Scientific American.

MUNN & CO.. Editors and Proprietors. PUBLISHED WEEKLY AT

No. 361 BROADWAY, NEW YORK.

O. D. MUNN.

A. E. BEACH.

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The Scientific American Supplement

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NEW YORK, SATURDAY, DECEMBER 2, 1893.

(lilustrated articles are marked with an asterisk.

Port, a new Texas.
Railway accidents.
Railway cars fenders.
Railway cars cost of.
Science, curiosities of.
Signal fog, electric.
Smoke, Lancasbire.
Surgery in China.
Sugar production, immense.
Taste, to obscure the.
Thill support, Meyerboff's*
Trade marks registration.
Tulip tree insects (5535).
Waterbury Watch Co., the.
Whale, stranded*.

TABLE OF CONTENTS OF

SCIENTIFIC AMERICAN SUPPLEMENT

No. 935.

For the Week Ending December 2, 1893.

Price 10 cents. For sale by all newsdealers.

real notes of the Columbia's trial trip.—Ine Olympias Bigs.

The First Atlantic Screw Steamsbip.—A six-masted screw ship of 1845—I illustration.

The Italia (of the Italian Navy) the Largest Warsbip in the World.—I illustration

The Triple Screw Warsbip Columbia.—A full account of the Columbia, of her trial trip and comparison with other ships.—I illustration

14935

lustration.

14936

Triple Screw Propulsion.—The details of triple screw propulsion.—Its advantages and general features.

14936

Triple Screw Propulsion.—The details of triple screw propulsion.—Its advantages and general features.

14936

Trafajgar, October 21, 1805.—A description of Nelson's great victory.—Condition of her sails after the action:—I illustration.

14938

X. PHOTOGRA PHY.—Isochromatic Photography.—By G. CRAMER.

Notes of the last advance in photography.—The advantages and disadvantages of the new plates.

14941

XI. PHYSICS.—A Color Tint Photometer.—A very ingenious elimination of the subjective error in photometry by color contrast.

14946

The Tireless Waltzers.—A pretty experiment in surface tension.

14946

XII. SANITATION—Septicar Monagement 18946

REPORT OF THE COMMISSIONER OF PATENTS.

The Commissioner of Patents is required to make two annual reports of the condition of the Patent Office, one to Congress, at the beginning of each year, and one to the Secretary of the Interior in the middle of the year.

Commissioner John S. Seymour's report to the Secretary, for the fiscal year ending June 30, 1893, has just appeared, which shows that 39,539 new applications for patents were made during the year preceding, 23,471 patents were granted, 8,283 applications were waiting official action, and the remainder stood rejected or requiring amendment. The total receipts were \$1,288,809 and the expenses \$1,111,442.

The Commissioner strongly recommends a philosophical classification of the issued patents in order to facilitate the work of official examinations; also the establishment of a more comprehensive scientific library; also provisions for a systematic examination of existing industries in all parts of this country. All these are excellent suggestions, and if carried out would greatly add to the value of the official scrutiny of applications.

The Commissioner further recommends that the supply of free copies of the Official Gazette to libraries may be increased, so that inventors may have a more ready access to the publication. The crowded condition of the Patent Office, the wrong thus done to the health of employes, and the great losses to the government from the same cause are strongly set forth and relief urgently asked.

The Commissioner's report has the merit of brevity: while all his recommendations are practical, and their adoption would be of great advantage to the bureau as well as to the public.

THE REGISTRATION OF TRADE MARKS.

The scope of the rights conferred by the registration of a trade mark and the limits of the authority of the Commissioner of Patents in dealing with an applicant for registration are the subjects of a very lengthy decision recently handed down by the Supreme Court of the District of Columbia. The State of South Carolina, under a special law, the so-called Dispensary Law of December 24, 1892, assumed control of the liquor traffic of the State. In virtue of this action it became the owner of a trade mark used in connection with such traffic, and it applied to the U.S. Patent Office for registration of the same.

The case first was passed upon by the Examiner of Trade Marks, who refused it registration on the ground that a State of the American Union is not a corporation as contemplated in the Trade Mark Act of March 3,1881. He virtually decided that if a State could register a trade mark, then the one in issue could be registered. On appeal the case went to the Commissioner of Patents. He abandoned the examiner's ground for rejection as untenable, and introduced a new and original one of his own. He refused registration on the ground that, even if the State could enter the field of commerce, it had not done so by the legislation (i. e., the Dispensary Act) before him. He says "Notwithstanding the acts of its Governor and State Board of Control," the State of South Carolina "has no authorized trade in liquors outside its own limits." Therefore he denies the appeal.

