

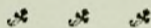
THE
PHONOSCOPE
A Monthly Journal Devoted to
SCIENTIFIC AND AMUSEMENT INVENTIONS
APPERTAINING TO
SOVND & SIGHT.

ENTERED AS SECOND-CLASS MATTER AT THE NEW YORK, N. Y., POST OFFICE

Vol. 1

No. 6

NEW YORK, MAY, 1897



Principal Features of this Number



ROYAL PARADE HERE
BIG FIGHT ON CANVAS
RECENT INVENTIONS
OUR TATTLER
WHERE THEY WERE EXHIBITED LAST MONTH
THE PHONOGRAPH IN CHURCH
A NEW TALKING MACHINE
FOREIGN CORRESPONDENCE
GENERAL NEWS
PICTURE PROJECTING DEVICES
PHOTOGRAPHING SOUND
THAT VITASCOPE PATENT
POPULAR SCIENCE
'GRAPHS, 'PHONES AND 'SCOPES. Automatic Telephone
The Phonoplex. The Sonograph
ANSWERS TO CORRESPONDENCE
WIRES UP-TO-DATE
DOLLS MOVE AT WILL
EDISON'S NEXT WONDER
OUR CORRESPONDENCE
LETTERS
CAUSES OF X-RAY BURNS
SPOILING SLOT MACHINES
NEW RECORDS FOR TALKING MACHINE. New Records
Manufactured by the Leading Companies
THE LATEST POPULAR SONGS. List of the Latest Metro-
politan successes
NEW FILMS FOR PROJECTING DEVICES

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They are accurately perforated for any Standard Gauge Machine

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Special arrangements have been made to take views of **THE QUEEN'S JUBILEE CELEBRATION AND PARADE IN LONDON** which we will be enabled to furnish at an early date.

While the Lumiere films are all made in uniform lengths of about sixty feet (because of their being taken slower than those of American manufacture, (the duration of each scene when projected on the screen exceeds that of any 120-foot film subject of the latter, yet the action in the picture is perfect. **PRICE \$15 EACH.** Complete catalogue containing about 500 subjects mailed **FREE.**



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As we are overstocked on Special Edison Subjects, we offer them at the above price as long as they last.—Send for list.

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THE BIOSCOPE ^{M B} MODEL

Combining the best features of all other similar machines with improvements for preventing the burning of films, producing colored effects to pictures, etc., etc. Send for detailed information.

WEIGHT ABOUT 30 POUNDS.

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No. 9 New Broad Street, London

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The Phonoscope

(Copyrighted, 1896)

A Monthly Journal Devoted to Scientific and Amusement Inventions Appertaining to Sound and Sight

Vol. I

NEW YORK, MAY, 1897

No. 6

Royal Parade There

The Greatest Feat Yet Undertaken for the Living Photographs. Other English Events to Be Brought to America

Ten days after the Queen's jubilee in London the people of the Eastern cities of the United States will be shown a living, moving, life-size picture of the principal scenes in that colossal pageant. Twelve days thereafter the people of the middle West will be treated to the same spectacle, and within fifteen days from the closing of the greatest demonstration in the Victorian era of the Pacific coast, 6,000 miles away from the Strand, will witness as perfectly as did the crowds on that thoroughfare the great event, and will need but the shouting, the music, the cheers and the great hum that comes from mighty crowds to believe themselves spectators of the actuality.

That wonderful American invention, the biograph, has made this feat possible, and to such perfection has the taking and reproduction of motion been reduced that the time taken in transportation is the only bar in the way of what would practically be immediate presentation of any animate scene. One day after the last picture is taken of the jubilee the films will be ready for transportation. It will take full seven days from London to New York, including the time for unpacking and developing the negatives. In two days more they will be distributed through the points nearest New York, and then on through the West as fast as steam can carry them. This will be the most ambitious project yet undertaken by the biograph. That it will be a success there appears not the shadow of a doubt. Besides the Queen's Jubilee they intend to reproduce Derby day, a royal dinner party and several other subjects, the nature of which will not, for obvious reasons, be disclosed until after the pictures are secured.

It is no exaggeration to say that nothing in the way of a spectacle has ever captured the British heart so completely as this ingenious idea of a New York inventor. The living scenes were placed before the English public two months ago in the Palace Theatre, and such was the astonishment and admiration that it was impossible to get standing room after the story became noised about. Only twice in the history of the theatre has the manager been called before the curtain. Manager Martin came forward in response to a vociferous encore after the Empire State Express had dashed down to the footlights with such realistic force that the people in the front rows shrank back and held their breath.

The London newspapers came out in unanimous praise, *The Daily Mail* said: "The biograph at the Palace is the most magnificent development of the living photographs we have yet seen." The *Court Circular*, always conservative, was warm in its praise. "The two views of Niagara," the critic wrote, "and the Empire State Express, coming toward the audience at the rate of sixty miles an hour, are marvels of realism and a wonder of the age." Even the *Morning Leader*, usually chary of praising things American, said: "It presents living photographs with a vividness, a realism and an art such as have never before been witnessed in England." *Reynolds's Newspaper* gave a distinct idea

of the chief merit of the invention when it said: "The pictures rest as steadily on the screen as if they were stationary."

So rapidly did the popularity of the biograph grow that the managers soon had applications from all over the kingdom, and booked appearances in Edinburgh, Glasgow, Liverpool, Sheffield, Birmingham, Manchester and other principal cities.

One of the latest pictures shown in this city is one of the latest inventions—the horseless carriage, moving with such realistic naturalness that it is hard to look upon it as shadow and not substance. Of course the Empire State Express, now run to the accompaniment of steam whistle and bell, holds its own as the first biograph favorite. "Shooting the Chutes at Coney Island" is so real that one is rather surprised when the orchestra is not drenched in the flying spray. The St. Paul outward bound is one of the best of the new pictures, and a most natural effect is produced by the sounding of the deep throated steam whistle.

Big Fight on Canvas

Corbett-Fitzsimmons Mill is Reproduced by the Verascope. The Venture is a Success

The verascope dream is out. Three thousand persons saw the Corbett-Fitzsimmons' fight reproduced on canvas the opening night at the Academy of Music. Fifteen hundred of them were pugilistic sports.

The sports eagerly followed every motion of the flickering figures. They swayed as the shadows on the canvas swayed, and punched and countered each other merrily. To all intents and purposes, they were at Carson City, framed by the high Sierras and sitting in the splendid sunlight of a perfect day.

The machine whirrs. The canvas is filled with little constellations of sparks. The men are in the ring. Both strain and tug at the gloves as they put them on. Then Fitzsimmons throws off his bathrobe. The spectators watching the canvas cheered vociferously at this, and the excitement grew.

Corbett also throws his robe aside, the spectators lapse into silence, and the fight begins. The pictures tell the story of the great battle faithfully, and the spectators were entirely satisfied with the result. Both fighters were liberally applauded, and at the conclusion Fitzsimmons was the recipient of a great ovation.

The chief interest centered in the question as to whether Fitzsimmons fouled Corbett in the last round while Corbett was down. The presentation on the screen was so vibrant and unsteady, however, that no accurate judgment of this nice point could be determined, particularly as Fitzsimmons' back was toward the camera when he struck the final blow. The general opinion was that no foul occurred. The spectators, after Corbett was pictured as down, cried out: "Where was the foul? Where was the foul?"

This was accompanied by shouts of "There was none." "There was no foul." The presentation, as a whole, was wonderfully vivid.

The general public have very little or no comprehension of the stupendousness of the task

which Mr. Dan A. Stuart, the celebrated originator of the Fitzsimmons-Corbett contest, had undertaken in order to secure a correct reproduction for exhibition purposes through the medium of his far-famed verascope, and the universal world will be startled to know that up to the present writing Mr. Stuart has invested the enormous sum of \$860,000 in the verascope plant, with the prospect of a further expenditure of \$200,000 in materials before all the machines, films, and advertising matter are completed to reproduce the pictures throughout the civilized world, and every penny of this amount, over one million dollars, will have been invested before there is any return. To many, the expenditure of such an amount will appear impossible, and yet, when the details are laid before the public, it will readily be realized how such an expenditure could be made.

In the first place, the original apparatus, invented by Mr. Rector and owned by Dan Stuart, which was made specially to photograph the contest, the principals, seconds, referee, timers, all the officials and all connected with the affair, cost \$46,000, exclusive of transportation, film for reproduction, salaries of assistants, railroad fares, etc. It requires 10,846 feet, or over two miles, of film for each and every machine to reproduce the contest at the various exhibitions given by the verascope. Eastman, the celebrated kodak man of Rochester, N. Y., has one single contract with Mr. Stuart for 600,000 feet of the film, for which Mr. Stuart pays in cash \$140,000. As an illustration of the stupendousness of this one contract, it can be cited that Mr. Eastman was compelled to contract for the use of sixty acres of ground on which to dry the film while in course of preparation.

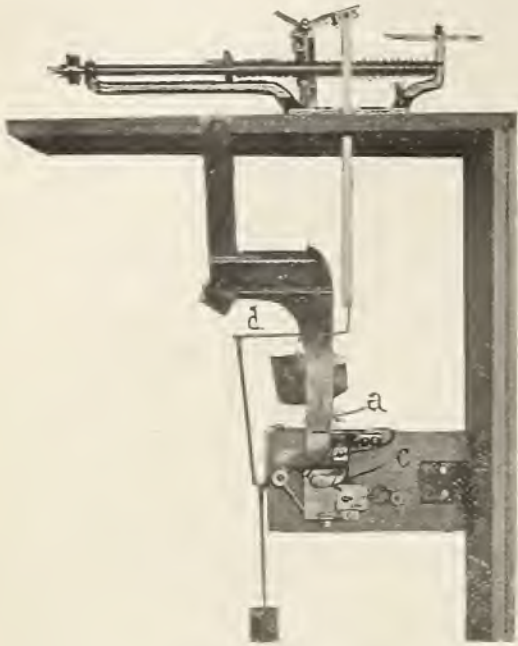
Exclusive of the contract to Eastman and various other photographers for the manufacture of the films alone, Mr. Stuart employs two gangs, consisting of sixty-eight men each, all expert film makers, who work night and day in his vast warehouses in New York city. These men turn out 80,000 feet of film each shift, or 160,000 feet of film per each twenty-four hours. The value of this film is approximated at 23 cents a foot, and be it understood that the slightest defect of any nature in the 10,846 feet stretch required for each reel, for the development of each set of pictures, would necessitate the destruction of the entire stretch, and render it absolutely valueless for the verascope.

In addition to the experts employed for the manufacture of the film, Mr. Stuart has two gangs, consisting of seventy-six men each, for the manufacture of the machinery and cabinets for the verascope. These men also work night and day, and are selected expert machinists and cabinet makers. The machinery used in Mr. Stuart's workshops in Twenty-third Street, New York city, for the development of the films, mechanical parts, and woodwork of the verascope represents an expenditure of \$230,000. Each verascope, that is, each machine, with film, attachments and machinery perfected for exhibition purposes, will cost, when completed, the sum of about \$3,600, and when it is taken into consideration that these pictures will be produced in all sections of the world, and that Mr. Stuart must have completed thousands of machines and millions of feet of film for the reproduction, it can readily be understood why such an enormous outlay of over \$1,000,000 would be necessary.

Recent Inventions

The cuts herewith illustrate a new patented coin-controlling device and return mechanism for automatic phonographs and other similar automatic coin slot machines, invented by C. A. Gundaker, Jr.

A. Point where chute is opened and coins or blanks ejected when machine is running.



B. Balanced Lever. The upper arm closes a trap door across interior of chute when coin is in station C, thereby ejecting all subsequent coins deposited through an opening, A, directly opposite, and until coin in station C is released.

