

SCIENCE AND INVENTION

PUTS BORDER ON PHOTO

Printing Frame Which Makes Portrait Look Like Engraving—Any Amateur May Acquire Effect.

Much of the ingenuity of the photographic artist is directed to the end of getting away from photography. Under ordinary circumstances, the camera makes such a sharp and distinct image, reproducing every line and blemish with such unerring accuracy that the result is regarded as offensive and in violation to the traditions of art. So the worker with the camera resorts to various means of relieving the picture of this accretion, endeavoring to make the pic-



A Border on Photograph.

ture appear as some of the many forms followed by artist such as engraving, the tone of the engraving makes the photograph resemble an engraving, the tone of the engraving ink is imitated by modification of the developer and the desired effect is further heightened by printing the picture in the center of a large sheet with a border tint surrounding the picture and a margin of white paper. This art was known for a few workers who improvised and devised the means for securing this effect, but there has been recently invented a printing frame by which this is accomplished in a very simple manner. Thus any amateur may now obtain the effect which has been formerly the exclusive property of a few professionals.

PHASES OF AN EARTHQUAKE

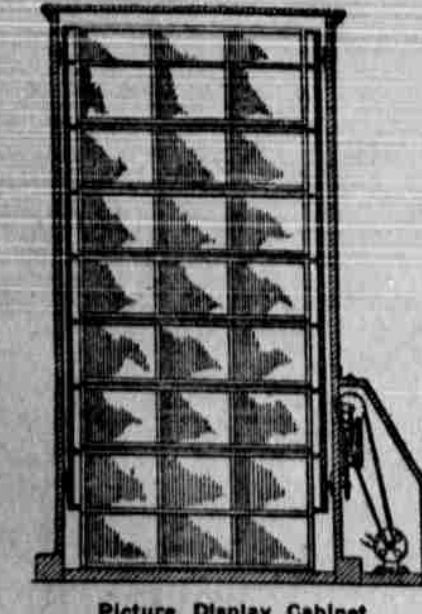
Seismograph at Messina Indicates Possibility of Warning Given Before Big Shock Arrived.

In the subterranean chamber of the Messina observatory a seismograph made a most interesting record of the great earthquake, which indicates the possibility of warning being given by such instruments several minutes before the disastrous shock arrives. The great movement, according to this record, began with a very slight shock, which was repeated. For ten seconds it increased in violence, and for another ten seconds decreased. Ten minutes next passed without disturbance. Then came a second shock of great intensity, accompanied with a loud subterranean rumbling, and this was the shock that caused the calamity. One cannot help thinking how many thousands of lives might have been made safe in those precious ten minutes if the first warning had been communicated to the public.

CABINET TO SHOW PICTURES

Automatic Mechanism Exposes Successively Pictorial Exhibits and Attracts Attention.

Among the principal objects which an invention, by Mark C. Phillips of Corvallis, Ore., has in view are: To provide an automatic mechanism to expose successively pictorial exhibits to attract attention and to please passers by; and to provide a flashlight mechanism for perfectly illuminating the said exhibits, says the Scientific American. The illustration shows a vertical longitudinal section of a ma-



Picture Display Cabinet.

chine which in operation gives an attractive and continuously interrupted display of pictorial designs, interspersed with entertaining advertising matter.

Astronomer Measures Moon.

A distinguished astronomer once took the trouble to measure in several paintings the size of the moon, and to deduce from it the height of the mountains shown in the same picture. He found that the average height of the hills was about 43 miles, while one giant peak raised its head more than 100 miles above sea level. Turner, who was one of the greatest masters of landscape composition and coloring, frequently exaggerates the heights of his hills with the intention of conferring upon them a majesty which otherwise they would not possess.

BLIND MAN IS MADE TO SEE

Extraordinary Operation by Which Sight Was Restored to Miner Whose Eyes Were Shattered.

