Diphtheria from Poultry.

In the *Bulletin Medical* of January 22, 1888, Dr. Paulinis publishes an interesting report of an epidemic of diphtheria, occurring in one of the Grecian isles, which lends considerable weight to the arguments in support of this theory. The epidemic began in the summer of 1884, in Skiatos, a small island having a population of about four thousand souls. For over thirty years no case of diphtheria had been seen on the island, according to the testimony of a Dr. Bild, who had practiced there during that time. In the early part of June Dr. Paulinis was called to see a child aged twelve years, suffering from sore throat, and found her tonsils and pharynx covered with false membrane. This child died, and seven other cases occurred in the immediate neighborhood, five of them terminating fatally. The epidemic soon spread through the entire community, over one hundred being attacked, and thirty-six dying during five months.

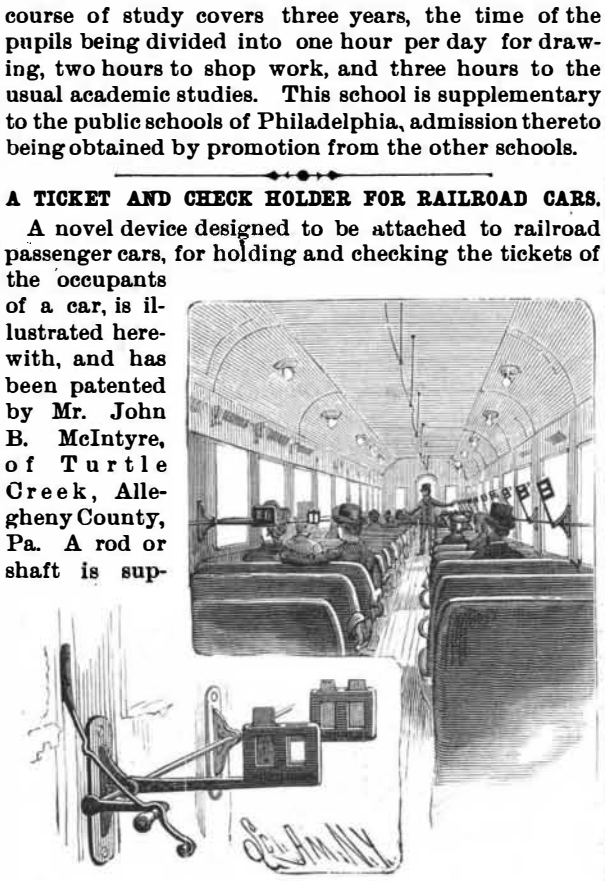
An examination was made to discover, if possible, the source of the disease, and it was found that a flock of turkeys had been received some three weeks before from Salonica. Two of the turkeys were sick on their arrival, and each of the others was attacked in succession. Dr. Paulinis found two of them still sick, and inspection showed patches of pseudo-membrane on the mucous membrane of the vault of the palate and of the pharynx. On detaching strips of the exudation by the forceps, the mucous membrane beneath was seen to bleed slightly. The glands of the neck were swollen, and in one of the fowls the diphtheritic process had extended to the larynx, as was shown by the hoarseness of the cry and evident dyspnœa. One of the turkeys, which had recovered from the throat affection, suffered from paralysis of the legs, being unable to walk. The garden where the turkeys were was at the northern extremity of the town, and the first children attacked were in the immediate neighborhood. There had been no immediate contact between the fowls and the children, nor between the first child attacked and the others, but there was a north wind blowing the greater part of the time, and the author believed that it was in this way that the disease was spread. He concluded, from this experience, that the diphtheria of the ordinary barn yard fowls was similar in its course and symptoms to the disease occurring in man, and that it could be carried from the one to the other, sometimes through the medium of the air.—*Medical Record.*

The Philadelphia Manual Training School.

The second annual catalogue of this institution affords evidence that its work is now well under way, there being 283 students in the school. The school affords an opportunity to those who have finished the ordinary grammar school course to continue their literary, scientific, and mathematical studies, and also receive a course in drawing, and in the use and application of tools in the industrial arts. The combined course of study covers three years, the time of the pupils being divided into one hour per day for drawing, two hours to shop work, and three hours to the usual academic studies. This school is supplementary to the public schools of Philadelphia, admission thereto being obtained by promotion from the other schools.