D. Point where all slugs or ordinary spurious coin, as well as toothpicks, matches, strips of metal and small coins wrapped with tinfoil, etc., pass through and drop to bottom of cabinet.



Advantages of this device :

- I. Circuit is closed through the coin. This does away with small contact points.
- II. Chute cannot be clogged. All coins are ejected while machine is running.
- III. All slugs or ordinary spurious coins ejected before reaching lower mechanism through space D.
- IV. It can be readily adjusted and adapted to operate on coins of any denomination.
- V. It has a *Positive* return mechanism.
- VI. It does not require an expert attendant, and can be attached to any form of machine by a novice.

The Phonograph
in Church

PHILADELPHIA, PA.—Occupying a prominent position on the pulpit platform at the East Baptist Church, Hanover Street, near Girard Avenue, one evening last month, was a phonograph. The big bell-shaped funnel of the instrument was between Rev. C. H. Woolston, the pastor of the church, and Rev. J. P. Snyder, the assistant pastor, participated with them in the service of the occasion.

Announcement had been duly made that "a phonograph sermon" was to be presented. The result was a congregation that could scarcely be accommodated, even with standing room while many turned away in despair of seats. Innovation though it was, the manner in which the phonograph was used proved to be decidedly impressive. At times there was a perceptible tendency to applaud, but the forceful manner in which the preacher deduced lessons from his subject invested with an influence that perfectly preserved its dignity.

The phonograph first participated in the service in connection with the scripture lesson. Mr. Woolston simply said: "The lesson will be read by the phonograph." Then came out of the big brass funnel distinctly, and loud enough for everyone to hear the words of the twenty-third Psalm; "The Lord is my shepherd; I shall not want, etc." The congregation were so quiet that not a word of the Psalm was lost, and when the tones of the phonograph were silent there was an unmistakable buzz of surprise and approval throughout the church.

The instrument was also used for a reproduction of "Nearer, My God, to Thee" and the Psalms, but it was in the sermon that it attained its greatest prominence. Some of the congregation had understood that the sermon was to have been preached by the phonograph, but the fact was that the phonograph was practically the text of Mr. Woolston's sermon and was frequently called upon by way of illustration. The scriptural text chosen, however, was Luke, xix, 40; "If these should hold their peace the stones would immediately cry out."

This declaration on the part of Jesus Christ was cited by Mr. Woolston as a divine declaration of the possibility of stones, under certain conditions, being possessed of voices, and he thereupon built an apparently plausible theory that if this utterance of Christ's was to be accepted as a prophecy then surely its fulfillment was to be found in the voices of the artificial stone cylinders on which phonographic records are made. He then asserted that the phonograph as well as every other good thing was perfectly adapted "for harnessing to the chariot of God and for being made to do His Service."

The preacher told the story of the invention of the phonograph and gave several illustrations of its workings, always using records of sacred music by choirs, vocal soloists or solo chorists, and pointed out a number of lessons that were plainly deducible. He said it was a monument to the marvelous resources of the human mind, an illustration of unchangeableness, an invariable friend and a never-failing truth-teller.

"No record made on a phonograph cylinder can ever be changed. The record is there just as it is made and can be reproduced at any time, just as the record of men's lives are made on the book of God and will be unrolled to us on the Day of Judgment. Therefore, the phonograph comes to us to-night and says: 'Be careful what you say and do. If you make a slip it cannot be rectified. You have your chance to do things rightly. If you make mistakes the record stands against you.'"

Other lessons drawn from the phonograph were that it enables us to hear ourselves as others hear us, and that it always repeats what is told it exactly

as it is told. Mr. Woolston said that if some people he knew could hear themselves sing or talk as others hear them they would talk less, and "they certainly would never sing again until they got their resurrection voice." He also said there was great need for the people of Kensington to learn the lesson about repeating things just as they hear them, not that they meant to be untruthful, but because they are careless in conversation. "The phonograph," he said, "never tells lies."

At the conclusion of the sermon Mr. Woolston announced that he intended to make use of the phonograph in disseminating the gospel by means of records of spiritual songs being placed in phonographic cabinets, at clubs and in the homes of the rich who never go to church. He declared that an experiment of this kind had already been tried at a big club on Broad Street, with the result that a remarkable interest had been aroused by old time hymns which men had not heard for years.

NEW BRUNSWICK, N. J.—The Rev. C. A. Jenkins, pastor of the Livingston Avenue Baptist Church, in his sermon last month denounced sensational methods in the pulpit and criticised the use of such devices as the phonograph. He mentioned no names, but it was understood that he referred to the Rev. S. D. Sammis, pastor of the Tabernacle Baptist Church, in the village of South River. Mr. Sammis contends that the Rev. Mr. Jenkins has taken too much upon himself in speaking for the Baptist denomination.

The remarks to which the Rev. Mr. Sammis especially objects are these: "The man who depends upon such methods to hold his congregation is not worthy of his high calling, and if the phonograph is to be used to sing hymns and pronounce the benediction, why not fill the cylinder with sermons and dispense with the preacher entirely?"

Mr. Sammis said: "I fail to see the difference between a phonograph and an organ or other mechanical device used in church services. I have used the phonograph to deliver productions of famous choirs. My little church could not afford to have great choirs at its services. Instead we get the records of those choirs at no cost whatever. Choirs are apt to include quarrelsome persons. In the phonograph we have a choir which can't quarrel, a decided benefit, I think. I expect to be criticized, but I do not see why I should be. I see no reason why the phonograph should not have a place in church work as well as the magic lantern.

"I am not courting notoriety, but I want to impress spiritual truths upon my people, and if old-fashioned methods will not attract them I consider it my sacred duty to use up-to-date methods. As soon as people get accustomed to the phonograph in the pulpit it will cause no more sensation than does the organ our fathers condemned, or electric lights or cushions."

DAYTON, O.—A remarkable feature of the celebration of the semi-centennial of the founding of the First United Brethren Church, of this city, was a reproduction, by the phonograph, at the exercises of a congratulatory address and sermon by Rev. E. S. Chapman, a former pastor of the church. He had charge of the congregation for ten years prior to his removal in 1887 to California.

In the desire to hear the voice and utterances of their former pastor on the jubilee occasion, it was arranged that he should deliver the address before the phonograph in his California home. This was done and the phonographic record expressed to this city. The church was thronged and the audience delighted at the familiar tones and impassioned speech of their former minister, which were repeated with exactness and distinctiveness by the phonograph.

Our Tattler

They are going to overload that Carson prize fight kinetoscope with responsibilities, and if the machine could only realize all that it is expected to do, it would collapse. It is announced to show, among a good many other things, that Corbett had the best of the fight all the way through, was 'making a chopping block' of Fitzsimmons' face and had him knocked out more than ten seconds in the sixth round; that the fatal punch in the fourteenth round was a "chance blow," and as much of a surprise to Fitzsimmons, who couldn't understand how he did it himself, as it was to Corbett who understood the trick still less, and that Corbett was counted out before the ten seconds were really up. It is also depended upon to prove that Fitzsimmons never was touched; that all through the entire fourteen rounds, he was watching for an opportunity to land that "chance" blow, and that Corbett came very near dying in the ring from the effects of that terrible punch. The machine is not expected, however, to show the stakeholder in the act of paying the prize money over to Corbett.

As in many public places, there are several phonographic machines in the big railroad station at Long Island City. They play when a nickel is dropped into the hungry slot and the trumpets are held to the ears. Lately one of these machines played the popular negro melody "All Coons Look Alike to Me," to a genuine Alabama coon, and those who were in the station at the time will not soon forget this little concert, although none but the coon heard a note of the music.

It was at a popular train hour and the station was thronged with people, when a typical Southern darkey sauntered into the building. A long blue frock coat, a pair of light trousers which went almost twice around him and were well fringed at the bottoms, a broad-brimmed, grease-coated felt hat which had once been of a light color, and an odd pair of number twelve shoes, made up a costume which inspired a smile all 'round before he had a chance to say a word or do a thing. As the boys say charcoal would have made a white mark on his face and his ears were all that stopped his mouth from going clean around his head.

Mr. Darkey jerked a huge brass watch out of one of his trouser's pockets, pried the case open and compared it with the big regulator in the station. Satisfied that he had some time to wile away, he began to look around to see the sights. Florist George Matthews, who has a beautiful array of cut flowers on a stand in the station, had the first whack at the darkey and juggled a dinte out of him for a big yellow rose which he insisted upon having pinned into the yawning buttonhole on the lapel of the big sweeping blue coat. Then he buried his great flat nose into the rose and walked away to resume his explorations.

After a couple of turns around the station, he brought up in front of one of the phonographs. He evidently mistook the thing for a corn sheller judging from the way in which he twisted the crank, but the more he twisted the more mystified he became. At last his curiosity got the best of whatever timidity he may have possessed and he hailed one of the doormen, who was passing, and inquired as to the nature of the machine.

The darkey's big white eyes began to roll and his mouth flew open in amazement as the doorman unfolded the working plan of the machine and he decided to invest a nickel. The coin was dropped into the slot and with the trumpets jammed against his ears the Alabamian braced himself for whatever might follow.

"Whir-r-r" went the machine after its usual preparatory fashion, and the darkey got a better

brace. Then there was another whir-r-r and an idea struck him. He removed one of the trumpets from his ears and shouted into it "sing louder, I can't hear." Then the machine began to sing and none of the crowd which was watching the darkey could be deceived as to the exact time it began. His eyes glistened and danced in their sockets. His mouth gradually spread itself all over his face. Big drops of perspiration trickled down from under his hat and way down on the floor the big shoes began to show signs of life. Finally his whole body was in a wiggle and even the big yellow rose seemed to have become animated also. But it was too good to last. The end came and the darkey nearly collapsed.

"Say, boss, is dat all dar is to it fo' a nickel?" he asked of the doorman.

"Yes, but you can put in another and have it all over again," answered the man in brass buttons.

"Golly! dat's what I'se goin' to do," chirped the delighted darkey, and he fished another coin out of the mysterious depths of those trouser's pockets and fed it to the machine.

There was a repetition of the whir-r-r-r, a repetition of the song and a repetition of the circus for the spectators. Trains came in and trains went out but the darkey stuck to that machine. Nickel after nickel was freely fed into the greedy slot and it is not improbable that when the old brass watch ran down he was still doing a shuffle to the tune "All Coons Look Alike to Me."

A dark red phonograph belonging to Jacob Silver, of No. 8 Ludlow Street, broke loose the other day in Essex Market Court and shattered the dignity thereof into a thousand pieces.

"Mister Johnsing," sang the phonograph, "Mister Johnsing."

"Stop it!" cried Magistrate Wentworth.

"O, Mr. Johnsing, turn me loose," went on the tuneful instrument.

Detective Young, who had arrested the owner of the phonograph for collecting a crowd at Rivington and Essex Street, tried to stop the burst of melody. He was forced to hurry it out while it still called on "Mr. Johnsing" to "turn it loose."

Jacob Silver was fined \$2.

The kinetoscope has broken out abroad. Not long ago I saw a picture of the King and Queen of Italy descending the steps of the Quirinal and entering their carriage. It was a lifelike picture. Other notabilities have also been taken for exhibition purposes, but until recently the Prince of Wales escaped. Hereby hangs a tale which is sufficiently amusing to repeat.