The decision of the Supreme Court states what registration of a trade mark does. It gives no new property right, it grants no monopoly of use. The grant differs radically from that conferred by the regular letters patent. It simply confers upon the one registering it the right to sue a citizen of his own State in the federal courts, provided he proves that he uses the trade mark on goods intended for commerce with foreign nations or Indian tribes. There was no question that the State of South Carolina used the trade mark in issue in foreign commerce. The contention of the Commissioner was that such engaging in foreign commerce was unlawful, or outside of the scope of the Dispensary Act, and therefore he refused the registra-

next place, to ascertain from the showing that is made per minute. the Commissioner has no concern.

merce in which the trade mark is to be used, the Com- to getting a drier deck when the vessel is steaming missioner must deem imposed upon him by the follow-into a head sea. The propellers are three-bladed. The ing clause of the law: "No alleged trade mark shall engines are of the usual tri-compound type adopted by be registered unless it appear to be lawfully used as the firm, having cylinders 18 inches, 26 inches, and 391/2 such by the applicant in foreign commerce." The inches in diameter by 18 inches stroke. The boilers, court, after quoting this clause to determine its two in number, as stated, are of the locomotive type, meaning, says: "Clearly this word 'lawfully' relates and have copper fireboxes with copper tubes. The to the character of the right of the applicant, . . . total grate surface is about 100 square feet and the total

and not to the character of the foreign commerce." A peremptory writ of mandamus requiring registration of the trade mark was accordingly issued.

The whole decision, which covers over five pages of the Patent Office Gazette, is worthy of the most careful reading. It will be accepted as one of the leading trade mark decisions, and we trust will be of use in determining a more liberal treatment by the Patent Office of applicants for registration of trade marks.

TERRIBLE EFFECTS OF DYNAMITE.

The seaport town of Santander, near Bilbao, on the north coast of Spain, was the scene of a terrible disaster on Nov. 3, causing the loss of between two and three hundred lives, with serious injuries also to several hundred other persons, and great destruction of property, including damage to many houses in the town. A Spanish coasting steamer, called the Machichago, with a cargo which consisted of barrels of spirits, petroleum and above fifty tons of dynamite, was unloading at the mole. Some portion of the inflammable cargo took fire. Efforts were made, under the direction of the town police, acting in the presence of the governor, to remove the dynamite and the petroleum, while a steam tug was brought alongside the burning ship, to tow her away from the quay, which was crowded with people. At half past four in the afternoon, probably from the concussion produced by the sudden bursting of the steam boilers, the whole interior of the vessel was shattered, its contents were mingled together, and the dynamite was ignited; there was a series of tremendous shocks. The ship and the steam tug were blown to pieces, scattered over the harbor and the quay, and at least sixty houses, as well as several vessels lying near, and a train at the railway station, were set on fire by the blazing fragments. The governor of the town and several other official persons of rank were among those killed.

Dynamite, as most of our readers know, is a preparation of nitroglycerine, which latter is made by treating glycerine with a mixture of nitric and sulphuric acids. Nitroglycerine is an oil and possesses the remarkable quality of violent explosion when subjected to slight pressure. It is therefore very dangerous to handle. To diminish this danger, and also to present it in the form of a powder, an absorbent substance is mixed with it, which holds the liquid nitroglycerine within its pores and acts as a cushion that prevents the nitroglycerine from exploding under light pressures, such as ordinary handling.

Dynamite is the name given to nitroglycerine when thus protected by an absorbent. Porous microscopic shells, known as infusorial earths, form the best absorbent, and this material is used in the manufacture of dynamite. When dynamite is subjected to sufficient pressure, by concussion, for example, when contained in a bomb which is allowed to fall upon the ground from a suitable height, it explodes with terrific force. The explosive power of dynamite is eight times greater than gunpowder, and in general, for ordinary use for blasting purposes, it is cheaper and safer than gunpowder; but for some kinds of blasting, particularly in coal mining, specially prepared gunpowders are pre-

The most authentic history of gunpowder attributes its discovery to a German chemist named Berthold Schwarz, some time during the century beginning with the year 1300; and this remained for more than five hundred years the explosive most commonly used, until the invention of gun cotton by Schonbein in 1846 and of nitroglycerine by a French chemist, A. Sobrero, in 1847, in the laboratory of Pelouze, Paris.

The action of nitric acid to render cotton and other substances explosive was discovered by Pelouze in 1838.

NEW BRITISH TORPEDO BOATS OF EXTRAORDINARY SPEED.

