ASTRONOMICAL NOTES.

BY BERLIN H. WRIGHT.

PENN YAN, N. Y., Saturday, June 1, 1878.

The following calculations are adapted to the latitude of New York city, and are expressed in true or clock time, being for the date given in the caption when not otherwise stated.

PLANETS.

	H.M.		H.M.
Mercury rises	3 34 mo.	Jupiter in meridian	4 00 mo.
Venus rises	2 36 mo.	Saturn rises	1 24 mo.
Mars sets	10,00 eve.	Uranus sets	0 04 mo.
Jupiter rises	11 09 eve.	Neptune rises	3 02 mo.

FIRST MAGNITUDE STARS.

	H.M.		H.M.
Alpheratz rises	11 25 eve.	Regulus sets	0 08 mo.
Algol (var.) rises	1 13 mo.	Spica in meridian	8 37 eve.
7 stars (Pleiades) rises	3 33 mo.	Arcturus in meridian	9 28 eve.
Aldebaran rises	4 52 mo.	Antares in meridian	11 40 eve.
Capella sets	10 35 eve.	Vega in meridian	1 54 mo.
Rigel rises	8 54 eve.	Altairrises	8 34 eve.
Betelgeuse sets	7 33 eve.	Deneb in meridian	3 55 mo.
Sirius sets	6 59 eve.	Fomalhaut rises	2 13 mo.
Procyon sets	9 10 eve.		

REMARKS.

Twilight begins in the morning at 2h. 32m.; ends in the evening at 9h. 23m.; duration, two hours. The day is 14h. 53m. long, being 5h. 38m. longer than the shortest, and wanting only 13m. of the greatest length.

Mercury is at greatest western elongation June 2, and is brightest June 5, though probably he cannot be seen owing to the twilight. Mars, when first seen in the evening of June 3, will be about 1° south of the moon, and with Procyon in *Canis minor*, nearly south, and Betelgeuse in *Orion*, southwest, forms an isosceles triangle, the equal sides of which are 26°, and the base 19°. Venus and Neptune are in conjunction June 11, 3h. 18m. evening, Neptune being only 39′ north. At the time Venus rises (2h. 24m. morning, 12th) Neptune will be less than ½° west of her, and about the same distance north. For those who possess telescopes of sufficient power, this will be a favorable opportunity to look for this remote planet.

The Largest Electrotype ever Produced.

The Electro-metallurgical Company, of Brussels, has lately completed a colossal statue of Jan van Eyck, in bronze, by the system of electric deposition. The galvanic process occupied several months, although a thickness of but six to eight millimeters was attained. It is probably the largest object which has been produced by this method, being over twelve feet in height, and is regarded as a much more perfect imitation of the model than could be obtained by casting.

RUSSIAN TORPEDO BOATS.

The engraving, which we copy from the London *Graphic*, represents the new model torpedo boat, one hundred of which were recently ordered by the Russian Government. Each boat is 75 feet in length by 10 in breadth, with a draught of 5 feet, and a speed of 22 miles an hour. They are built of steel, and divided into numerous watertight compartments, which serve the double purpose of increasing their strength and preserving their buoyancy in the event of any injury resulting from the enemy's fire. The vessel is armed with three torpedo poles of hollow steel, one at the bow, and one on each side of the boat, and the torpedoes consist of steel or copper cases containing from 40 to 50 pounds of dynamite, which would be exploded by electricity, and which is considered to be sufficient to sink any vessel afloat.

THE EMPIRE DUSTLESS ASH SIFTER.

The invention herewith illustrated is a simple device for sifting ashes, the operation being easily and quickly performed without dust, leaving the coarse and fine material

THE EMPIRE DUSTLESS ASH SIFTER

well separated In the upper part of the casing is a hopper, A, closed, as shown, by a hinged lid. Beneath the hopper is the sieve, B, which, by its handle, may be reciprocated back and forth. The upper lid, while the sifting is going on, is kept closed, and the slide, C, is folded up beside the side of the case, so that all the fine material falls down to the bottom of the latter into a receptacle placed to receive it. The slide, C, is then swung into the position shown in the illustration, and the sieve is dumped, the cinders then passing out into the scuttle, as shown.

