## NORTHERN MESSENGER



EDWIN ARNOLD TO ALFRED TEN NYSON.

No moaning of the bar ; sail forth strong ship Into that gloom which has God's face for a far light.

Not a dirge but a proud farewell from each fond lip.

And praise, abounding praise, and Fame's faint starlight,

Lamping thy tuneful soul to that large noon. Where thou shalt choir with angels. Words of woo

Are for the unfulfilled, not thee whose moon Of genius sinks full-orbed, glorious, aglow. No moaning of the bar, musical drifting, Of Time's waves, turning to the eternal sea. Death's soft wind all thy gallant canvas lifting And Christ thy pilot to the peace be.

THE STUDY OF THE STARS. (A. E. Beach, in Scientific American.)

During the beautiful autumnal evenings few persons, can look up into the starry dome of heaven without longing for a better acquaintance with the glowing orbs whose



Fig. 1 .-- Luminous Stars.

radiance meets the view in every direction If one turns to the star maps and books of astronomy, there will be found clearly laid down the history, names, colors, magni-tudes, and positions of all the principal celestial bodies. But when, after studying the map, he goes out of doors; thinking to carry the chart in his mind, and easily to locate and recognize individual members of the glittering host, he is sadly disappointed. To his untrained eye the glorious stars appear the same as before, all mixed in inextricable confusion ; and for him the map is of little value. Discouraged with the result of this first effort the majority of people abandon the matter and go through life without ever gaining an insight into this the sublimest of the sciences, and never experience the inexpressible delights that attend on this grandest of studies.

To assist the amateur, whether old or young, in the study of astronony, to render the opening lessons easy and attractive, and insensibly to interest his mind in this most ennobling subject, has led me to design the simple devices which I will now describe.

One form is as follows : I provide a sheet of card-board, say two feet square, one side of which is covered with what is known as luminous paint. This remarkable substance has the quality of storing up the sunlight, and gradually delivering the same in the darkness. The paint is a chemical com-bination, chiefly of lime and sulphur. This luminous sheet I pin upon a light wooden board. I also cut out of common card-board a few small stars of different sizes, to represent stars of the first, second, third and fourth magnitudes, and provide each star with a central pin.

In use the luminous board is held as shown in the engraving, and on it are placed the paper stars. The holder of the placed the paper stars. board glances upward at the sky, notes the position of the stars, and then arranges their counterparts upon the luminous board, the glowing purple light of which, even in the darkest night, enables him to do this with the utmost case and satisfaction.» The counterfeit stars being thus arranged and fastened upon the board, it is taken indoors and compared with the map or chart, with which the selected group is instantly recognized and named.

In this simple way the forms, positions, and component stars of all the principal heavenly bodies may quickly be learned by any person without a teacher; and the

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is, in the highest degree, fascinating: mind A still simpler device, but in the same line, is to cut the stars out of the luminous cardboard, and then arrange and pin them as before described upon the surface of a wooden board, say two feet square, painted dead black. In this case the movable stars will appear luminous on the board, even in the darkest night. Instead of using ordinary pins, wire round staples bent up as shown in Fig. 1, will be found convenient ; these are easily ingered and quickly placed as desired.

A light, convenient, non-warping star board may be made by gluing together, crosswise, three sheets of pine wood veneers. It is needless to occupy space in describing all the uses of this device for promoting the first lessons in star study. Suffice it to say that with the contrivance in hand, together with star maps, such as those that were prepared for the Scientific American by the late Richard A. Proctor, any person may soon become an intelligent student of the skies; and his knowledge may be greatly supplemented and extended if, at the same time, he provides himself with the admirable book, "Astronomy with an Opera Glass," by that most excellent observer and writer, Mr. Garrets P. Serviss.

## A ROUGH NIGHT. The ostler of the quiet little inn of Red-

ruth was startled from his sleepy reverie by the rattle of carriage wheels. Here was by the rattle of carriage wheels. a customer at last

The iron horse, with its snorting, puffing haste, had not yet invaded the town, for its inventor was not even born ! So carriage and post horses had it all their own way.

"Muster Wesley it be, surely !" And Peter-for that was his name bustled about to care for the steaming horses, while their master was fed inside. Good Mr. Pembertley, I must get to St. Ives to-night, and my servant, who has driven me here, knows not the way:

drive mo there?

Mr. Pembertley stroked his chin in true landlord fashion—"Woll, yes, there's our Martin, he knows the road ; you should start early, though." "Well said, I am ready ; let him drive me."

So the faithful ostler got on the box, and the lumbering coach, with a thwack and a hurroo, went over the rough stones of the little narrow street, with Mr. Wesley inside.

On they went till the pretty little town of Hayle was reached.

"I'm afraid we're too late, Muster Wesley-the tide is rising, and the only way we can go is across the sands,"

"Go on, my man, I must get there." "Beg pardon, sir," said a rough, weather-beaten captain, who saw they were starting for the sands. "you won't get to St. Ives that way to-night, or, if you do, it's an awfully dangerous road. I shouldn't go, if

I was you !". 'I must—I must keep my appointment. I am to preach at eight o'clock, I will not disappoint them." 'Take the sea. take the sea." he should

"Take the sea, take the sea," he shouted to the hesitating driver, and away they went, plunging at once into the fringe of the advancing tide.

No easy work had the horses, however. They floundered about, and the farther they went the more the waters seemed to swirl round them. Now and again the wheels of the carraige would sink into the great pits and ruts in the sands. Poter had hard work to keep in the saddle, while the poor frightened, struggling horses reared and plunged as the great waves, now beginning to roll in, would splash at their sides and smother them in spray.

Presently, above the roar of the waters, the worn-out driver heard a voice, and, turning round, saw Mr. Wesley looking out of the carraige window the very pic ture of calm trust, although the salt spray ran down his white locks and over his face. No thought of fear had he! He was on

study, while it instructs and impresses the Have you one you can depend upon to his Master's business-nothing could harm

hin:

What is your name, driver ?" he called. "Peter, sir," was the reply; halfdrowned by the dashing waves." "Peter | Peter | fear not ; you shall not

sink ! Mr. Wesley's dauntless spirit put fresh courage into the disheartened man; and by dint of shouts, and spurs, and whip, the tired and exhausted animals were induced to make fresh efforts against the remorseless waters, and with many a plunge and splash and fearful swaying to and fro of the. coach; he succeeded in getting through thebelt of water which runs into St. Ives Bay, and soon the welcome lights showed the end of their perilous journey was near, and the coach was once more on firm ground, and rattled up to the door of the church, where the expectant crowd was waiting, not disappointed in hearing the great preacher, What encouragement the kindly voice

of Wesley gave the poor wearied coachman as he struggled through the fierce waves ! It reminds us of One infinitely mightier than any carthly friend, who bids his people be of good cheer, and assures them-that, though they pass "through the waters of trial, or affliction, or sorrow," they shall not overflow them, because "I the Lord thy God will hold thy right hand, saying unto thee, Fear not" (Isa. xli. 13).— H. Hankinson, in Our Own Magazine.

## WHAT PROHIBITION DOES.

Prohibition makes tippling unlawful and disgraceful, and that is much to the credit of Prohibition. If we cannot yet put the devil in chains for a thousand years, let us at least drive him out of good society, compel him to hide in the dark and the dirt, and not protect him with our laws and our courts of justice.-The Golden Rule.

IT NEVER MAKES US a bit broader to go up and down the earth declaring that somebody else is narrow.



THE STUDY OF THE STARS-THE LUMINOUS BOARD.