The Havock is the name of the first of two new gun boats lately completed by Messrs. Yarrow for Her Majestv' navv, which on a recent trial yielded remark-The decision of the Supreme Court says that it does able speed results. On the three hours' run, in rough not appear that Congress ever intended to impose weather—the wind blowing 30 miles per hour -a speed upon the Commissioner of Patents the ascertainment of over 26 knots was reached. On the measured mile and determination of the question whether "the appli- the mean of four runs was 26.78 knots. The fastest cant is lawfully engaging in foreign commerce." The mile run was at the rate of 27:565 knots, and the mean Commissioner's duty is to ascertain prima facie of the best two runs was over 27 knots. This is bewhether he (the applicant) is lawfully entitled to use lieved to be the fastest craft affoat. The indicated the trade mark sought to be registered, and, in the horse power was 3,400, and the engine revolutions 362

to him whether that trade mark so lawfully used by The boats have twin screws, and generally resemble the applicant is used in foreign trade." But it will be the first class torpedo boats built by this firm. The observed that with the lawfulness of the trade itself length is 180 feet and the width 18 feet 6 inches. There is the usual hood or turtle-back forward, although The determination of the lawfulness of the com- some modifications have been introduced with a view heating surface about 5,000 square feet. The dead-is armed, though having met with some success lately, weight load on board was 35 tons

A further trial was subsequently had for eight hours at an economical speed, with a view to ascertain the distance the Havock would steam with the fuel supply she can carry on board, upon which depends her radius frightful destruction. of action. It was found that at a speed of 11.2 knots the consumption was under a quarter of a ton an hour, heavily for success on the armorclads, Benjamin Conand at 10 knots 31/2 hundredweight an hour; and as stant and Tiradentes, the former of which is an able, and burned continuously until February 16, 1844. the bunkers have a capacity of 60 tons, it follows that well-armed, protected cruiser. the distance the Havock can steam without coaling is about 3,500 knots.

THE NEW BRAZILIAN NAVY.

It has been interesting to note the mushroom growth, during the past few weeks, of Brazil's provisional THE NEW YORK CONTINGENT OF THE BRAZILIAN navy, a navy built in a day designed to combat a navy which it has taken years to bring together.

to a stalemate in chess. Admiral Mello, the leader of armed with several small guns and torpedoes. the revolutionary movement, cannot move, and yet he cannot be mated by Peixoto, the President of Brazil.

her minister at Washington, has been purchasing ships main feature is a 16 inch submarine gun mounted in tion showed several old lava flows, which, being firmer and war material in the United States and France, the her bow 8 feet below the water line. The gun fires a than the cinders and broken rock, in most places overgreater operations being in the United States. The projectile weighing 1,525 pounds, being 27 feet 4 inches hung the walls of the canon and made descent out of Brazilians evidently recognize the superiority of Ame-long, 16 inches in diameter and containing a 300 pound the question. The great glacier at its head was fully rican skill, and they thus complimented American charge of high explosive. A feature of the projectile 100 feet deep at the foot, and was plowing its way into shipbuilders and ordnance men.

The ships chosen are of a variety of sizes and shapes, and designs, and the armaments are novel.

We have had little or no experience in actual combat doubtful.

try the dynamite gun, with which our authorities have the war will be watched with interest. been so long experimenting, the Howell torpedo, which is said to be equal, if not superior, to the far-famed Whitehead, and the submarine gun, first designed by Ericsson, but since much improved by others as a re- account of the ascent of St. Helens, by Mr. Fred. G. large and small as fast as the noonday sun melted the sult of extensive experiments.

The fleet thus largely depends for its offensive qualities on the aerial torpedo, the auto-mobile, aquatic tor-south by the mountains called the Cascade range. starting nearly 10,000 feet above the sea with an initial pedo and the submarine gun. Each of these carries a They are the mountains which the early navigators of grade of forty-five degrees. The speed of the rocks as large charge of high explosive, and, if a successful hit the North Pacific called the Snowy range, and which they passed us was terrific. They whirled at such a can be made, one of these charges would disable the were delineated upon our early geographies as the rate that they seemed spherical in form, and as they heaviest and strongest war vessel now in existence.

men. Modern naval warfare is at such a point that it failure. is almost impossible to predict the result of any given ment on the subject are very doubtful of the success Mello.

is the only one left to him.

must get to Rio de Janeiro. There is no question but plained how tropical plants onceflourished at the poles justice. When at last we reached a place of comparathat El Cid and the Britannia can get there. The while glaciers covered Europe. The mass of these tive safety, we were too much awed to speak. Feiseen and the Yarrow boat will go safely on the mountains came from enormous fissures in the earth's decks of the larger steamers, but there is grave doubt crust, excepting the great true volcanoes which are so about the Destroyer, which is too large to be taken on numerous along this line. board of one of the steamers and perhaps too small to far as the West Indies.

