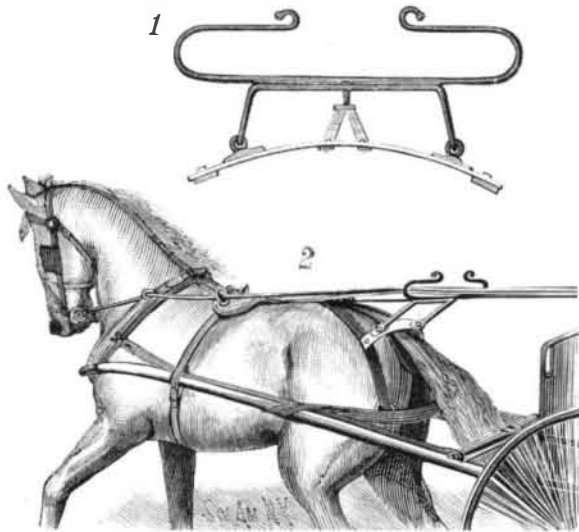


**REIN SUPPORT.**

The object of the invention herewith illustrated is to provide a device for holding the reins in such a manner that the horse cannot throw its tail over them. Each end of a U-shaped bar is provided with a leg, the lower ends of which are held on a plate fastened on a cross strap uniting the two hip straps. A brace rod extends from the middle of the bar to the back strap, and is of such length that the legs will be inclined upward and outward, as shown in the cut. On the bar is secured a rod which is parallel with the dashboard,

**HOYT'S REIN SUPPORT.**

and the ends of which are bent upward and toward each other to form loops (Fig. 1) that prevent the reins from sliding off the rod. The use of this device not only increases the comfort of the horse and relieves the driver of much care, but prevents the "cutting up" which many horses indulge in when they get their tails over the lines.

This invention has been patented by Mr. Edwin A. Hoyt, of Lebanon, Ill.

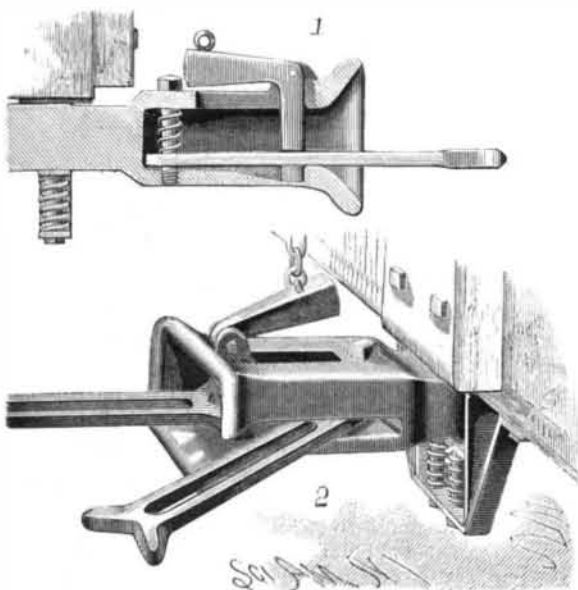
**The New City Hall, Philadelphia.**

This splendid edifice, now progressing toward completion, will have the highest tower of any structure in the world. The building is 489 feet 6 inches from north to south, and 470 feet from east to west, covering  $4\frac{1}{2}$  acres of ground. The width of the main tower is 90 feet at the base, and its height 537 feet 4 inches. The center of the clock face will be 361 feet above the pavement.

**CAR COUPLING.**

The drawhead of the coupling—shown in sectional elevation in Fig. 1 and in perspective in Fig. 2—is provided with two longitudinal slots, one in the top and one in the side. In the upper surface of the bottom is a groove, at the front end of which is formed a shoulder. Pivoted in the forward end of the upper slot is an L-shaped coupling pin whose vertical shank extends to the bottom of the groove and whose horizontal shank is weighted. Through the inner end of the slotted link passes a bolt carrying a spiral spring that presses the end of the link on the bottom of the drawhead. On the outer end of the link are formed prongs, which project in opposite directions. The inner end of the drawhead rests upon a cross plate sliding in a frame secured to the car, and is pressed upward by springs.

When the link enters the drawhead, the end strikes the vertical shank of the pin, which swings inward; when the end of the pin has passed, the pin swings back and through the slot in the link. Each drawhead holds a link, and as only one is used in coupling, the idle one is swung out of

**SPENCER'S CAR COUPLING.**

the way through the side slot. When the drawhead is to be connected with a car having one of the usual drawheads, a link is used having one end formed in the usual manner and the other end forked.

This invention has been patented by Mr. C. B. Spencer, of Spiceland, Ill., and particulars may be obtained from Mr. S. G. Hastings, of same place.

