

The Scranton Tribune

Daily and Weekly. No Sunday Edition. Published at Scranton, Pa., by The Tribune Publishing Company...

E. P. RINGSBURY, Prop. and Gen'l. Man. C. H. RIPLEY, Secy. and Treas. L. V. RICHARD, Editor.

ENTERED AT THE POSTOFFICE AT SCRANTON, PA., AS SECOND-CLASS MAIL MATTER.

Printed at the office of the Scranton Tribune at the best advertising medium in Northeastern Pennsylvania.

The Weekly Tribune, issued every Saturday, contains twelve handsome pages, with an abundance of news, fiction, and other interesting matter.

The Tribune is for sale daily at the D. L. and W. Station at Hoboken.



SCRANTON, FEBRUARY 8, 1896.

REPUBLICAN CITY TICKET.

For Mayor—E. H. RIPLEY. For Treasurer—DANIEL WILLIAMS. For Controller—F. J. WHIDMAYER.

It is worth noting by self-respecting Democrats that the Democratic campaign managers have taken to their bosoms, and now regard as part of their party.

His Own Master. To defend a man of Ezra H. Ripley's character and standing from the charge, repeatedly made against him by opponents in the majority light, that when elected he would in some manner be "controlled," that in other words he would not be free to act in all emergencies as his own judgment and sound conscience would prompt.

It is noteworthy that most of the politicians who have been or are yet "on the inside" in state politics, scout the idea that Senator Cameron is permanently out of the senatorial race.

An Iridescent Dream.

A number of Chicago gentlemen, eminent in public affairs and actuated by the purest motives, have joined in an appeal to the public asking it to improve the occasion of Washington's birthday on the 22d inst. by holding meetings in all parts of the land and passing resolutions urging that hereafter all differences among the English-speaking races be settled, not by war, but by arbitration.

With the purpose of this movement every intelligent man must be in the highest sympathy. Its aim is in the deepest philanthropic and unselfish. At the same time, it is the simple truth to say that an era of warless arbitration is only an iridescent dream, the mere contemplation of which may give both pleasure and profit, but the realization of which will never be seen this side of the millennium.

Pensions for Teachers.

One of the subjects which may at any time be expected to arise for legislative attention in this state is that of providing state pensions for faithful school teachers incapacitated in the line of long service.

There is a good deal of the Spanish idea of war news in the local Democratic press these days.

Railroads vs. Canals.

Senator Quay's resolution authorizing the appointment of a commission to determine the cost of procuring for the federal government control by purchase of certain interior waterways, notably those between New York harbor and the Delaware river, between the Delaware river and Chesapeake bay, and between the Chesapeake and Albemarle sounds, is understood to be the first step in a general program of proposed internal improvements, for which the senator wants congress to appropriate a certain sum of money yearly for a period of years.

ations are made for those incapacitated from service by accident, severe illness and similar causes. The state retains five per cent. of the salary each month, and also one-twelfth of the first year's salary, and of each subsequent augmentation toward the pension fund. The amount of the pension is calculated at one-sixtieth of the mean salary of the last six years for each year of service, a rating which gives as a maximum annual pension one-half of the mean annual salary.

The general regulations in Prussia respecting pensions for teachers are summed up by Mr. Smith as follows: Twenty-five per cent. of salary after 20 years' service; 50 per cent. after 30 years; 75 per cent. after 40 years, and the full salary after 50 years. The state requires all teachers to pay an annual premium into the pension fund, rated at 1 per cent. of a salary of \$400, at 1/2 per cent. of salaries from \$400 to \$1,000, and 2 per cent. of all higher salaries.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

The average salary of adult workmen is placed at \$2.15 a week, which would give an annual wage for steady work at \$112.80. Against this would be set an annual salary for regular teachers at \$126.76, beside house, fire, garden and fuel for a couple.

should be the first step in a general program of proposed internal improvements, for which the senator wants congress to appropriate a certain sum of money yearly for a period of years. To this end he has unflinchingly suggested the levying of a duty on sugar sufficient to provide special revenue amounting to not less than \$10,000,000 a year.

Should these canals be bought by the government, Senator Quay's plan contemplates their deepening and widening so as to accommodate our vessels of war, thus enabling their transfer without venturing upon the open sea.

Apart from that, the advantages of the plan to general commerce are self-evident. With the great lakes connected by canals with the Mississippi river, and in the turn connected by waterway with the Atlantic seaboard, there would, it is believed, be such a quickening of internal commerce and such a growth of hitherto undeveloped sections as would soon more than repay every cent of the first cost.