Arriving at Rio de Janeiro, what is to become of this great glacier system. fleet as it approaches the rebel squadron? The long St. Helens has shown the greatest activity in recent 17,100 feet and 14,750 feet, with the walls above high range high powered rifles of the rebels will open fire long times. In August, 1831, there was an uncommonly tide. The new harbor will be especially valuable to before any of the offensive weapons of the attacking dark day, which was thought to have been caused by the lumber and cotton trade. Instead fleet can be brought to even a possible effective use. an eruption of a volcano. The whole day was nearly transfers, cotton can now be shipped to Manchester The gunnery practice of the Brazilians being notori- as dark as night, except for a slight red, lurid appear- or London direct. There are extensive deposits of coal ously bad, it is quite possible that the Feissen and the ance, which was perceptible until near night. Lighted in this part of Texas which, it is thought, will now be small targets, may get near enough to use their auto-sphere was filled with very light ashes, like the white 24 in honor of the event. mobile torpedoes with effect.

nerable to rapid fire guns as well as those of larger | had cleared away it was seen that the pure white snow caliber, and will find it difficult to get within fighting upon St. Helens was browned by the fall of ashes. It range. There is no question about the efficiency of is also said that lava flows took place at that time. confidence at present.

particularly sensitive this gun was to the troubles seen distinctly from various parts of the country that gramme of iron; dividing this number by the weight caused by the unstable platform offered by a ship.

is still in the experimental stage.

Though the thorough vulnerability of this fleet must be acknowledged, yet we must not forget that it carries weapons the successful use of which will cause

It seems to us that President Peixoto must lean

of the men who go with it, it must be granted that ance." their great pluck deserves good luck.

NAVY.

In the early part of the present revolution, in ened, is a new and fast vessel, built to run between Brazil, it became evident to the government party; New Orleans and New York. She is of 4,500 tons registhat the only way to dislodge the revolutionists from ter; length, 380 feet; beam, 48 feet; depth from keel glass I was able to map out a route to the larger of their stronghold, the ships, was to get and send other to upper deck, 33 feet; length over all, 406 feet. The the craters, which would not cross any of the great ships to meet them. The position, for some time past, Nietheroy is provided with a 43 ton dynamite gun crevasses in the ice slopes. Our ascent began immediin the game between the two parties might be likened which can throw a 500 pound projectile. She is also ately, and in less than an hour became very steep and

The Destroyer is the result of twenty years of Mr. Ericsson's experience in war vessels. She is 130 feet several hundred feet deep, which appeared a counter-In consequence of this state of affairs, Brazil, through long, 12 feet beam, and has a draught of 10 feet. Her part of the grand canon of the Yellowstone. Its formais a pilot shell, which is detachable, and the object of a huge terminal moraine of small rocks. We could which is to open a breach of sufficient size through a plainly hear the rocks grinding together as the great torpedo net to allow the projectile to pass through.

The Britannia, now known as the Brazilian America, with modern war material, and the efficiency and even was originally owned by the North Atlantic Steamavailabilty of many weapons of modern design are ship Company, of Boston, and made trips between pery, we decided to try this route. It was then 10 Boston and Halifax. The Britannia was built at Ber-The Chilian civil war gave us a few lessons from act- gen, Norway, in 1890. She is of steel, and is 270 feet and snow fields—but we had been gone from Tacoma ual experience, especially in the use of auto-mobile tor-long, 34 feet 6 inches beam, and the hold is 23 feet nearly a week and had only provisions for two more pedoes and the small caliber magazine rifles. The inter-deep. She is well armed. These vessels have lately days. esting feature about the mushroom fleet is that it is to sailed from New York for Brazil, and their careers in

The Flying Rocks of Mount St. Helens.