The following description of a wonderful operation which restored the sight of a miner named B. Cabi, who was totally blind for over a year as the result of a mine explosion, has been given by one of the surgeons of the Royal Ophthalmic hospital in London, England:

"When the patient first came to the hospital the right eye was totally destroyed, while the left one was intensely inflamed, and the cornea, or projecting front part, was dotted with fragments of quartz blown into it at the time of the explosion. The capsule of the lens had been torn by other jagged particles of rock and the whole lens had been absorbed. Only the capsule remained to separate the fluid in the ball of the eye from the iris, or colored screen which surrounds the pupil.

"The first treatment consisted of picking out the quartz particles, some of which were embedded even in the muscles which rotate the eye. Then the irritation was reduced by lotions. The greater part of the cornea was opaque, on account of old scar tissue, the result of the early inflammation, but a fairly transparent part was selected, and a portion of the iris, or screen behind this, was then cut away, so as to let the light fall on the sensitive retina, or lining of the back part of the eye.

"As the man's natural lens within the eye had already been destroyed, he now has to wear a glass lens before the eye to make the entering rays of light focus correctly on his retina. His range of vision is limited, but he can read the finest type easily, and instead of ending his days in an institute for the blind, he should be able to earn his own living at some employment which does not make too great a demand on the eyesight."

HANDY ON TALKING MACHINE

Attachment Holds Needles and Saves Trouble of Changing on Every Record That is Played.

One of the little steel needles used on a talking machine is worn out on each record and a new needle has to be inserted each time. A Pennsylvania man has invented an automatic magazine needle holder which saves all this trouble by holding about a dozen needles and turning a new one down for each record. The holder is a disk with grooves in for the insertion of the needles and a thumb-plate to hold them in place. A thumb-



Talking Machine Help.

screw clamps the plate on and removes it, and also turns the disk around to place a new needle in position each time. The same magazine will hold wooden needles, too, for, though the wooden ones last longer than the steel, they also must be changed about every third record. This little contrivance not only saves the operator of the phonograph time and trouble, but adds to his own enjoyment of the music thereby.

NOTES OF SCIENCE AND INVENTION

Owners of false teeth can't blow the bugle successfully.

More than 57,000 motor vehicles have been registered in London.

A coin in the slot machine for cleaning straw hats is a novelty.

The newest bathroom fixture has a separate basin for dental purposes.

A hydraulic clutch for gasoline driven automobiles is an English novelty.

The average man's brain is five ounces heavier than that of the average woman.

Tepid water will taste as cold as ice if you will first dissolve a peppermint drop in your mouth.

A fountain marking brush, somewhat resembling a huge fountain pen, has been patented by a Michigan man.

Airships are to be built of the new metal, known as Liege metal, which is 40 per cent lighter than aluminum.

To keep a diner's fingers clean there has been invented a silver clip to hold and squeeze a slice of lemon. Trimmings from new fax and hemp are the stock from which is made the finest grades of "rice" cigarette paper.

NEW NEWS of YESTERDAY

By E. J. EDWARDS

First of Submarine Cables

Colonel Colt's Invention That Antedated That of Samuel Morse, but Was Dropped for Manufacture of Revolvers.

Not long ago I told the story of how General Zachary Taylor unconsciously made the revolver popular after its inventor, Samuel Colt, had failed to induce the army and the public to look kindly upon the new weapon. Colonel Colt always gave "Old Rough and Ready" full credit for making the revolver a commercial success, and his intimate friends sometimes declared that it was General Taylor, also, who perhaps kept him from being known to fame as the inventor of the transatlantic cable. One of the friends to whom he thus expressed himself was Marshall Jewell, who was a fellow townsman of Colt's, in Grant's cabinet as postmaster-general, before that minister to Russia and twice governor of Connecticut, and, like Colt, for many years one of the leading manufacturers of Connecticut.