A TICKET AND CHECK HOLDER FOR RAILROAD CARS.

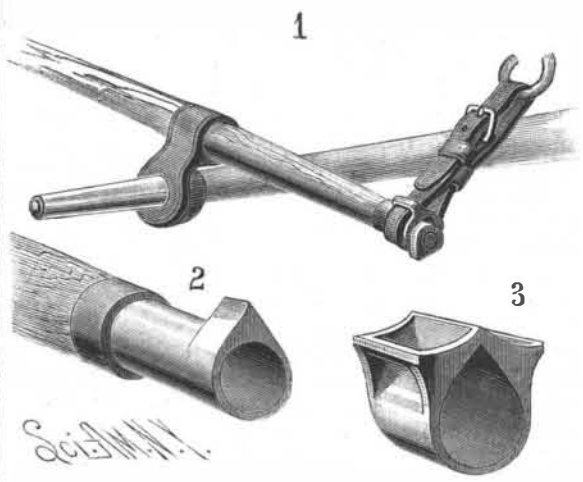
A novel device designed to be attached to railroad passenger cars, for holding and checking the tickets of the occupants of a car, is illustrated herewith, and has been patented by Mr. John B. McIntyre, of Turtle Creek, Allegheny County, Pa. A rod or shaft is supported in suitable holders lengthwise on each side of the car, above the seats, the shaft carrying perforated ticket receivers, which, on turning the shaft in one direction, are lowered, and on turning it in the opposite direction are raised to be out of the way. These ticket receivers are on the ends of short arms secured to the shaft, one arm with a receiver for two tickets for each double seat, the tickets being plainly seen through openings in the receiver. Each shaft has an end crank or bent portion, upon which a spring catch engages to hold the shaft in a position that will keep the ticket receivers raised or out of the way, or turned down to receive the tickets, as when a conductor is passing through the car and punching them; the conductor, after lifting all the tickets in the car, operating the crank end of the shaft to lift the ticket holders out of the way.



McINTYRE'S TICKET HOLDER FOR RAILROAD CARS.

AN IMPROVED NECK YOKE FASTENING.

A detachable fastening, whereby the strap connecting the ends of the neck yoke with the harness collar need not be buckled or unbuckled, but can be simply attached or detached, is illustrated herewith, and has been patented by Messrs. Adolph P. and William C. Koch, of Effingham, Ill. It is a metal sleeve of novel form, shown in Fig. 2, adapted to receive and retain a collar strap, and to slip over the ferrule or point on the end of a neck yoke shown in Fig. 3, the ferrule having a projection on its end corresponding in form with a recess in the sleeve. In use the collar strap is attached to the detachable sleeve, which is then slipped over the ferrule while its point or projection is turned upward, to permit its passing through the corresponding recess in the sleeve, after which it is turned down to the position shown in Fig. 1, by which the sleeve is securely held in position on the neck yoke, being disengaged by reversing this operation.



KOCH BROS.' NECK YOKE FASTENING.

Proposed Increase in the Patent Office Staff.

A correspondent of the New York *Tribune* says: An item in the legislative appropriation bill, which was lately submitted to the House by the appropriations committee, provides for the appointment of thirteen additional examiners for the Patent Office, and for twelve more $1,200 clerks. The committee has also so shaped the appropriation for the Land Office that the law providing for the evicting of the Land Office from the Interior department building in December must be enforced. This will in itself accomplish much toward heightening the efficiency of the Patent Office force, which has been crowded together until the breathing of foul air and the necessity of climbing over somebody every time one moved from his seat seriously interfered with the progress of the work.