A recent issue of the New York Sun contains an Plummer, from which we take the following:

The State of Washington is traversed from north to Presidents' range. At that time it was proposed to flew down the slope seemed only to touch the high The preparing, equipping and arming of this fleet has name the great peaks after the Presidents of the places in the slightly wavy surface of the glacier, makexcited much interest, and especially among naval United States, but this revision of nomenclature was a ing a metallic sound as they chipped the ice into a

conditions. Those who are in the position and pos-range of mountains upon the earth. From Cape Horn probably having been held by a fall of new snow, and sessed of the proper knowledge to give the best judg-they run along the west coast of South and North now and then one of these flying rocks would strike America, along the Aleutian Islands, Kamchatka, those which were held by the ice, and, amid a shower of this heterogeneous squadron operating against Kurile Islands, up the east coast of Asia, through Siam of sparks and chips, would bound into the air fifty feet the fairly well equipped modern ships of Admiral and Sumatra, and thence into the Indian Ocean, where or more, still whirling like a buzz saw and giving out a they still make their location known by the volcanic sound which I cannot describe. All this would have President Peixoto must do something, and, as ar-lislands Kerguelen, St. Paul, and Amsterdam. Indeed, been very entertaining if so many of the flying rocks morclads cannot be purchased in open market nor this great range completely belts the planet on a great had not passed near us. can they be built in a limited time, the present plan circle, and doubtless marks, as has been suggested, the former equator of the earth, for it is conceded that the while climbing a quarter of a mile, and to say that we What are the chances of this squadron? First, they poles of the earth have changed, that it might be ex- were all thoroughly frightened would not do the rocks

go by itself. None of the plans of towing it are satistic three of these large volcanoes and hundreds of smaller Texas. The bar has been dredged so that vessels drawfactory, and no one is confident of its ever getting as vents. Mount Tacoma, 44 miles southeast from the ing 18 feet of water can pass the bar and reach the city, is 15,000 feet high, and is already famed for its natural and spacious harbor every twelve hours. Jet-

ashes of wood. The day was perfectly calm. There were El Cid and Britannia are large targets, and vul- no earthquakes or rumblings. After the ash clouds

efficient boat, and the submarine gun, with which it that continued to rise from this crater it was pro- number of molecules than 1,500,000,000,000,000.

nounced a volcano in active operation. When the explosion took place the wind was northwest, and on the same day, extending from thirty to fifty miles to the southeast, there fell showers of ashes or dust, which covered the ground in some places so as to admit of its being gathered in quantities.

On November 23, 1843, St. Helens scattered ashes over the Dalles of the Columbia River, fifty miles away, Dense masses of smoke rose from the craters in im-No fleet ever sailed with more chances for and mense columns, and in the evenings the fires "lit up against its success than this provisional squadron, and the mountain side with a flood of softyet brilliant radi-

> I determined to investigate the most active volcano in Washington.

We left Tacoma by the midnight train on August 10. 1893, with packs containing the necessaries for the trip El Cid, or the Nictheroy, as it has been re-christ- and the instruments for observing and recording all we were to see.

> When we reached the mountain, with the aid of a in places dangerous.

Our progress was checked by an enormous cañon, body of ice slowly forced them down the canon. This great glacier headed in the ice cap at the summit of the mountain, and, although it looked steep and slipo'clock in the morning—a bad time to climb ice slopes

We had proceeded but a short distance cutting steps in the steep ice slope, when a bombardment of rocks warned us that our route was to be a dangerous one. The surface of the glacier seemed a sheet of ice clear to the summit, and down its slippery surface came rocks ice and snow which held them near the top,

Imagine a toboggan slide about three miles long, cloud which trailed them like a comet's tail. Here and The Cascade range forms a portion of the longest there great rocks lay upon the surface of the glacier,

We were exposed to this danger for over an hour

A New Deep Water Port.

The commercial interests of east Texas will be ad-Within 150 miles of Tacoma are no less than twenty- vanced by the new deep water port at Sabine Pass, ties have been constructed on either side measuring Yarrow torpedo boat, being very fast and presenting candles were necessary during the day. The atmodeveloped. A deep water celebration was held October

Curiosities of Science.

The weight of a molecule of hydrogen, as given by an eminent authority, says the Chemist and Druggist, is approximately 0.000,000,000,000,000,000,000,000 of a their four and seven-tenths inch rapid fire guns, when In October, 1842, St. Helens was discovered all at gramme; multiplying this inconceivably small number they arrive within their fighting range, but the dyna- once to be covered with a dense cloud of smoke, which by 55, the atomic weight of iron, the weight of a molecule the east, filling the heavens in that direction. When gramme. In the sulphocyanide test we are able to The experiments with the Vesuvius showed how the first volume of smoke had cleared away it could be detect the presence of thirty-three ten-millionths of a an eruption had taken place on the north side of St. of one molecule of iron, we find that this apparently The Destroyer is very slow and cannot be called an Helens, a little below the summit, and from the smoke delicate test is unable to indicate to our senses a less