The productiveness of what was once known as the "great American desert" has become such as to overtax in ordinary times the best facilities of the common carriers by rail. The rates, too, of long haulage by rail act as a serious impediment to that free and unrestricted internal commerce which is necessary to the fullest welfare of our people.

Many persons believe that the solution of these great inland problems of increasing gravity is ultimately to be found in recourse to the canal system of haulage which was unwisely obscured a generation or so ago by the rush of speculative capital into trans-continental railroads.

While we might have known better than to expect otherwise in a campaign in which its whole stock of argument is abuse and misrepresentation, we have nevertheless been surprised at the decision of the committee of the Scranton Times' gratulation.

Reflections on Senator Vaughan. Even if the Times has no second thought of denouncing an opponent, it should think it would be a political judgment enough to cause it to refrain from issuing a wholesale challenge to his many Democratic friends to show their confidence in his integrity by repudiating at the polls the Democratic campaign organ's unwarranted slanders upon him.

The decision of Judge Mayham declining to grant "Bat" Shea, the slayer of Robert Ross, a new trial, on account of McDough's false confession, is a notification to Senators Murphy and Hill that with respect to the independence of the Empire state judiciary from political pressure or control, "things are different now."

The surprise of London bankers at the success of our popular loan will probably be followed in due season by other surprises of similar import. The United States has played second fiddle to the bankers of Europe long enough to know better.

The decision of the Democrats in the house to vote against censuring Bayard is a sorry illustration of the follies of blind partisanship. Bayard's speech was a national insult, damaging to Democrats no less than to Republicans.

Ex-Collector Cooper nominates Senator Quay for the presidency. The senator will probably prefer to remain quietly in the senate and keep on good terms with the next president.

An apology from Dunraven is necessary only on his own account.

THE NEW SHADOW PHOTOGRAPH.

W. L. C. Stevens, in Troy Times. Several weeks have elapsed since the announcement of Professor Roentgen's discovery of X-rays, which has been taken by utilizing rays that pass through media which to the eye are perfectly opaque. While it is not possible to give an account of the mysterious phenomena which was first afforded in the columns of the daily press.

A familiar lecture room experiment is that of sending an intermittent electric current through a highly vacuous tube, into the ends of which portable electrodes have been sealed. From one of these conductors, called the cathode, colored rays pass in straight lines to the other electrode and to the glass of the tube. These rays, called the cathode rays, are easily deflected from their original course by a magnet. Up to a short time ago it was known that any of the energy from these rays is actually transmitted through the glass otherwise than by the rays themselves. There are certain solids and liquids, such as canary glass, quartz, selenite and kerosene, which are caused by this light to shine with beautiful colors. Such bodies are said to be fluorescent. The well-known Geiger vacuum tubes are often made to include various fluorescent substances, which afford attractive spectacles of color when illuminated by electric discharges from an induction coil. These have been familiar phenomena during the last thirty or forty years. The luminous cathode rays may be reflected from a mirror or conveyed by a lens or stopped by an opaque body or registered on the photographer's sensitized plate.

A short time ago, while producing cathode rays in a highly vacuous tube which was covered with a thin coating of phosphor, Professor Roentgen noticed that an effect was produced upon a photographic plate that happened to be near the tube. He tried to test the efficacy of a variety of protecting screens, and to establish the fact that a mysterious emanation, which he called X-rays, was being emitted from the tube. Some years ago here, the brilliant young physicist, whose investigations in relation to electric waves made him world famous, discovered that cathode rays could be transmitted through opaque metal films, and subsequently as assistants, Lenard, has published many experiments on this subject. Roentgen's discovery, therefore, while entirely original, cannot be called wholly new. He has attained success far greater, however, than any of his predecessors. His results have been already confirmed by several physicists in Austria, Germany, Italy, and he has received a decoration from the German emperor.

All students of algebra are in the habit of using X as the symbol for an unknown quantity. Professor Roentgen calls these newly discovered rays X-rays. They have some properties in marked contrast with common rays of light and X-rays, they have the typical cathode rays from which they are derived. Like the blue, violet and ultra violet waves of common light, they affect the photographic film and excite fluorescence. A card covered with fluorescent material was found by Professor Roentgen to shine in a room otherwise dark when brought near the opaque cathode tube that emitted his excited vacuum tube, and this even when withdrawn to a distance of six or seven feet. Unlike true cathode rays, the X-rays are not deflected by a magnet. Unlike cathode rays and common rays, they are not stopped by a lens. They are transmitted to some extent through thin, but not through thick, sheets of moderately thin masses, such as sheets of ebonite, carbon, copper, aluminum and iron. In addition, they are always accompanied with absorption, even