Not long ago an ingenious person at Cannes suggested to H. R. H. that it would be a good scheme if he allowed himself to be photographed by the new process on board his yacht Britannia. Albert Edward is nothing if not good natured and readily consented, stipulating that the photographs be exhibited only at the Imperial Institute, and that proceeds go to the Jubilee Hospital Fund. Accordingly the authorities of the Institute were ordered to send a photographer to take the series. Meantime an unscrupulous person heard of the proposal, and telegraphed to a photographer in England to go post-haste to Cannes and take his machinery with him. In a few days a letter was received on board the boat asking at what time H. R. H. would receive the photographer to take the scene on deck. An appointment was made for 10.30 a.m., at which time a little performance was gone through, wherein certain celebrities who happened to be handy were brought up and presented to the Prince, orders were given to the sailing master, and the usual routine of the Prince's morning gone through, showing a typical five minutes of his life on board the boat. The photographer went his way rejoicing.

No sooner had the man got well out of town than Captain Carter of the yacht was surprised to receive a visit from another photographer bearing credentials from the Imperial Institute, representing that he came in response to the official invitation to take the pictures of the Prince. It turned out that the last arrival was the real article, and that the first had been a spurious and entirely unauthorized representative of the photographic art. Up to the last advices no one had plucked up courage to tell the Prince of the way in which he had been fooled. A nice little storm will burst over the heads of the unfortunates who were responsible for the mistake when the trick is discovered.

Mr. Leonard Spencer gave a practical illustration of Hunting's "Bureau" Story last month at the Columbia Co.'s rooms, using a piano instead of a bureau. Len was trying to move a piano, which was elevated about four feet from the floor. The piano objected and unceremoniously flopped over on Leonard, using him as the filling of a sandwich with floor and piano sides. I am glad to say that with the exception of a few external bumps Leonard is "up and around" feeling as well as ever.

Ever since the talking machine became a staple article of trade, and of practical use, the people interested have been crying for a trade journal. Now that they have got one in THE PHONOSCOPE, they amuse themselves by writing postals for sample copies. Why not subscribe and keep the management better natured?

Where They Were Exhibited Last Month

Vitascope

Appolo Hall, Paterson, N. J.

Bioscope

Austin & Stone's Museum, Boston, Mass.

Verascope

Academy of Music, New York; Grand Opera House, Chicago.

Cinematographe

Eden Musee, New York.

Projectoscope

Opera House, Lorain, O.; Bartow, Fla.; Academy of Music, Akron, O.; Barton, Fresno, Cal.; Assembly Hall, Freeport, L. I.; Opera House, Youngstown, O.; Park, Brooklyn, N. Y.

Kinematographe

Huber's Museum, New York.

Biograph

Willard Hall, Washington, D. C.; Keith's Theatre, New York; Bijou, Philadelphia, Pa.

Vitagraph

Temple, Atlantic Highlauds, N. J.

Kinetoscope

Auditorium, Reading, Pa.

Cineograph

Academy of Music, Richmond, Va.; Schiller's Hall, Alexandria.

Magniscope

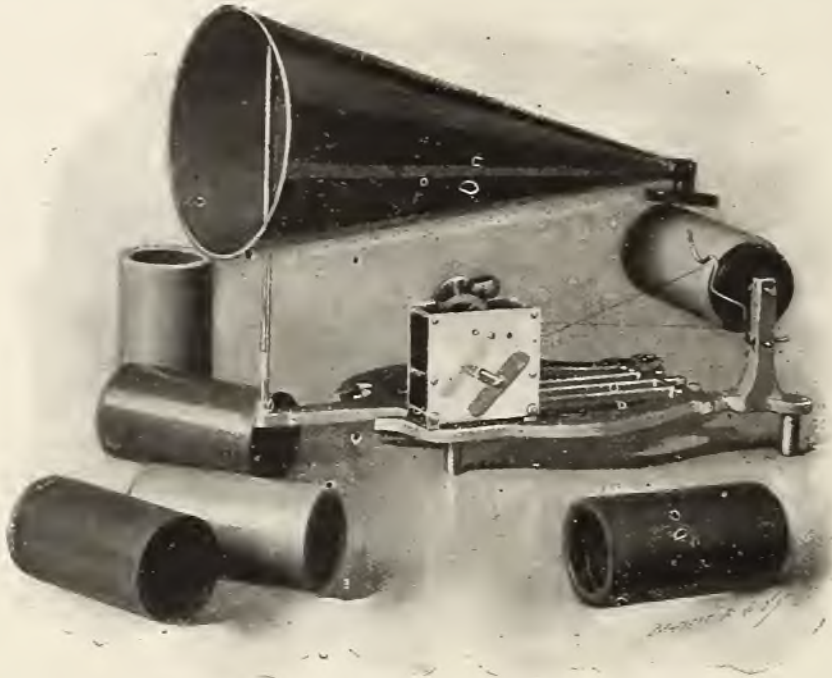
Belle Center, O.; Alpena, Mich.

A New Talking Machine

The latest and simplest talking machine is the Lyrophone, as illustrated below. Although similar in construction to another low-priced machine, it is far superior to it and shows the possibility of building a practical machine for little money. The

not equal to the high-priced machines in point of quality and volume, is remarkably clear and far superior to any low-priced machine ever put on the market.

We are pleased to say that this machine is



principal feature of the Lyrophone is the very clever combination of the diaphragm and horn which makes a practical but simple reproducing medium, dispensing with the usual horn, stand, rubber connection, etc. The tone from this machine, although

manufactured under authority of the American Graphophone Company, and the customary law suits for infringements, etc., will consequently be dispensed with.

The machine will retail for about ten dollars.

Photographing Sound

Dr. J. Mount Bleyer, a New York scientist, has succeeded in doing what no other man before him has ever accomplished. He has discovered a method of photographing the human voice, music, or indeed, any sound whatever. Herewith are shown the first pictures he has made. Although they are crude, they will be found to be of great interest, for they indicate what a wide field lies before those who are attempting to gain "photographic records of noise."

Dr. Bleyer's first photographs were snap shots and represented only an infinitely small vibration. The biograph, however, has enabled him to picture the sound in all its varieties from the time it was uttered until it died away. He set the biograph up in his laboratory and succeeded in making the pictures on a continuous film, just as photographs are taken for the kinetoscope.

Since the original instantaneous pictures were concluded the doctor has made a further improvement in the manner of producing the figures from which the photographs are made. In the first instance he used a light powder, which danced and spread about on the surface of a piece of rubber tightly drawn over the big end of a cone or funnel. The improvement consists in substituting a colored liquid for the powder. The entire method is simple.

A tin cone is supported in an upright position by being thrust through an aperture in the leaf of a table near its edge. The large end of the cone or horn is now uppermost. A piece of rubber or skin is drawn over the mouth of the cone like a drum-head. Alongside the cone and somewhat above it is mounted a mirror, inclined at an angle so that it will reflect to the eye of one standing opposite, it whatever may appear upon the surface of the tightened rubber.

The biograph, which takes from 75 to 100 pictures a second, is placed opposite the mirror, the lens pointing at the spot on the glass where will be reflected anything on the surface of the rubber. A tiny drop of the liquid from the point of a needle is placed in the center of the rubber drum-head.

A tone or tones, or a song, is sung into the small end of the cone or a bar of music is played on any instrument, always, of course, near the small end of the cone. The effect is to cause the tightened drum-head to vibrate, and in response to the vibrations the colored liquid dances up and down and spreads out and away from the center, forming the most intricate and beautiful geometrical figures.

These figures are shown in the mirror and are reflected to the lens of the biograph and photographed upon the film that is passing along at lightning speed. Every movement of the liquid is copied, and when the pictures have been developed the hundreds of varied movements made by the liquid in response to the vibrations appear in odd and complex pictures. The same effect is produced when powder is used instead of liquid.

That Vitascope Patent

The *New York Mercury* has received the following from H. P. Goodwin, relative to an article published in the issue of May 3d, concerning the relations of the Columbia Phonograph Company to the phantoscope and vitascope patents:

"Some interest in regard to the condition of the Vitascope and Phantoscope patents has been excited by the publication in *The Mercury* of the 3d inst., that Messrs. Raff and Gammon, who control the Vitascope Company, might, under the terms of a 'broad patent,' which is about to be issued, secure a monopoly of the invention. The growing field for

the use of the Vitascope and kindred photographing projecting machines, would make such a monopoly of great value. C Francis Jenkins claims to be the sole inventor of the Vitascope or Phantoscope. He made an exclusive contract with the Columbia Phonograph Company, whereby he assigned to that company everything he had done or might do. At the time of this assignment it appears that there was in the Post Office an application for a 'broad patent' which was filed in the name of Jenkins and Armat.

"The Columbia Phonograph Company entered upon the legal fight with a view of determining that Jenkins was the sole inventor. It is likely now that the company will allow the patent to issue to Armat and Jenkins without further opposition. In that case, when the patent is issued to Armat and Jenkins, the Columbia Phonograph Company will be the owners of Jenkins' share and entitled to operate freely in the field. Thus the monopoly, which it was said Messrs. Raff and Gammon or Armat would enjoy, will have to be shared with the Columbia Phonograph Company.

"The Columbia Phonograph Company, though claiming that it has a good right to the exclusive control of the invention under the arrangement made with Mr. Jenkins, is now, in view of complications attending the first application for a patent, and which might have resulted in hanging the case up in the Patent Office indefinitely, inclined to no longer contest the right of Mr. Armat, from whom Messrs. Raff and Gammon derive their interest, to a share in the patent right.

M. Lafont, director of Lumiere's Cinematographe, is also interested in the question of the exclusive right of the Vitascope company to operate animated photographic machines. Speaking of the article of May 3d, he says:

"I would be grateful to the editor of this article if the answer the Vitascope Company, in the name of Lumiere & Son's Cinematographe, that this machine is the first invented and the only perfect apparatus for photographing life motion, and has been thus acknowledged all over the world. The Vitascope, Biograph, Phantoscope, and all the other "graphs" and "scopes" of which the Vitascope Company speaks, are but imitations of more or less merit. The Cinematographe has been on sale since April 1st, and it dawns upon us that the Vitascope Company, hearing of the numerous sales last month, think to cool the ardor of possible buyers by stating that they will soon control all patents, and be able to throw out of the country the first animated-photographic machine."

E. C. Stearns and Company, the Bicycle Manufacturers, are negotiating with the makers of the cinematographe for the reproduction of the much talked about race between the Stearns Sextuplet and the Empire State Express. It is said that the railroad people are willing to offer every possible opportunity for a test of speed in front of the huge camera, and if satisfactory arrangements can be made, it is quite likely there will be at least a brush between the fastest train in the world and the greatest multi-cycle. It would certainly make an interesting picture.

A new experiment was tried in New York last month. It is a system of printing the colors on the biograph films by machinery. Heretofore the thousands of pictures had been colored by hand. The experiment was tried on the pictures of the Empire State Express, and the coloring proved more even than that done by the former method.

A bid of \$1,800 has been made by the Edison Phonograph Company, of Indianapolis for the Ohio Phonograph Company, of this city.

General News

The Edison Phonograph Works has elected Thomas A. Edison, President, and John F. Randolph, Secretary and Treasurer.

The Lyrophone, which is of similar construction to the Echophone, is the invention of Lieut. Bettini and shows a marked improvement over all low-priced machines.

The House of Representatives at Lansing, Mich., lately passed a bill to prohibit reproduction of prize fights by vitascope, kinoscope, etc. The penalty is a fine of \$500 to \$1,000, or two years' imprisonment, or both.

It is now generally conceded that the X-ray is injurious in a greater or less degree to the human skin and hair. This fact should be borne in mind where experiments are carried on by any other than experienced workers with this light.

Mr. Peter Bacagalupi, of San Francisco, visited New York last month, intending to purchase the Verascope Corbett Fitzsimmons fight rights for California. As the Verascope Co. want a small fortune for the right, Mr. Bacagalupi has concluded to "think it over."

Among the prizes that were awarded by John Welderburn & Co., of Washington, D. C., for the most valuable inventions submitted to that firm by its clients during the past month was a gold medal, presented to J. N. Crown, for an improvement on the graphophone.