"When the country was going wild over the laying of the first Atlantic cable," said Governor Jewell, "and over the exchange of messages between Queen Victoria and President Buchanan, Colt told me that a number of years earlier—at about the time when Professor Morse was perfecting his telegraph system—he conceived the idea that it would be possible to lay a telegraph line upon the bed of a river or along the coast that would be successful, and he further more was of the opinion that there was nothing in science which stood in the way of laying a telegraph line upon the ocean bed from continent to continent.

"Now Sam Colt was a man who, when an idea occurred to him involving invention and experiment, never let it lapse unless he had tested it and found it wanting. So he had a good many talks with Professor Morse in the latter's little laboratory on the top floor of a building facing Washington Square, in New York, and he learned from Morse that the great obstacle that stood in the way of a submarine telegraph line was inability to secure an insulating medium. "That statement was sufficient to set Sam Colt at work experimenting to see whether or not he could find some inexpensive material which would serve as an insulator to a telegraph wire under water. He made a good many experiments. Rubber was out of the question; it was too costly. But it occurred to him that cotton yarn was cheap and that if he soaked the yarn in beeswax, which is a non-

conductor, and put it around a wire, protecting the whole with asphaltum, and then carried the wire thus insulated through a lead pipe, he would overcome the difficulty.

"This scheme of insulation worked perfectly in the laboratory; and Colt procuring a wire long enough to stretch from Fire Island to what is now Coney Island, N. Y., insulated it with his mixture, encased the whole in a lead pipe and sunk it beneath the waves. This was the first submarine telegraph cable laid; so far as transmission of electric signals was concerned it was successful, and Colt, after the Morse telegraph had been proved a commercial success a year or two later, determined to develop the submarine cable commercially, first by laying short ocean cables, and then a transatlantic one.

"But, 'curiously enough,' as Sam Colt used to put it to me, just when he was all but over the preliminary work, General Zachary Taylor, then fighting the Mexicans, sent in to him an order for a thousand revolvers—which Colt had ceased to make a number of years before because no one would buy the weapon—and Colt, seeing a splendid business chance in Taylor's order, at once set to work to fill it, the result being that a large demand soon grew up for the revolver. The meeting of this demand occupied all of Colonel Colt's time and energy, and as he saw a fortune rapidly growing out of the manufacture and sale of the weapon, he thought

Chance Meeting of Enemies

How Isiah Rhynders, Rabid Pro-Slavery Advocate, and William Lloyd Garrison, Leader of Abolitionists, Became Acquainted.

The present generation has forgotten Isiah Rhynders. Yet in the antebellum days his name was a familiar one. It symbolized northern pro-slavery sentiment, its bearer was regarded by the abolitionists as a sort of ogre, a man dominated by ferocity of political sentiment. He was, indeed, one of the most rabid of all the pro-slavery Democrats of the north, and as United States marshal for the southern district of New York, to which office he was appointed first by President Pierce, he bent his energies to running down fugitive slaves and returning them to their masters. I met Marshal Rhynders in 1875. To my surprise, I saw a man of slender build, a man of most gentlemanly

less and less of the submarine cable, finally dropping from his mind all his old plans in connection with it.

"Perhaps, had he held to those plans, they might have been successful. Sam Colt to the day of his death always held that they would have been successful; and he likewise always believed that Cyrus W. Field got his first idea of submarine telegraph from the little cable that was laid by Colt in New York harbor back in 1843."

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Story of a \$50 Bill.

A most charming Philadelphia woman came to New York for the day and her husband handed her a fifty-dollar bill for tips and small change, relates the New York Telegraph.

At the station in Philadelphia she left the Pullman to buy a periodical, leaving her bag carelessly on the seat. There was another woman occupying the adjacent chair. Upon her return the Philadelphia woman opened her bag and found no fifty-dollar bill.

She made no accusation, but when the other woman fell asleep she quietly opened her bag and abstracted the bill.

In New York they bowed amicably and parted. When the Philadelphia woman returned home her husband asked her if she had enjoyed the trip.

"Yes, but I spent all the money," she replied.

"All the money," said the husband. "Why, I was worrying over the fact that you left your fifty-dollar bill on your dressing table."