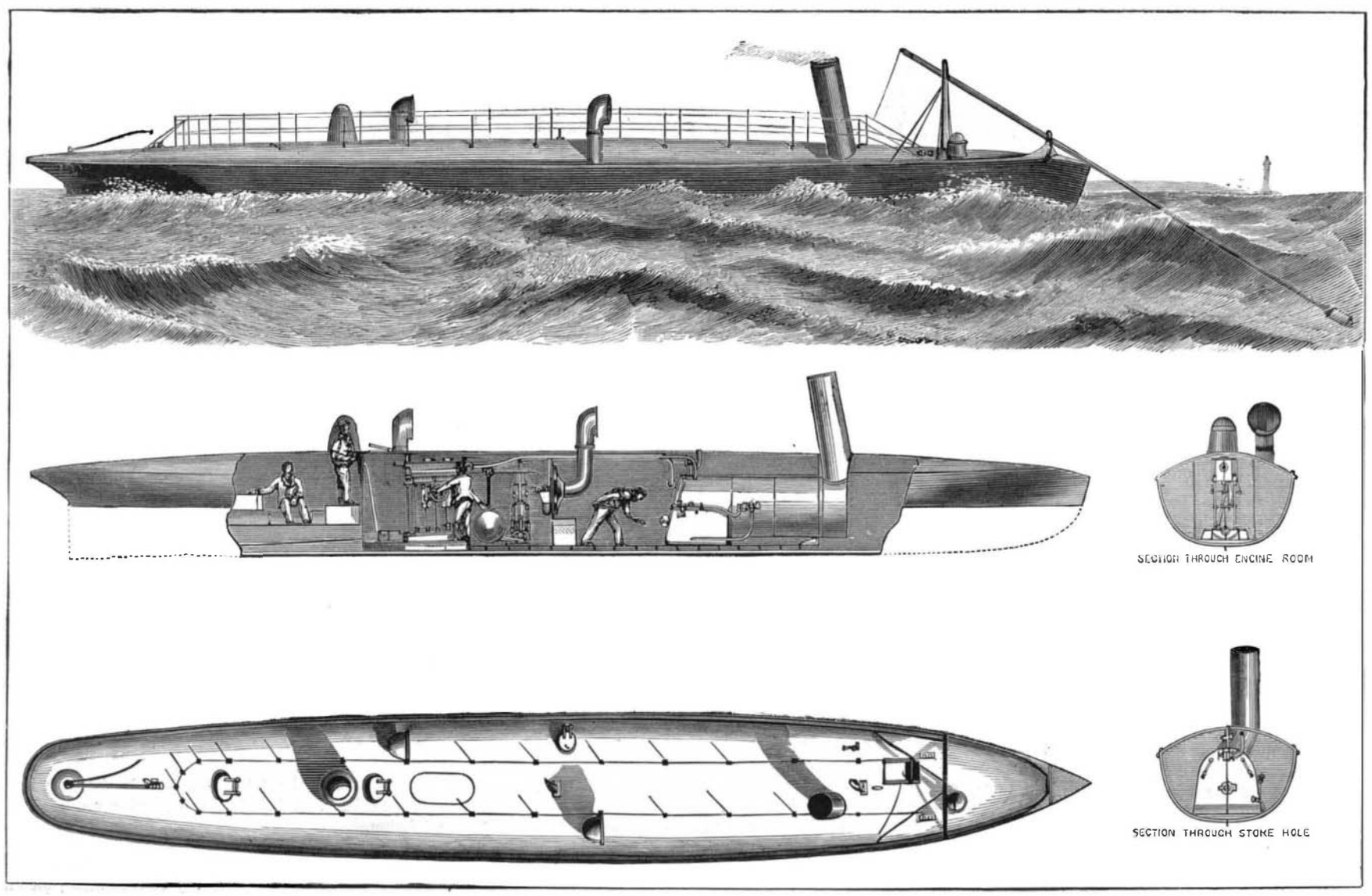
Patented through the Scientific American Patent Agency March 28, 1878. For further information address the inventor, Mr. J. E. Cumings, 7 Seymour Ave., Utica, N. Y.

The Importance of our Internal Commerce.

In a speech in defence of the system of protection, at Philadelphia, the other day, Senator Blaine paid a fitting tribute to our domestic commerce, the magnitude of which few appreciate. He said that while we have enjoyed the full benefit of protection to American industry against injurious competition from abroad, we have also enjoyed among ourselves the blessings of absolute free trade beyond that ever realized elsewhere by a population so large, over so vast an extent of country. With a broad land inhabited by a population that will soon be 50,000,000; with 15,000 miles of ocean front on the Atlantic, the Gulf, the Pacific, and the Arctic ocean; with five great interior seas, each more valuable than those waters for whose mastery European empires wage bloody and wasteful wars; with rivers connecting our States in a network of inland navigation greater than all the rivers of Europe combined; with railroads joining lake to Gulf and ocean to ocean—on all our ocean coast, on all our interior seas, on all our rivers, over all our railroads, between all our States, and with all our Territories, trade is absolutely free for all American products and fabrics, without fetter, or charge, or fee, or any governmental tax whatever, national, State, or municipal. And the great organic law of the land declares that it shall always remain so. The vast importance of our foreign commerce is now exciting the attention of the whole country. It has grown so large that its total for a single year amounts to nearly $1,200,000,000; but compared with our domestic commerce it is absolutely insignificant in extent. The traffic by railroad alone, in this country, is estimated to be sixteen times as large as our foreign commerce. And when we add to that the commerce of lake, and river, and canal, we have an aggregate which amounts to twenty-five times as much as our foreign commerce, including both exports and imports.

Silk Industry at Home and Abroad.

The annual report of the American Silk Association gives the total silk products of the country for 1877 as 1,177,504 lbs., the value of which was $21,411,436. The value of reeled silk consumed was $8,456,341, and of spun silk $850,000, making a total of silk threads to the value of $9,306,341. The silk consumed in sewings and twist, and in weaving, was worth $12,105,095. The imports of raw silk were 9,377 bales of 100 lbs. each, against 9,887 bales in 1875, and 1,249 bales in 1876. The production of raw silk throughout the world partially recovered last year from its great decline in 1876, but has not yet reached its previous average. According to the *Bulletin des Soies et des Soieries*, the total silk production for 1874 was 22,363,098 lbs.; in 1875 it was 21,161,313 lbs.; in 1876 it fell to 17,660,495 lbs.; rising again in 1877 to 18,791,855 lbs. The falling off took place almost wholly in France and Italy. In 1876, under the stimulus of high prices, the exports of Japan rose from an average of 14,000 bales to 20,000 bales. There was a marked increase last year in the number of bales exported from Japan direct to this country.



RUSSIAN STEEL TORPEDO BOAT.