Lieut. Bettini's Micro-Phonographs are meeting with popular favor. William K. Vanderbilt recently purchased three outfits, including over 100 records of famous artists. One machine will be placed aboard the steam yacht "Valiant".

Exhibitions of kinoscope pictures of the Corbett-Fitzsimmons fight is to be prohibited in Pueblo, Colo. On petition of the W. C. T. U. unions of the city the aldermen last month instructed the attorneys to draw up such an ordinance. The petition was granted without discussion.

Robert Fitzsimmons and James J. Corbett were burned up in verascope films last week while awaiting the opening of the afternoon performance at the Academy of Music, New York city.

Rounds three, four and five caught fire from a lighted match. Slight damage was done, there being several duplicate films to replace the others.

William L. Skinner, of St. Louis, Mo., has a patent by which he proposes to make the deaf hear clearly. It is an invisible electrical device, thoroughly tested, and which he is willing for the Government to say whether he is correct or not. There are already three people in St. Louis who will testify to its efficacy. Mr. Skinner asks but the royalty of a patent.

C. A. Q. Norton, manager of the Hartford Graphophone Company in that city, has sold five large commercial machines to the Pope Manufacturing Company, for use in their offices. The correspondence of the company will be dictated into the graphophones instead of to stenographers. The records will then be given over to expert typewriter copyists, who will transcribe the letters.

The cinematographe is recognized as one of the most perfect picture projecting devices; and the inventors Messrs. Lumiere & Sons, of Lyons, France,

have been particularly successful with their films, which produce a very clear, sharp, gray picture, which is very pleasing to the eye. Messrs. Maguire & Baucus have recently purchased the American stock of Lumiere & Sons, consisting of over 1500 films of various subjects, which they are offering to the trade at a liberal reduction from the standard price.

The Ohio Phonograph Co., of Cincinnati, O., has been succeeded by The Edison Phonograph Co. with offices at Cincinnati, Cleveland, Chicago and Indianapolis. They are making a high grade of records which they are selling at a very nominal price, including Brand's Orchestras, Brand's Band, songs by Alexander, Weston, Newton and Watson. Mr. James L. Andem, formerly President of The Ohio Phonograph Co., is General Manager of the new company. Headquarters at Cincinnati.

The Columbia Phonograph Company announce the speedy appearance on the market of a new photograph projecting machine, which, they claim, is not only more satisfactory in its operations and results, but can be sold cheaper than any yet made. The machines are being manufactured at Bridgeport by the American Graphophone Company, in whose enlarged factory an extensive plant for making projecting machines and films has been installed. Their experts have given a great deal of study to the subject and promise an apparatus that will do more efficient work than any yet produced, and yet be simpler in its operation and cheaper in price.

While experimenting on some new composition of paraffine for making phonograph cylinders, Mr. Cleveland Walcutt, of the firm of Walcutt & Leeds, and Dr. Metcalf, a chemist of Brooklyn, were badly scalded about the face and bruised about the body. They were taken to the New York Hospital. After having their wounds dressed they returned to their homes. The cauldron in which the composition was boiling, burst and broke into flames, which communicated with the woodwork, setting the whole place a-blaze. The damage to the stock, however, was not very great.

William Scribner, Secretary of the Verascope Company, which shows the Corbett-Fitzsimmons pictures at the Academy of Music, was instantly killed on the evening of June 6th, by falling from the sixth floor through the elevator shaft to the cellar in the building of No. 244 West Twenty-third Street.

Scribner had an office at that address. It was seven o'clock that evening when he started to return to his home. He rang for the elevator, but the elevator boy was not in the building.

The doors which open into the shaft on each floor have no locks on them, and when no one responded to his call, Scribner opened the door and started the elevator running. The cable, which is a new one, works hard, and when the car reached the sixth floor he could not stop it. After it had passed to the floor above he made another effort to stop it, but missed his hold on the cable and fell down the shaft.

An epoch in the development of the entertainment feature of the talking machine is marked by the successful reproduction upon it of operatic choruses. It has been regarded as difficult, if not impossible, to make satisfactory talking machine records of female singing voices. Some upper notes, especially, have lost all their music in the process of recording and of reproduction. These difficulties have been largely overcome by experiment and improvement, and now there has been added to the talking machine repertoire operatic choruses sung by fully-trained operatic companies,

The effect produced is remarkable. The members of the chorus are grouped in front of the large amplifying horns that conduct the musical sounds to the diaphragms of the recording apparatus. The soloist, of course, has an advanced position, just as he or she would on the stage. Considerable study has been expended on the matter of grouping and posing the singers, so as to get the best effects and most perfect blending of voices in the record. During the past week such work has been going on in the musical record department of a leading phonograph company's headquarters in New York, under the direction of Mr. V. H. Emerson. It is possible now to have not only band and orchestral performances and vocal solos reproduced at will at home, but also vocal selections from the popular operas.

Our Foreign Correspondence

SYDNEY, N.S.W., Australia, May 10th, 1897.

THE PHONOSCOPE PUBLISHING CO.

GENTLEMEN: Yours of the 19th of March and also the journals came safely to hand.

There is very little to report in the way of Phonographic and Cinematographic doings. There are three cinematographes open to the public in this city, but they are not having any great rush on at present.

We have in one the Edison Vitascope, in another the Wemches Cinematographe and in the other a French make of machine that uses a picture more than double the size of the Edison Standard Film, but to my mind the results are anything but satisfactory. There is a shutter and the flicker is something awful. There is no doubt that so far as animated photography goes the *best* machine run over here has been Lumieres. No doubt Edison's would produce equally good results in the hands of a capable operator, but from what the writer has seen of it, it lacks much to be desired.

Now for some news pertaining to the supply houses over on your side and what brings them in bad odor with business firms here. There are firms here worth thousands, and yet they are required to put the cash in New York before they see the goods, and when they arrive here they are not what they have been represented to be. For example; a friend of the writers ordered an Edison Spring Motor Phonograph and a lot of records, etc.; in fact a good sized first order. He receives his goods and when he unpacks them, the first thing that greets his eye is an old, well shop-worn Phonograph, not even touched up with a bit of Brunswick black, but the motor never saw the inside of Edison's workshops, but came not far off from where the writer was born, on the shores of Long Island Sound. Now, had the goods been such as ordered and paid for, an extra large order would immediately have gone forward; as it is, no order, and perhaps a law suit. Records! the circulars that are sent to parties known in the trade (and how they get the names is a wonder) each claiming to make the best, and from firms, that I confess I have never heard of, is one of the marvels of this part of the world.

Send me on some more sample copies of your valuable paper. I will put them where they will do you good. Those names I sent you are *good* financially, for all your advertisers can sell them. Will write you more fully by next English steamer. Wishing you success, yours faithfully. W. H. L.

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ADVERTISING RATES FURNISHED ON APPLICATION

THE PHONOSCOPE is the only journal in the world published in the interest of Talking Machines, Picture Projecting and Animating Devices, and Scientific and Amusement Inventions appertaining to Sound and Sight.

Correspondents in London, Paris, Berlin, Amsterdam, Madrid, Alexandria and Constantinople, Australia, South America, Central America, Canada and 108 cities in the United States.

Recently there have appeared upon the market certain novel and amusing scientific contrivances, the identity of which has been almost completely hidden from the general public under their respective foreign names. For apart from their names, and apart from certain immaterial details of construction, they are all based upon the same principle, performing their work in more or less the same manner.

These are the kinetoscope, vitascope, biograph, verascope, cinematoscope, triscope, zinograph, projectoscope, mutoscope, phantographoscope, vitagraph, animatoniscope, eidoloscope, cinematograph, and many others too numerous to mention, each and all devised to project on a screen pictures full of life and action. Why the inventors should resurrect the dead languages in giving names to so startlingly modern inventions is surprising.

The great evil resultant from unclean competition is the general discredit it throws upon a genuine article by the faults which generally are possessed by its imitations.

Instead of placing on the market a number of imperfect machines to perform the same work, it would be a great deal more to the interest of science, if the elements at the back of these were to combine and concentrate all their efforts upon the production of one absolutely perfect machine. For nobody can deny that, although the results so far obtained are marvelous to a degree, the 'scopes and all their kin are still in the cradle of infancy. There are yet many drawbacks and imperfections, especially the jerky movement of the films, which no amount of self-adulation will ever remove, but which might easily be overcome by frank and loyal co-operation.

The future of these machines is so great, and their possibilities so limitless, that the sooner they are brought to absolute perfection, the better. A perfect moving picture projecting device cooperating harmoniously with the talking machine would bring about a social revolution; its effect upon all classes of society would be as great as that of steam and electricity have been. From the cradle to the grave, all the actions of man could be shown and preserved for future generations. The lullaby at the cradle, the wedding ceremony, the dirge at the grave, with all their surroundings, pomp, and pageantry could then be supplied to order at so much a roll of films or record cylinders.

To amusement caterers, it would be the opening of the millennium; no more disappointments with star-actors or singers, no more wraugles over contracts. The theatrical caterer of the future, no matter where located, would command the best talent, scenery and stage effects included, just as readily as to-day he is able to buy a score-book or a sheet of music.

The centers of art will become even more fixed than heretofore, but not for the same reason. They will then be the printing stations and foundries, from which will issue the best productions with a cast of the very best artists, forming a permanent staff, just as prominent writers and correspondents are to day permanent members on the staff of leading newspapers.

The system of education now in vogue will undergo a complete change. Misunderstandings will become less, if not impossible. Lying and falsehood will have a tendency to fly, and the whole world will become a little purer and better.

Wires Up-to-Date

The *Hartford Courant* refers to a new invention in telegraphy by which, instead of, say, 200 words a minute, something like 9,000 a minute can be sent. "This," says the *Courant*, "is interesting and wonderful, but it isn't up to what other brains are working at and are expected in time to develop." From any center of the Associated Press news is sent to numerous cities by a single operator. In each of the receiving cities a skilled operator takes the letters by ear, strikes the keyboard of his typewriter and puts in print the words as they come along. There is no writing done. As the *Courant* says, bright minds are now at work trying to perfect a machine that shall be an automatic operator. This idea is to have the telegraph current itself work the keyboard and let the operator who starts the dispatches over the country operate typewriters automatically in every office on the credit circuit. Every few months come reports that this is worked into shape, but as yet the rumors, not the machines, have appeared. Following this we may expect another marvelous change. The copy that comes from the typewriter is taken to the composing room and there the operators upon the linotype machines, reading it over, play upon the keyboards of their machines and turn the text into type ready for use. Some people are predicting that before very long not the typewriter, but the linotype itself will be attached to the news wire, and that the operator afar off, nimbly fingering the delicate telegraphic instrument, will at the same time and by that very action be setting type in every office on the line. When all this and more is accomplished we may expect some material changes in the present method of discriminating the news. Citizen who can afford it will have machines in their own homes to grind out the happenings of the day as they occur while the stuff is red hot. Of course, other lines of progress will not be left down. The telephone will carry into the parlors of the people the music of the concerts, the speeches in congress or in the city council, sermons of the great preachers, the songs of birds in southern lands of perpetual spring. If cannonading is then indulged in along the Milouna pass an American will adjust his keyboard and hear the great guns. Not only so. It is contended by some that animated pictures will soon be transmitted over the wires, and that one will then be enabled to see and talk to his friends and relatives in distant states, or even those across the pond, at a most trifling cost. Distance will thus be annihilated, and, though separated by continents or seas, we shall all talk to each other, see each other and hug and kiss each other at will. No young man will then have to go a hundred miles to see his sweetheart. He will not have to go to see her at all. What will be the use, when they are able to look into each other's faces and sigh by wire. As for the X-rays, nobody can ever predict just what they are going to do for us. They, or other rays equally wonderful and helpful, may yet

enable us to look through other planets and to see the queer creatures that inhabit them. We are great wireworkers. Our own ingenuity astonishes us every day.