Fate and a Noted Irish Actor

John Brougham's Reminiscences of the Way Fame and Fortune Missed Him and Fell to Others.

"What queer pranks destiny plays us!" said John Brougham one autumn evening in 1877. We were sitting in the New York study of the Irish actor and playwright whose name was widely known in England and America in connection with matters theatrical from 1840 until his death in 1880.

"I was thinking," Mr. Brougham continued, "how queerly the fates have allotted their gifts so far as I am concerned. There is the case of 'London Assurance,' for instance, which has been a favorite with English and American playgoers ever since its first production in Covent Garden in 1841 by Dion Boucouault. In the writing of that comedy I collaborated with Dion Boucouault, yet almost all of the money which came from its production went to Dion, and the play made his reputation as a playwright, while John Brougham remained insignificant all the time that it was being compared favorably with Sheridan's 'The Rivals.'"

"Ah, yes, there is such a thing as luck in the world of the drama as well as in the world of business, and a later experience, and an even more striking one than this with 'London Assurance,' will serve to illustrate the point.

"Not long after my return to the United States after the close of the Civil war I was reading over for the fourth or fifth time Charles Dickens' 'Old Curiosity Shop'—a great favorite of mine—when the idea suddenly occurred to me that if just the right actress could be found it would be possible to write a play based on the novel in which the characters of Little Nell and the Marchioness could be taken by the same person. I realized that it would require a great deal of dramatic ability, a wonderful versatility, for any one to play Little Nell in one act and the Marchioness in another; but I kept the idea in mind, and later was told that a young girl who had not been in New York had many years before in California, where she had appeared on the stage as a mere child, would just fit the dual role both in physique and dramatic ability. It was proposed that I write a play for this young girl, in which she would appear alternately as Little Nell; and the Marchioness, certain terms were mentioned to me, and I accepted the proposition and went to work.

"Well, in due time I fixed up the play, and when it was produced in 1867 it made one of the greatest successes of the American stage. It made the fame of Charlotte Crabtree, better known as Lotta. It was the basis of the fortune she now possesses—and she deserves every penny of it.

"But again John Brougham was obscure; nor had a moment or a paltry return of money for his work. Would you have known, if I had not told you just now, that it was I who dramatized Little Nell and the Marchioness?"

The Irish actor-playwright smiled philosophically.

"Ah, me," he said, "I am not complaining. It is all fate, and I presume this will be my fate until the end."

Three years later, at the age of 70, Brougham died, leaving the manuscript of a play upon which he had based great hopes, but which, by reason of his death, was never produced. (Copyright, 1911, by E. J. Edwards. All Rights Reserved.)

The Last Hope

When Lemuel Gregg died, a cousin from a distant town appeared, saying he had come to settle the estate and take the residue, as Lemuel's only kinsman. He had a jaunty air at first, but at the end of a week he had acquired a watchful and anxious expression. When he stopped into the office of Lawyer Mears, on Saturday afternoon, he seemed to be extremely nervous.

"Well, how are you coming out?" asked the lawyer. "I suppose it's all clear sailing, isn't it?"

"Clear sailing!" echoed the executor. "Do you suppose I'd be here with a fee to pay if 'twas clear sailing? I'm desperate, I tell you!"

"There isn't a thing left of Cousin Lem's estate excepting a two-dollar bill and three pewter plates. I want to know if there's any way that I can oblige the town to accept those plates for the tax bill that sprung up on me after I thought I'd got every-

thing paid? If there is, I'll give you a dollar, and use the other half of that two-dollar bill to get back to where I came from, this very night."—Youth's Companion.

His Last Darling.

"Oh, our darling is lost again!" she cried, as soon as he got into the house.

"What little darling?"

"You unfeeling monster! Our little darling."

"Yes, if you must talk like a brute, the scroot—the mutt—anything you wish. And I want you to advertise for him."

He promised to do it, and this is the ad, as it appeared:

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