Two of the new positions thus provided for will be for principal examiners, and thus two new divisions will be created to aid the present twenty-nine divisions in disposing of the ever increasing volume of business pouring in upon the office. Mr. Butterworth, of Ohio, who was Commissioner of Patents under President Arthur, introduced the matter to the attention of the committee and procured the incorporation of the above provisions in the bill. If he was as successful in convincing the members of the House at large that the Patent Office should be run upon a non-partisan basis for the benefit of American inventors, who pay the bills, as he was in driving that point to the mental consciousness of his colleagues on the appropriations committee, Saturday, that item of the bill will go through untouched. It certainly does seem absurd that any picayune considerations of "reform" economy should keep Congress from appropriating sufficient sums out of the money which inventors pay into the treasury promptly to transact the joint business of the inventors and the government.

All salaries and expenses of the Patent Office, together with expenses of conducting and maintaining the great building popularly known as "The Patent Office," but which also contains the office of the Secretary of the Interior, his assistant secretaries, and clerks, are paid out of the patent fund. This fund is replenished by the fees paid by the inventors at various stages of Patent Office action upon their applications for patents. Not a cent comes out of the government's pockets for the support of the Patent Office. On the contrary, the surplus of the fund is continually increasing, and is now about $3,000,000. This vast amount of money sucked from the pockets of American inventors—who are generally poor as church mice—lies idle in the treasury, while their business in the Patent Office is so far in arrears through an inadequate force and inadequate accommodations that in some cases six months pass after an application has been filed before it is heard from, and after that a period of three months must elapse after each letter written in the case by the inventor before he gets an answer. Consequently, where there happens to be a difference of opinion between the examiner and inventor as to the scope of his claims, the case may drag on for years, while the new art is advancing at the rapid rate of mechanical development of the present age, some other inventors are coming in with conflicting applications, and endless confusion results, to the loss of the inventor, the vexation of the examiner, and the fattening of the patent lawyer. One can imagine the high rate of speed with which an argument advances, when three months pass between the statement of each proposition and the answer thereto.

In the face of all this the appropriations committee every year cuts down the salary of the principal examiners in the Patent Office to $2,400, while the law says they shall be $2,500, while chiefs of divisions in the treasury of the same rank get the full $2,500 for work which does not require the abilities and special knowledge called out in the daily decisions in the Patent Office upon rights involving thousands of dollars, and turning upon the finest legal and scientific points; and while the surplus Patent Office fund goes on accumulating.

Fluorine a Universal Solvent.

Iron gives an interesting account of what it calls the universal solvent, and which it declares, though long known to modern chemistry, has only just been separated, and cannot even now be retained in its isolated state, simply because it destroys everything. This fury of the chemical world, it goes on to say, is the element fluorine. It exists peacefully in company with calcium in fluorspar, and also in a few other compounds; but when isolated, as it recently has been by Henri Moissan, it is a rabid gas that nothing can resist. It combines with all metals explosively. When they are already combined with some other non-metallic element, it tears them from it and takes them to itself. In uniting with sodium, potassium, calcium, magnesium, and aluminum the metals become heated even to redness by the fervor of its embrace. Iron filings, slightly warmed, burst into brilliant scintillations when exposed to it. Manganese does the same. Even the noble metals, which at melting heat proudly resist the fascinations of oxygen, succumb to this chemical siren. At a moderate temperature glass is devoured at once, and water ceases to be water by contact with this gas.

AN IMPROVED HAND DRILL FOR MINERS.

A device which permits a quick and sure adjustment of the drilling tool and the drilling post for hand drilling is illustrated herewith, and has been patented by Mr. James O. Patridge, of Wellston, Ohio. The post consists of two uprights connected at the bottom by a cross piece having a downwardly extending point, the cross piece at the upper end having a square aperture into which fits a hollow bar with teeth on one edge adapted to be engaged by a supporting plate, the bar being internally threaded to receive a screw rod having a point on its upper end, and with handles for turning the rod in the threaded bar, whereby the post is firmly fixed in position by the points being forced into the bottom and ceiling or sides of the mine. The two uprights of the post have apertures in their front edges in which is held a vertically adjustable nut of peculiar construction, into which screws the threaded shank of the drilling tool, the nut consisting of two parts hinged together so that one part can be thrown open for the admission of the drilling tool. With this construction the post can be quickly and accurately fixed in varying locations, and the drilling tool placed ready for work in any desired position.

PATRIDGE'S HAND ROCK DRILL.