Dolls Move at Will

An apparent manifestation of an entirely new force in nature is attracting attention among the scientific men and the curious people in the neighborhood of East Providence, R. I. Out of the road leading to Rumford stands an odd-looking one-story frame house. In it resides an old man, John Nelson Sherman, who has mystified many scientists by his wonderful performances. Except the abnormal size of his hands, there is nothing remarkable in the appearance of the old gentleman himself. He is 78 years old, with long, snow-white hair and beard. His kindly blue eyes light up a face which shows but slightly the wrinkles of time, and his pleasant smile bids all welcome to the "museum," as it is called, because of the number of archæological and geological specimens exhibited in the yard surrounding the house.

A queer collection of oddities in wood and stone is arranged in the front of the house. Besides the odd lot of stones, some queer roots and knots of trees had also taken his fancy, many of them representing snakes, birds and other animals. There were huge fern stalks, relics of the carboniferous age, and a petrified fish. Several stones were painted to represent faces. A stone owl perched on a gnarled root was very curious. One bench held pieces of quartz, including masses of white crystal. There were also whales' teeth, with curious pictures engraved on them—the work of sailors; a quahaug which had been turned to stone; a piece of cloth made from the bark of a tree from the Sandwich Island, and a sharks' tooth which had been found at the bottom of an artesian well.

A sign outside, painted on a slab of stone, reads: "Free museum, walk in." The old gentleman describes with pleasure the various curiosities outside the house, but his hobby is to invite visitors inside. Passing through the parlor and kitchen, one is ushered into the "holy of holies." There one finds placed upon a table a puzzling array of bottles and tumblers of all descriptions. Suspended from the corks by a pendulum, finely balanced, is a brass rod, which hangs down inside the bottle. At the bottom of the rod is a small brass ball. These are so arranged that vibrations cause the pendulum to swing upon the sides of the bottle.

Some 18 or 20 of these bottles are placed upon the table. The old gentleman seats himself at the table, placing his hands upon it lightly. He will ask you to designate any particular ball which you would like to see swing, and without any perceptible motion on his part, it will commence to vibrate, very slowly at first, gradually increasing in force, until it obtains sufficient momentum to strike the sides of the bottle. It seems to be sentient, for on asking it to knock a certain number of times it will respond accordingly. The curious thing is that all the other pendulums remain perfectly still while the particular one is in motion, thereby precluding the idea that it was caused by vibration imparted to the table by human hands.

On being asked: "What does it?" his reply invariably is: "I don't know, and should be very pleased if any one could inform me. I do not wish to deceive myself, but I believe it must be the work of a disembodied intelligence. I was impressed with the idea ten years ago, and cannot explain it any better to-day." The suggestion of electricity is impossible, for every child knows that glass is a non-conductor.

'Graphs, 'Phones and 'Scopes

Automatic Telephones

Sterling, Kansas, has the only working system of automatic 'phones in existence and the system is now completed and in good working order. There are 56 'phones in operation.

The system is covered with proper patents and is the product of the brain of a young Swede from Chicago, who has been in Sterling, working on the matter since 1891. He came here and laid his patents before some of the citizens and said he knew it would work if tried. They backed him so that he has been able to get his system put in and his mechanism completed and it has done quite as well as it was claimed it would and has given the most perfect satisfaction.

The calling of a number is done by turning the indicator on a dial to the required number and pressing the button that completes the connection and rings the bell. The line is then absolutely secret, as there is no other connection possible. The hanging up of the trumpet disconnects the 'phone and puts it back on the normal wire. Attention was called to this fact particularly by the long story in a recent issue of a New York paper which announced that some German baron had perfected a system for automatic connections that was to do away with the "Hello" girl. The story in the Gotham paper was to the effect that such a plan was reasonable and would be a great thing for convenience and would cheapen the cost of the machine. It is said that many experiments had been made but none had been successful.

Phonoplexes

The people of Galveston, Texas, will probably have an opportunity within the next few months to see the Edison phonoplex in operation. The Gulf, Colorado and Sante Fe road will, unless something unforeseen happens, equip one of its main line wires between here and Temple with the phonoplex. The distance between the two points is 218 miles. Seven sets of phonoplexes will be put in—two at the terminals and five at intermediate stations.

The introduction of the phonoplex in this part of the country will be watched with a great deal of interest by all persons who know anything about electricity. To many persons the phonoplex is immeasurably more remarkable than is the duplex or quadruplex. The duplex and quadruplex instruments separate the current in the wire into two or four currents, according to whether the instrument be duplex or quadruplex, but the phonoplex, operated as it is by induction, merely uses such current from a wire as under ordinary circumstances escapes by reason of the attraction of the earth. The marvelous ingenuity of Edison by bringing this hitherto lost current into use opens up such wonderful possibilities for the practical utilization of induction that there seems no reason why telegraphing should not be entirely successful between ships at sea, no wire being used, but the waters of the ocean being brought into play to act as the conductor of such electricity as is generated aboard the moving vessel.

The Sonograph

Hancock Scott has invented a sonograph—an instrument that can be attached to a piano to record musical improvisations. Our dreamers may fall all over the piano, pounding out the very life of it if they like, clawing the keys and beating the pedals, and every deed will be set down in black and white. But the Patent Office, in its wisdom, refuses to allow a patent on it. The sonograph will die in a closet. It is just the thing for Regie de Koven, whose musical genius seems to have been lost in Chicago River.

Edison's Next Wonder

The Wizard Says We Will Sit in a New York Theatre and Enjoy a London Play

Edison, the Wizard has said it, and it will be. The day is coming when we will sit in a New York theatre and enjoy a play or an opera at London, Paris or Vienna. Edison has predicted stranger things, and they have come to pass. "I am certainly not going to give up till I am successful," he says of this, "and every experiment I make brings me appreciably nearer the mark." So we may look forward with some confidence to the realization of this wonderful scientific dream.

Such a development of the combined powers of the kinetoscope and phonograph is indeed far from improbable. Both these mechanisms have produced marvels familiar to us all. It requires little imagination to foresee a combination of the kinetoscope on a tremendous scale, with a multiplicity of greatly improved phonographs, capable of transferring an entire play to a big screen of a city theatre.

Let us project ourselves for a few minutes into the future and see what, according to Mr. Edison, we will some day enjoy.

There is a play, we will say, running in London, that a New York manager thinks would be a splendid attraction here. The players have a long engagement there. The metropolitan public want to see the play while it is new and creating a sensation, so the New York manager reproduces it by the means of Edison's mechanical devices.

The stage of a New York theatre is entirely cleared, even the scenery being removed. A huge white sheet is stretched from the flies to the stage. It covers the stage completely, like an immense white curtain. The regular drop curtain rolls down over it.

Behind the white curtain are placed a number of phonographs, with immense vibrating horns, capable of multiplying sound one hundred times. One of these phonographs is for each actor. If there be ten players in the cast, then ten phonographs are arranged behind the curtain. Each is loaded with the dialogue of that particular player.

In the gallery, out of sight to the audience, is a huge kinetoscope, containing hundreds of yards of film, upon which is the whole play, actors, costumes, scenery and everything. The theatre is then darkened.

Suddenly there is a flash of electric light and the curtain goes up on the first act. There it is, as perfect as life. You don't realize that you are looking at a white curtain. You see what looks like a real stage. It is the picture of a stage of a London theatre. There are the scenery, the houses, trees and pathways. The chairs look so real that you would almost dare sit in them, and even natural colors are reproduced,

The orchestra is playing softly and from the wings walks out an actress, not by the jerky fits and starts of the kinetoscope, but with a slow, easy, lifelike stride. She walks over to a table and picks up a bunch of flowers—flowers full of life and color. She turns toward the audience and speaks. Her voice is as clear as a bell. You hear every word as distinctly as if you were listening to the living woman.

The hero then comes on the stage. You can hear his footsteps as he walks along. He greets his sweetheart. The moment his lips begin to move you hear his voice.

The phonographs and kinetoscope are timed to the fraction of a second. The characters on the stage are life size and their voices are natural. You are looking at the pictures of the real players; you recognize them at once, and you are listening to

their own voices, as natural as if it were themselves, instead of their pictures, actually before you.

The play runs on to the end of the first act, when a climax is reached and the curtain goes down in the regular way. The theatre is instantly illuminated again and the next act proceeds.

But up in the gallery the two kinetoscope operators are working with great rapidity, keeping track of the film that is running through the apparatus at lightning speed. On this film will be over 375,000 separate and distinct photographs, each one of which will in turn be thrown upon the white sheet at the rate of forty-eight a second—so fast that they appear to the eye as one moving, realistic scene, without break or blemish.

The phonographs are operated by electricity, being connected on the same circuit that works the kinetoscope, thus making the timing of a player's motions and his voice correspond perfectly.

When Bellamy wrote "Looking Backward" some years ago he probably little dreamed that his idea of reproducing leading theatrical performances in the homes of the wealthy would ever be realized.

Yet with this apparatus, on a smaller and less elaborate scale, any citizen of New York may sit in his parlor and enjoy the whole performance of any play or opera his fancy may select. He can hear the warblings of Melba, Calvé, Patti and the De Reszkes, or if he wants a night of "Faust," "Lucia," or "Carmen" he will simply have the "Faust," "Lucia," or "Carmen" box brought out. In a few minutes the white curtain and the outer drop curtain can be rigged up, and by merely pressing a button he can have the singers before him and enjoy the opera.

A play running in London, Paris or any part of the world may be reproduced at will, and the talent and grace of the great actors and actresses of to-day may be seen over again, years after they have passed away.

The only memory left of Edwin Booth, Edmund Kean, Edwin Forrest and all the great players who are dead is that which tradition carries. The grandeur of their voices is still, the splendor of their acting and the grace of their gestures are gone forever.

With the kinetoscope-phonograph combination, however, we will be able to preserve more than a memory of all the players that are pleasing us to-day.

Now Mr. Edison says that not only is the plan feasible, but that it was his original idea, long before the kinetoscope had been invented, and that the kinetoscope was only one step in the carrying out of the great scheme. Since then he has had a number of experts constantly experimenting in relation to this plan, and only within the last week or two some experiments had been made which were more encouraging and hopeful than any that had gone before them.

"There were two things," he added, "that had to be overcome, and these were the metallic character of the tone of the phonographs, and the change of its timbre to that of the human voice, so that all the beautiful modulations of the singers and actors could be exactly reproduced, and the second was the synchronization of the phonographs with the kinetoscopic reproduction. No one that has not tried anything of this kind has any idea of the difficulty of this latter task. It is all very pretty from a theoretical standpoint, but when the attempt is made to carry the matter into practice there are all sorts of puzzling and worrying hitches in the programme, with the result that one must have a world of patience to overcome them.

"Nevertheless, I believe that it will be possible to present grand opera on the stage of the Metropolitan Opera House in all the perfection of its detail, with nothing more than a big sheet, a lot of phonographs and a big kinetoscopic machine."

"Picture Projecting" Devices



The Vitascope

On the night of April 23d, 1896, the program at the famous vaudeville theatre of Koster & Bial, New York, contained one number styled the "Vitascope." The great majority of the large audience gathered together at this theatre on that night, knew little or nothing as to the character of exhibition about to be given with the new machine. A few in the audience had seen the operation of the "Vitascope" in private, and these, together with the friends of the machine, and the management of the theatre (who had staked their business judgment on the success of the machine) were on tip-toe of expectation, and impatiently awaited the time for the "Vitascope" to be shown, which happened to be toward the end of the program. One by one the acts and numbers preceding the "Vitascope" were gone through with and finally the time came for the new candidate for public favor to justify the hopes and expectations of its friends.

