $16^{\circ}$ directly east of the bright star Spica. It cannot be seen before mid night. The same is true of Uranus, which remains near the fourth magnitude star Iota in Libra. Nep une is in Taurus, about $6^{\circ}$ northeast of Aldebaran and about $2^{\circ}$ in a northerly direction from the fifth mag nitude star i .
The opening of the month finds the moon in Aries, in which constellation it reaches first quarter on the 2 d at a quarter past seven o'clock in the evening. The moon fulls in Leo, near the star Regulus, on the 9th a little after midday, and attains last quarter in Libra at 8 A . M. on the 15 th . It is in perigee on the morning of the 9 th and in apogee early in the afternoon of the 2d. The coincidence of the perigee with the full moon phase is closer this month than it was in January. This tends to the production of high tides.
The new moon of February will occur just before noon on the 24th.
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 he 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 sun ward on the 24th, and will overtake Venus on the 26th.

Garrett P. Serviss.

## Antidote for Cyanide Polsoning.

Cobalt nitrate is found by Dr. Johann Antal, a chemist of Hungary, to be an antidote to prussic acid and cyanide poisoning. First he tried the cobalt on animals, and then, presumably at different times, on orty living persons who had been accidentally poioned by prussicacid, and in all cases the results are reported to have been satisfactory.