Suddenly all the lights in the theatre are extinguished and an oblong square of light appears in the centre of a frame outlined upon the drop curtain of the theatre. Then there is a buzzing sound and instantly a dancing figure, life size, appears in the centre of the square of light on the screen. All the colors of costume, and natural tints upon the face, neck and arms of the dancer, are shown vividly, and as the well-known "Annabelle" (for the audience soon recognizes her) goes through the various movements and poses of her celebrated "Butterfly Dance" the enthusiasm of the audience begins to manifest itself. The orchestra is playing a popular dance in time with the movements of the figure on the screen, and as the dance goes on there are many beautiful changes of coloring in the costume of the dancer, and every detail of face, figure and dress is so naturally and exactly brought out by the wonderful new machine that the beholders almost forget that it is but a counterpart of nature and here are many among the audience who even express doubt that it is but a figure on a screen, and not the actual dancer in the flesh, shown by some legerdemain or magician's trick.

Then the dancer disappears from the screen, and after a moment a new subject flashes in her

place. The audience sees an old pier extending into the ocean and the breakers rolling in and breaking into surf and white caps along the sides of the pier and upon the rock bound coast. The movements of the waves are directly towards the audience, and so true to nature is the work of the wonderful machine, that it would appear that each succeeding wave was bound to break through its canvas limitation and overwhelm the orchestra below the front of the stage. So realistic is the scene that expressions of admiration and wonder are heard all over the house and when the scene disappears from the canvas, the applause is so tremendous and persistent that the management is compelled to repeat the subject, and even after a second repetition the audience is not yet satisfied and continues its applause and demand for continued repetition, even after the third showing. Other scenes are given which we will not now describe. Suffice it to say, that by the time the last scene is shown the audience is in a perfect furor of enthusiasm and there are loud cries of

"Bravo," and calls for speeches from the management and from the inventors of the remarkable machine which has just made its reputation with the public.

It was not long before other parties, desiring to gain profit and advantage by constructing similar machines, began to make and exhibit so-called projecting machines throughout the country. It is but fair to the "Vitascope" to say, that the great majority of projecting machines which have appeared since the introduction of the "Vitascope," are in great part but copies or imitations of the original "Vitascope," and in some instances the machine has been almost exactly copied by parties who are willing thus to take advantage of the genius of others.

But the fact remains and cannot be controverted that the "Vitascope" is the first successful projecting machine shown in America, and that through all the changes which have taken place in the business, and with all the efforts of competitors, the machine stands to-day with a prestige superior to any other machine, when all the facts, conditions and circumstances are taken into consideration. It has proven to be a thoroughly reliable machine for the purpose intended, and even with constant use, and with considerable wear and tear, (we might even say careless handling), it continues to give thoroughly good results and can be relied on at all times. There is no question, perhaps, but that improvements in the machine will be made from time to time, but it is rather a remarkable fact that a machine which was the first successful one of its kind should have produced such perfect results on its first introduction to the public, and required so few changes in its constructions, to make it acceptable to even the most critical.

We will not go into the question of patents in this article because it would require considerable space to do justice to this subject. But patents for the "Vitascope" were applied for long since and there is every reason to believe that in due time the machine will take a still higher place in the business, and that the many infringing machines which have sprung up from time to time will disappear from the field.

Should the indications as to the issue of broad patents covering applications upon many features of the "Vitascope" (some of them being vital features, without which it would seem almost impossible to construct a successful and thoroughly reliable projecting machine of the kind) prove equal to the expectations of those who control the machine, and result in cleaning out infringing machines from the field, it is evident that territorial rights to the "Vitascope" will acquire a largely increased value, owing to the fact that this form of amusement has taken





a very strong hold upon the public, and those who can control it, even approximately, and who will devote to it good business tact and judgment, are bound to reap a rich reward.

We understand that territorial rights in some of the good states can still be had, and that Vitascope can be leased on reasonable terms.

The Vitaseope is constructed with a view not only to accuracy and perfection in the result, but also to strength and durability of all the parts. The constant use of a projecting machine, its transportation from place to place, the steady demands upon it for exhibition purposes, and the strain upon certain of its parts, have all served to prove, after a year's practical experience, the wisdom of originally constructing the Vitaseope of such good material and with such mechanical perfection, as to withstand every strain and fulfill every demand put upon the machine.



While a lightly-constructed projecting machine is doubtless more conveniently and readily handled than a so-called "heavy machine" (like the Vitaseope), yet the danger of breakage and the likelihood that the wear and tear of constant usage will soon render the

light machine inefficient, or even absolutely useless.

There are instances where the vitaseope has been exhibited almost daily, for over a year, and in no case has the machine failed to do its work well, and produce a result eminently satisfactory.

The following clipping from a Cincinnati paper of recent date will illustrate how well the vitaseope has maintained its high prestige, and how, in the long run, the machine maintains its superiority, not only with the public, but also among exhibitors and experts who have investigated the subject thoroughly.

Ever since Messrs. Heck and Avery, of the Museum, quit the exhibition of Edison's vitaseope they have been besieged by petitions to place it on exhibition again. They thought, however, that they would perhaps place on exhibition another machine, believing that it might be better, but during Man-



ager Avery's present stay in New York he has seen all the picture projecting machines, and he writes Manager Heck that there is no machine equal to the Vitaseope when it comes to making clear, well-defined projections. Accordingly, yesterday afternoon, Messrs. Heck and Avery completed negotiations by which they continue to be the sole and exclusive exhibitors of Edison's original vitaseope in Hamilton County. No sooner had the negotiations been completed than electrical experts were sent for, and the vitaseope was put on exhibition again Saturday afternoon, much to the delight of those present. It will continue to be a regular summer feature. There will be a complete change of pictures every week. The pictures this week are all interesting, beautiful and sensational. In addition to the Vitaseope a high-class vaudeville entertainment is given. The lecture halls will introduce many interesting attractions.

It is not too much to say that the Vitaseope created a sensation which soon made it the talk of New York city, and in a very brief time the machine and its marvelous results became a leading topic of conversation among amusement people and the public in general all over the country. Leading theatrical agents and amusement managers agreed that no exhibition had been brought out for years, which made such a decided hit as the vitaseope and for weeks and months daily exhibitions of the machine continued at the above-named houses and there seemed to be no diminution in the interest shown by the public and in the patronage which was given to these theatres largely on account of the wonderful machine.

The erroneous impression prevails in some quarters that the entire country has been taken up for the Vitaseope and that the machine cannot be secured for exhibition. This is a mistake, and we are authorized to say that the Vitaseope can be leased on reasonable terms, with permission to exhibit over a broad extent of territory, including some of the best States in the Union.



Letters

This column is open to any of our patrons who have a complaint to make, a grievance to ventilate, information to give, or a subject of general interest to discuss appertaining to Sound Producing Machines, Picture Projecting Devices, Slot Machines, Amusement Inventions or Scientific Novelties in general.

POTTSVILLE, PA., May, 1897.

EDITOR PHONOSCOPE:

If a prominent company dealing in phonograph records sends you another customer's order and upon being informed of the error in your order of selections, acknowledge their mistake, but offer to rectify it; who should pay the expressage for reshipping said records?

I think the company that made the mistake should pay them and not the customer! Although this was the case recently with your
Humble servant,

C. F. D.

[We think that the company should prepay expressage. Ed.]

ATLANTA, GA., May, 1897.

DEAR SIR:

I wrote you some time back about sending some money to the — Sapphire Co., and never receiving goods ordered nor a reply. I do not wish to trouble you any more, but if convenient would appreciate it if you will speak to Mr. — about it. I have since written him without receiving a reply.

Yours very respectfully,

J. P. R.

[We consider Mr. — a responsible party. Perhaps your letters have miscarried. Write to him in our care and we will guarantec an explanation. Ed.]

EDITOR PHONOSCOPE:

The management of a certain ex-dividend paying concern has had another mental fit, and I have read with some amusement his remarks upon his virtues and artistic abilities. "Listen" says or sings our friend in speaking of himself. "It is bad art—it is vulgar—it is bad faith toward the buyer," and yet in the same circular lists twenty-four alleged selections by "Gilmore's Band," which I know are in fact really played by local musicians, who are obtained at a minimum cost and many of whom never saw Mr. Gilmore. Selections by Sousa's Band are also listed, and this organization was never in the building. This is indeed "high art." For such good faith its customers pay a price in proportion to the amount of humbuggery in the records. In its regular catalogue, it has sixteen pages of equally valuable bargains sandwiched between misleading statements of the same sort. Take, for instance, its so-called "French" glasses; all made in New York State, and which are subsequently artistically tinted around the edges with red ink (or circus lemonade), at the so-called laboratory. For this "artistic" decoration the price is raised from two cents to fifty cents, and the dear public are warned not to buy cheap glasses but be sure and get this French kind as they are clearer and more brilliant in reproduction than the common American glasses.

Why all this unreality and sham?

Why such a cataract of nonsense?

Why do they waste so much beautiful peacock-blue ink in giving melancholy thanks to heaven that they are so "artistic," when, as a matter of fact, they are vulgarly faking?

The introduction of the fakir, and his confidence methods into the legitimate business field, is indeed to be regretted. These are not the methods of the business world, but are the "little arts of little minds."

ONE WHO HAS BEEN ARTISTICALLY DONE.

EDITOR PHONOSCOPE:

DEAR SIR.—A certain unscrupulous company, who has been advertising so-called Gilmore and Holding Band records, do so without authority.

Neither myself, nor the members of Gilmore's Band have played for this company for years. Our only engagements for this class of work have been with the Columbia Phonograph Company, who employ us regularly.

The authority to use the name of Gilmore and his men for phonograph record-making work was granted to me by Mr. Gilmore some time before his death. The Band to-day is composed of the same musicians who worked so long under the direction of this famous master.

Is there no redress for such a fraud?

Yours very truly,

JOHN B. HOLDING.

Our Correspondence

THE PHONOSCOPE:

GENTLEMEN: On page 13 of your last issue, the American Graphophone circular, dated October 15th, 1896, intimates that the late suit against the New England Phonograph Company, was decided in favor of the Graphophone Company. This is not a fact. We beg to quote the decision of the court.

CIRCUIT COURT OF THE UNITED STATES,
DISTRICT OF MASSACHUSETTS.
IN EQUITY.

American Graphophone Company

v.

The New England Phonograph Company

} et al

OPINION OF THE COURT.

June 19, 1896.

CARPENTER, District Judge. This is a bill in equity to restrain an alleged infringement of certain letters patent for apparatus for recording and reproducing sounds, known as graphophones. The respondents plead a license from the complainant and issue has been joined and evidence has been taken. I do not think it will be useful for me to detail the arguments and considerations which have been taken into the account in determining the questions thus raised. I have reached the conclusion that the contracts made by the complainant on the sixth of August, 1888, with Jesse H. Lippincott, amount to an adoption and ratification of the contracts made by him and under which the respondents claim; and that the complainant is estopped to deny the rights of the parties to those last-named contracts to carry out the provisions thereof.

The bill will therefore be dismissed.

This decision confirms the SOLE rights of the New England Phonograph Company for the sale of Phonographs, Phonograph-Graphophones and their supplies in the New England States, and all infringers will be dealt with according to law.

NEW ENGLAND PHONOGRAPH COMPANY

Popular Science

Machine That Breathes

A curious instrument was recently placed on exhibition by the New York academy of sciences. It consisted of an ordinary lamp chimney over the bottom of which was stretched a soft rubber sheet and in the top of which was inserted a rubber stopper. Through the center of the stopper was a piece of glass tubing. On the end of the tubing, inside of the lamp chimney, was tied a little bag made of what is known as gold beater's skin.

Ordinarily the little bag of skin in the chimney hangs limp and loose like a collapsed balloon. If, however, the rubber sheeting is caught by the fingers in the middle and pulled downward, the enclosed bag will immediately swell out to its full size.

On the contrary, if the rubber sheet on the bottom of the chimney is pushed in by the finger, the little bag folds up limp again. By quickly pushing the sheet in and pulling it out again, the little bag inflates and folds, out and in, in perfect time to the action of the fingers.

Now, this is precisely the action that takes place when we breathe. The sheet of rubber on the bottom of the chimney corresponds to the diaphragm in the human body. The little bag represents the lungs, and the glass tube is the windpipe.

It is a mistaken idea with many persons that when we breathe the air rushing into the lungs causes the lungs and the muscles surrounding them to expand. But a precisely reverse action takes place. We invariably move our muscles and diaphragm first, thus expanding the lungs, into which the air rushes to fill up the space which would otherwise become a partial vacuum. Thus a lamp chimney can be made to perform several actions of the human body. It breathes just as truly, and its lungs are a good fac-simile of our own.

This is because pulling the rubber sheet makes the space within the lamp larger than the enclosed air can fill, or what scientists call a partial vacuum. The outside air rushes down the glass tube to supply the vacancy, and in doing so swells the little bag out to its fullest extent.

Answers to Correspondence

All questions pertaining to Talking Machines, Picture-Projecting Inventions, Automatic Coin-in-Slot devices, Amusement Inventions, etc., will be cheerfully and fully answered in this column. Inquiries for this department should be addressed, Information Department, The Phonoscope, 4 East Fourteenth Street, New York, U. S. A. ❄ ❄ ❄ ❄ ❄

G. W.—[As we have said before we cannot recommend any particular manufacturer as building "the best" records. All reputable companies, such as those advertising in THE PHONOSCOPE, manufacture good records. You should not judge a manufactured product by one or two cylinders as the subject or selection may not be suitable for a phonograph or graphophone record. If you write to the company and explain fully why and how you are dissatisfied, they will probably adjust matters to your satisfaction. Yes; you may send the records to us. We will give you our candid opinion of same. Ed.]

EXHIBITOR—[There is really no rule to follow as to the thickness of the glass for an automatic diaphragm, as all models vary as to lost motion in the bearings. It is our impression that a 6 or 6½ glass gives the best results. If your diaphragm rattles, put a drop of collodion on the bearings. Ed.]

WILLIAM S.—[No. Street exhibiting ruins your records, machine and reputation. No respectable man or woman will stop on a street corner with a crowd and listen to a talking machine. A fair ground is different; people expect to see out-door exhibitions there, and make exceptions. Ed.]

Causes of X-ray Burns

Danger Comes From Lack of Skill, says Dr. W. J. Morton

The occurrence of burning by the Röntgen rays has become so frequent as to be a matter for serious consideration from a physiological point of view, besides threatening to interfere with the general utility of the rays in various scientific and industrial fields. In one case reported, a piece of burned flesh as large as the fist had to be cut away from a sufferer, and in others the wounds were intensely painful, and resisted, sometimes for months, every attempt to heal them. The seriousness of this burning may be judged from the fact that the inflammation caused by the Röntgen rays on human flesh is a true gangrene, or death of the cells. With a view to throwing light on this subject which seems to be little understood, an interview with Dr. William J. Morton, who has been described by Edison as "the first X-ray expert in America." Dr. Morton said:

"I have read with a great deal of solicitude the various accounts of burns and injuries by the X-ray, for I see that what promised to be, and what surely is, one of the most valuable aids to surgery, in the way of diagnosis, yet discovered, may suffer irreparable harm from these accidents. Were there the slightest necessity for accepting this reflection on a magnificent modern achievement, one could bear it with more complacency; but since such is not the case, we must do all we can to enlighten the public as to the true facts. The truth of the matter, sad as it is to relate and stating the case most mildly, is that the burns of which there have been so many serious and even shocking cases have been produced by inefficiency either of the apparatus or of the operator. No subject of such complexity as the expert management of the X-ray can be mastered by Tom, Dick, and Harry without adequate prior study and practice. In most scientific pursuits a preliminary technical institution training is required, especially in such as relate to electricity and the physical sciences in general. In the case of the X-ray, a double preliminary training is essential, namely, both that of the electrical expert and that of the physician. It would now seem that every lineman deems himself more that capable of performing medical service through the medium of X-ray pictures for such clients as may choose to come to him.

"As a matter of fact, without wishing to call attention to my own share in the use of the X-ray in surgery, I may say that of the nearly 500 X-ray pictures I have already taken, and in the course of continued experimentation with Crookes tubes, I have never yet seen or experienced the slightest burn or injury to a tissue, not even have I discovered the slightest irritation of the skin, even in the most sensitive subjects. The only exception I can make to this statement is that I early remarked the fact that after several hours' use of the fluoroscope and experimenting in the atmosphere of the rays, I have on frequent occasions noted in my own person an irritation of the eyelids, namely, an itching burning, and smarting sensation, which has always passed off in a few days. In the course of my Röntgen ray work, I have often taken the entire trunk, and, indeed, the entire adult body, which presupposes very powerful rays. My immunity from accidents I believe to be due, to a great extent, to the fact that I have, in the first place, possessed apparatus fully adequate to the requirements of my work, and, in the second place, I have for that reason been able to place my Crookes tubes at a very considerable distance from the subject, I habitually take a hand at from two or three feet distance and sometimes four feet, and in from two seconds to two minutes. The picture of the trunk I take at a

distance of from two to three feet, and in no case do I ever place the Crookes tube nearer to the subject than eighteen inches. Obviously, with weak apparatus, and more so with strong, the inexperienced man, in his anxiety to be sure to get a result, might place the tube anywhere within, say, six inches from the patient, and would undoubtedly, in a certain percentage of cases, irritate and burn the skin. A careful investigation of the reports of cases of burns thus far has satisfied me that in every instance the tube has been placed within six inches of the skin, and with a long-continued exposure, ranging often up to an hour and a half. For my part, at the distance I have mentioned, namely, an average of from two to three feet, I consider fifteen minutes' exposure amply sufficient in the most difficult cases. I remember seeing not long ago in a hospital a terrible case of ulceration of the skin. The patient, a young lady, informed me that the tube had been placed within 1½ inches, and that the exposure had been 1½ hours.

"The whole question simply resolves itself into this: That difficult subjects require expert management, and although it may not be true, as has been said, that an X-ray expert must be born so, still it is true such an expert must be educated up to the point of expertness. As it is now, too many would-be operators are fumbling in the dark, and the public has to pay the penalty."

"The amount of experimentation that has been done with the X-ray in this country is nothing short of wonderful," said T. Commerford Martin, editor of the *Electrical Engineer*. "Crookes tubes, which at first were scarce and cost \$20 or \$30 a piece, are now almost as cheap and plentiful as incandescent lamps, and people have learned to handle them so that they do not, as they did formerly, break down permanently after a few seconds' use. Some tubes in use by friends of mine have done good service for weeks and months, owing both to improvement in manufacture and dexterity in the manipulation. It is perfectly true, however, that serious troubles have arisen from what is now known popularly as 'X-ray burn.' I do not look upon this as a bad thing at all, in the broad sense, because it will teach people that experts are needed whenever it is a question of experimenting with the human body. We do not allow the free application of drugs, anæsthetics or the knife, and there is absolutely no reason why the X-ray, which, as a subtle electrical phenomenon, is one of the greatest aids that surgery and physiological diagnosis have gained in recent years, should be applied haphazard by every venturesome tyro. As a matter of fact, in view of the immense range of inanimate objects to which the X-ray can be applied, there is absolutely no reason or excuse for turning it upon poor suffering humanity, except solely with a certainty of aiding the physician in his work.

"I have been not a little surprised at the lateness of the alarm shown about the injurious effect of the X-ray on living tissue. At my very first interview with Mr. Edison on the subject, within a few days after the announcement of Röntgen's great discovery, he said to me:

"Why, Martin, one of the funniest features about this blamed thing is the effect that it has upon your eyes and your skin. I am so nervous about it that I don't like to keep my eyes under its influence long. At first I thought it was the strain of staring incessantly and shut my eyes, but it didn't make any difference. My men here in the laboratory have also reported some very curious effects, the nature of which would perhaps better be reported to a doctor's meeting. I can say this, however, that we soon found out that the best way of giving a cut or a sore a chance to heal was to keep it out of range of the rays."

"Mr. Edison went on to describe various other curious physiological phenomena, and his mind at

that time was really more intent on them than on other conditions to which he was paying attention. I might mention, also, that experimenting with Dr. Morton at the very beginning of the work, that expert was very anxious to know my sensations in the eyes and on the skin when subjected to the X-rays, and I fancy both Mr. Edison and Dr. Morton early discovered the correct *modus operandi* for avoiding the deleterious and apparently poisonous effect of the ray, as I don't know of a single case reported in which the experiments of either of them have resulted badly. The same is true of the work of Prof. Elihu Thomson, except that he deliberately tried to induce on his own hand the worst burning effects in order that he might find out to what they were exactly due." — *N. Y. Sun*.

Spoiling Slot Machines

Somebody Filling Them With Buttons, Washers and Paper Wads

The agents in charge of the slot machines in New Haven, Conn.—phonographs, kinetoscopes, weighing-machines, etc.—have had a great deal of trouble lately in trying to keep them in working order. Urgent calls have frequently come to them from proprietors of places where the machines are in use, with complaints that the mechanism is useless.

In nearly every case the agents have found, when the machine was opened, that the interior had been choked with wads of paper, buttons, leather washers, paper discs and imitation or mutilated, twisted coins. They have come to the conclusion that somebody is making it his business to try to put every machine in the city out of order.

The machines are owned by companies with headquarters in New York, and agents make regular trips to take away the money that they gather, and renew supplies in the machines that sell goods automatically. A share, generally about 20 per cent., is given to the owners of the stores where the machines are placed.

These automatic machines take in a wonderfully large amount of money, and the owners do not generally lose much when they become plugged for the machines have a habit of gathering in the coin first and refusing afterward to perform the expected service. It is only when the deceived customer complains that they know anything about the trouble, so the man or boy that forces paper or other articles into the slots is really defrauding others than the proprietors.

After several days of futile discussion over disputed places in the Memorial Day Chicago road race, the referee has announced that he will waive a final decision until he can view the pictures taken by a kinetoscope, which was stationed at the finishing point. Theoretically this would seem to afford an immediate solution of the difficulty, but the task will probably be far more stupendous than the referee bargained for, as the camera was adjusted at an angle, and the numbers on the contestants' backs will hardly be distinguishable. Claimants who expect vindication by the photographic films will probably be requested to bring forth the costumes worn by them in the race. It has become proverbial that a cycling referee's position is an unenviable one at the best, but this particular gentleman has troubles which render the berth of the average referee one lined with roses and mounted with gold.

New Films for "Screen" Machines

SIXTH U. S. CAVALRY BREAKING CAMP.

Showing this fine body of regulars leaving camp at Weehawken en route for Philadelphia, to take part in the dedication of the Washington Monument at the Quaker City. Life size and fine definition.

CLEARING UP DEBRIS.

A large gang of laborers at work with pick and shovel, loading carts with debris from recent fire on Lexington Avenue, New York City. As each shovelful of plaster and dirt is thrown into carts, clouds of dust arise, adding much to the realistic effects of this scene. The strong lights and shades are most beautifully depicted in this picture, which is a novel subject, and destined to become very popular.

GREATER NEW YORK POLICE PATROL.

Showing several police officers hurriedly mounting wagon, drawn by two very spirited horses, starting from station in answer to a call just rung in. They dash up the street, and are noticed winding their way through a number of other vehicles and trolley cars, in constant danger of colliding, and can be seen receding for at least half a mile up the crowded street. Very exciting. Sharp and clear.

POLICE CALL ANSWERED.

The same patrol wagon and squad returning with prisoner, going by the point at which camera was placed at great speed. The wagon is seen in the distance, and rapidly draws nearer and nearer, until it appears life size on the screen. The determined features of officers and prisoner are easily recognized. Sharp definition.

Note: This picture should be shown following that of the Greater New York Police Patrol, and the two never fail to interest and enthuse an audience.

LITTLE MISCHIEF.

Showing a little girl tickling her papa with a straw, who is endeavoring to read a newspaper. He, supposing it to be a fly, constantly brushes at same, and in his efforts to free himself from the persistent tickling sensation, the chair breaks and he falls over backward, much to the merriment of the little joker. Very sharp and fine for coloring.

NATIONAL DANCE.

By Babe Johnson.

ROSEBUD DANCE.

By Babe Johnson.

TOUGH DANCE.

By Babe Johnson.

The above three dances are executed with much grace and agility by the celebrated little actress and dancer, and will prove highly pleasing to ladies and children. The first two dances are splendid subjects for coloring.

DEDICATION OF THE WASHINGTON MONUMENT.

This scene shows President McKinley pulling the cord unveiling the monument, and presents a fine view of same as the three large American flags used in the ceremony slowly fall to the ground. Sharp and clear.

McKINLEY AT PHILADELPHIA.

This subject shows the President and the trustees of the statue crossing from the monument to the oration stand after the unveiling ceremonies.

S. S. "TEUTONIC" OF THE CUNARD LINE.

The only successful scene of an "ocean greyhound" yet taken, showing the above "floating palace" streaming down the North River on her way to Liverpool. The view is taken at a close range, yet showing the entire outlines and her proportion to other river craft, Jersey City forming a beautiful background. Bound to make a hit.

New Records for Talking Machines

The following list of new records has been compiled from lists sent us by the leading talking machine companies of the United States

A Little Bit of Sweet Stuff. Hunting
 Armor de Madre. Mexican Trio
 As Your Hair Turns White. Gaskin
 At the Fair, Gafop. Columbia Orchestra
 Banjo Duetts. Diamond and Curry
 Bonny Doone. Aeolian Trio
 Black Eyed Sue. Gaskin
 Casey at the Dentist. Hunting
 Come Play With Me. Quinn
 Come, Send Around the Wine. Myers
 Crappy Dan. Spencer
 Dancing in the Dark. Sousa
 Dancing in the Sunlight (Xylophone). Lowe
 Dancing on the Housetops. Issler
 Dear Little Jappy, Jap, Jappy. Quinn
 Departure from the Mountains. Schweinfest
 Don't Tell Her that You Love Her. Gaskin
 Don't Let Her Lose Her Way. Gaskin
 Dream of Passion Waltz. Issler's Orchestra
 El Capitan March Soug. Quinn
 El Curru. Mexican Trio
 Eli Green's Cake Walk. Quinn
 Emmett's Lullaby. Quartette
 Erin, O Erin. Myers
 Eve and Her Pal Adam (Banjo accompaniment). Paine
 Five Minutes Late. Hunting
 Fly Song (Chauncey Olcott's). Myers
 From the Hour the Pledge is Given. Myers
 Girl Who Wou My Heart. Quinn
 Girl With the Naughty Wink. Quinn
 Hannah Thomson. Quinn
 Handicap Rider 167. Quinn
 Handicap March. Diamond and Curry
 He Can Like Kelly Can. Bernard Dillon
 Hiram Wilkins on Superstition. Hunting
 Hiram Wilkins's Girl Hannah. Hunting
 Hot Stuff Patrol (Banjo). Ossman
 I Can't Think of No One But You. Gaskin
 I Don't Care If You Nebber Come Back. Gaskin
 I Dou't Blame You, Love. Gaskin
 I Love One Love. Aeolian Trio
 Irish Come All 'Ye. Annie Hart
 Isn't It Nice to be in Love. Quinn
 Kate O'Donoghue (Chauncey Olcott's). Myers
 Katherine (Yodle). Pete LeMaire
 Kaya Kaya. Quinn
 King Carnival. Quinn
 King Carnival March. Diamond and Curry
 Laughing Coon. Johnson
 Laugh and the World Laughs With You. Myers
 Laughing Song. Geo. W. Johnson
 Lesson in Music. Signor Frejoli
 Loves Whisper. Isslers' Orchestra
 Lulu Song. Spencer
 Man. Hunting
 Mamie Riley. Quinn
 Maybe Mary Didn't See New York. Myers
 Medley Reels (Banjo Solo). Vess L. Ossman
 Medley Parody. Bernard Dillon
 Medley of Coon Songs. Golden
 Mollie Dwyer. Quinn
 Mollie Prancer. Quinn
 Monastery Bells (Orchestra Bells). Lowe
 Murphy's Phonograph. Hunting
 My Jim. Quinn
 My Little Chorus Girl. Quinn
 Nineteen Jolly Good Boys All in a Row. Myers
 Nothing. Hunting
 One Heart, One Mind (Xylophone Solo). Lowe
 Petticoat Lane. Quinn
 Pretty Blue Eyes. Aeolian Trio
 Pretty Molly Dwyer. Quinn
 Say, Are You Single? Hunting
 Series of Imitations. Girard
 Sounds From Home (Orchestra Bells). Lowe
 Spanish Dance (Banjo Solo). Vess L. Ossman
 Sporty Widow Brown. Quinn
 Stars and Stripes March. Issler's Orchestra
 Stephanie Gavotte (Zither). Wormeser
 Sweet Inniscarra. Gaskin
 That's a Nice Situation for a Girl. Hunting
 The Crimson Chain. Gaskin
 The Old Fashioned Mother (Chauncey Olcott's). Myers
 The Pies That Mother Used to Make. Hunting
 The Silly Dinner. Hunting
 There's a Little Star Shinning For You. Quinn
 Yankee Doodle (Banjo Solo). Vess L. Ossman
 Yer Baby's a Coming to Town. J. T. Kelly
 You're a Good Daddy. Gaskin
 You're Not the Only Pebble on the Beach. Spencer
 Whistling Girl. Johnson
 Won't You Be My Little Girl. Gaskin

The Latest Popular Songs

The following is a list of the very latest popular songs published by the leading music publishers of the United States

A Nice Situation for a Girl. Felix McGlellon 3
 A Song of Joy. Wm. Arms Fisher 7
 Ave Maria. C. F. Hanson 7
 'Cause My Baby Loves Me. W. S. Wilson 2
 Come Kiss Me. Rudolph Aronson 3
 Curious Cures. James Thornton 3
 Dar'll Be a Nigger Missin'. Lew Bloom 2
 Darling Mabel. A. J. Mills 2
 Echo Song. Chas. A. Byrne
 Enjoy Yourselves. Dave Reed, Jr. 2
 For Love's Sake Only. Wm. Arms Fisher 7
 Genevieve. Ford and Brattou 1
 God So Loved the World. H. G. Leland 7
 Good Bye Until We Meet Again. Davis
 I Cannot Leave the Old Folks. Ray Wilson 7
 I Have No Sweetheart But You. Kendall
 I Love You in the Same Old Way. Lord and Bratton 1
 I'll Find My Sweetheart Again. A. J. Lamb 5
 I'll Make Dat Black Gal Mine. Dave Reed, Jr. 2
 In After Years. Chas. Graham 4
 Isn't it Nice to be in Love. Geo. M. Cohan. 3
 Isle of Gold. Chas. A. Byrne
 Just Another Girl Who Left a Happy Home. I. S. Reynolds 5
 Just Plain Dora Brown. Edw. Armstrong 5
 Just Set a Light. Henry V. Neal
 Kate O'Donoghue. Chauncey Olcott 1
 Little Willie Knows His Little Book. Edwards and Wilson 3
 Love Diviue, All Love Excelling. Chas. Wesley 7
 Love Me, Love Me. Hugh Morton 2
 Lucky Jim. L. V. Bowers 1
 Lullaby Dearie. W. H. Gardner 7
 Ma Little One. Chas. A. Byrne
 Ma's Little Oue; or, My Baby. Chas. A. Byrne 6
 Mister Johnson, Turn Me Loose. Ben Harney 1
 Molly Magee. R. A. Beale 7
 Mr. Bogan Gimme' Giu. Howard 3
 My Dream. F. H. Brackett 7
 My Dream Came True. John H. Devlin
 My Girl is a Winner. E. Nattes 1
 My Sweetheart Plays the Violin. Dan Packard 4
 Naples. Miss Harriet Rice 7
 Never Kiss a Girl Unless You Love Her. Rosenfeld au Metz 3
 Never to Meet Again. Douglas
 Oh, Maria. Chas. A. Byrne
 Oh! Mr. Nigger. Dave Reed, Jr. 3
 One Must We Be For Aye. O. L. Carter 7
 Pretty Black Eyed Sue. James Thornton 3
 Pretty Mollie Dwyer. Horwitz and Bowers 3
 Queen of the Farm. Herbert Holcombe
 Rose McNally. Ed Rodgers 3
 Rosemary—That's for Remembrance. Douglas 8
 Seud Back the Picture and the Ring. Gussie L. Davis 2
 She's My Warm Baby. Dave Reed, Jr. 2
 She's My Only Sister. Emerick and Bray 4
 Softly in a Dream. Wm. Arms Fisher 7
 Susie Smith From Troy. Chas. A. Byrne
 Sweet Annabel. Douglas
 Sweetheart, Tell Me Again. George Cooper 7
 The Bridegroom That Never Came. Gussie L. Davis 2
 The Blossom Time O' The Year. F. H. Brackett 7
 The Cake Winner. Robert Cone 4
 The Concert Hall Singer. James Thornton 3
 The Crimson Chain. Mark Meridith 3
 The Girl From Paris. Smith and Mann 1
 The Girl Who Won My Heart. Thornton and Willie 3
 The Irish Football Game. Safford Waters 2
 The Lass From the County Mayo. Raymond A. Browne 6
 The New Woman. Chas. A. Byrne
 The Street Urchius Fate. Thos. H. Chilvers 4
 The Village Choir. John Havens 4
 The Warmest Coon in Town. Packard and Cone 4
 There's a Girl in this World for Us All. Davies 8
 There's a Good Thing Gone to Rest. King Collins 1
 There's a Little Star Shinning for You. James Thornton 3
 Tell Me So. Wm. Arms Fisher 7
 Time Will Tell. Harry S. Miller 5
 Truly, Truly. Hugh Morton 2
 Wanted, Some One to Take Me Home. H. Renchard 4
 What Yo' G'wine to Do Foh' Yo' Baby. M. Williams 4
 When All the Rest Forsake You. W. H. Gardner 7
 Wish Daddy Good Luck To-day. Chas. Graham 3
 You'll Find a Girl to Please You Here in Town. Hawley 4
 You'll Have to Choose Another Baby Now. Billy Johnson

Note.—The publishers are designated as follows: 1 M. Witmark & Sons; 2 T. B. Harms & Co.; 3 Jos. W. Stern & Co.; 4 Myll Bros.; 5 Petrie Music Co.; 6 Howley, Haviland & Co.; 7 O. Diston Company; 8 Gagel Bros.

Wants and For Sale

Special "Want" and "For Sale" advertisements will be inserted in this column at the uniform rate of three cents a word, each insertion. Answers can be sent in charge of "The Phonoscope" if desired. All letters received will be promptly forwarded to parties for whom intended, without extra charge.

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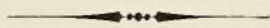


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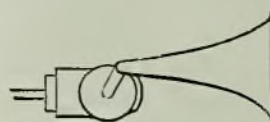
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