**Stripping Photo Films.**

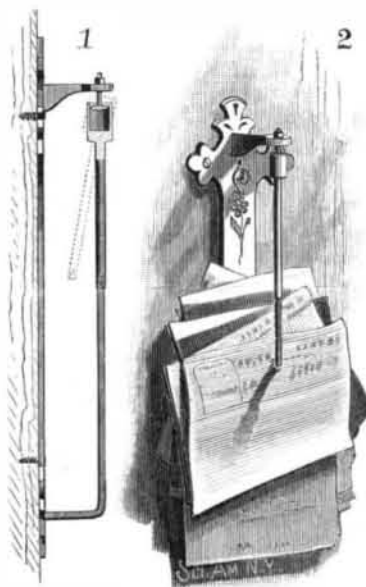
Take a developing tray larger than the negative to be stripped, pour in sufficient water to cover, and, for a whole plate, drop in eight or ten drops of hydrofluoric acid (the exact quantity cannot be given, as the strength of the acid is constantly diminishing, though kept in a gutta percha bottle), place the negative in the acidulated water, and in a minute or two the film will frill all round the edges and gradually leave the glass. If the operation is slow, add two or three more drops of acid, and gently rock.

When the film is loose, hold it at one end and pour off the acid water, and wash by repeated changes of water; this lengthens the film wonderfully, but if the last washing is done with equal parts of methylated spirits and water, it will return to its original size. This may be varied considerably by using more or less spirit. But on no account should undiluted spirit be used, as it makes the film coil out of all control.

Clean a plate with nitric acid—larger than the stripped film—dust with French chalk, polish with a dry cloth, and with a wet one wipe a quarter of an inch all round, coat with plain collodion, and when set, or even quite dry, introduce under the film. Adjust the film, and with a little care there will be no bubbles. Allow the film to dry, and coat with plain collodion. When this is dry, run a sharp penknife three-eighths of an inch from edge of plate, and you have the gelatine film between two collodion films, impervious to moisture, quite flat, and may be printed from either side. The acid is so dilute that any developing tray may be used.—*Photo. News.*

**PAPER FILE OR HOLDER.**

An improved file for filing bills, notes, and other papers has been patented by Mr. Oscar H. Gehrs, of Marine, Ill. From the upper end of a plate projects an arm, in the outer end of which is held a short rod having a button formed on its lower end. From the lower part of the plate a rectangularly bent wire extends upward, the free end of which is

**GEHRS' PAPER FILE OR HOLDER.**

pointed. A tube, or a rod having its lower end hollowed out, is provided at its upper end with a cup in which the button closely fits. When a paper is to be filed, the tube is moved upward and slightly to one side (as shown by the dotted line, Fig. 1), when the paper is passed upon the wire in the usual manner. The end of the tube is then placed on the pointed end of the wire to prevent the paper coming off.

If any desired letter is to be taken from the file, the letters above the one to be removed are pushed upward on the tube, which is then swung from the wire to allow the removal of the letter.

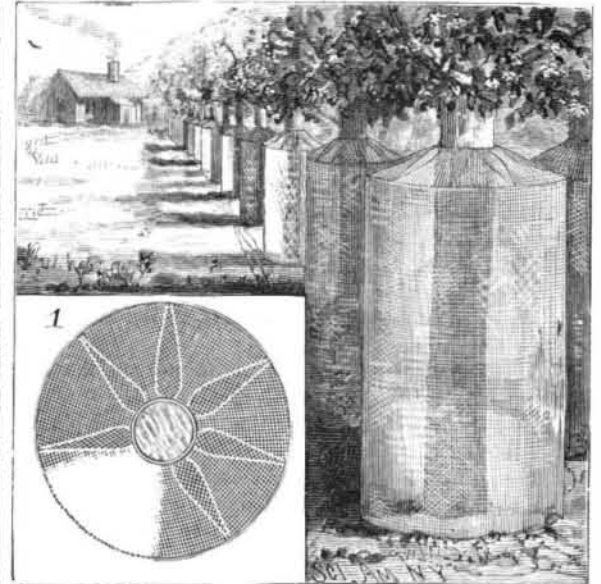
**The Cholera in Southern Europe.**

Cholera seems, from what we glean from foreign sources, to be passing away from Southern Europe. But our Continental exchanges still discuss the subject, and the people in many places exhibit the greatest alarm.

Dr. Vulpian does not venture on any forecast as to the probable course of the cholera epidemic, but he says that subcutaneous injections of morphine are the "grand remedy" on which the faculty mean to rely should the cholera make its way to Paris. Professor Germain-See was the first to witness the arrival of the cholera in Paris in 1865. It was brought into the city by a gentleman residing in the Boulevard Malesherbes, who had been to see his daughter in Amiens, where the scourge was raging. He died of it, and the whole of the quarter in which he lived became speedily contaminated, while the poorer quarters of the city enjoyed comparative immunity from the disease. Nervous people will derive comfort from the Professor's assurance that fear is quite incapable of producing the malady; and if, as is now practically proved, cholera is caused by the introduction of a specific microbe into the system, the statement may be accepted without hesitation. It is obvious that no extremity of nervous terror has the power to generate the smallest animalcule. Asiatic cholera was unknown in Europe before the year 1829-30, although it had existed in India for many centuries.

**TREE PROTECTOR.**

The tree protector shown in the engraving, recently patented by Mr. T. J. Longacre, of Kingsville, Missouri, is cheap, easily made and put in place around the tree, and forms a sure safeguard against damage from mice, rabbits, tree worms, and other pests. Plain, galvanized, or painted wire cloth of a fineness of mesh suited to the purpose is bent

**LONGACRE'S TREE PROTECTOR.**

so as to encircle the tree, the edges being sewed together with fine wire or cord.

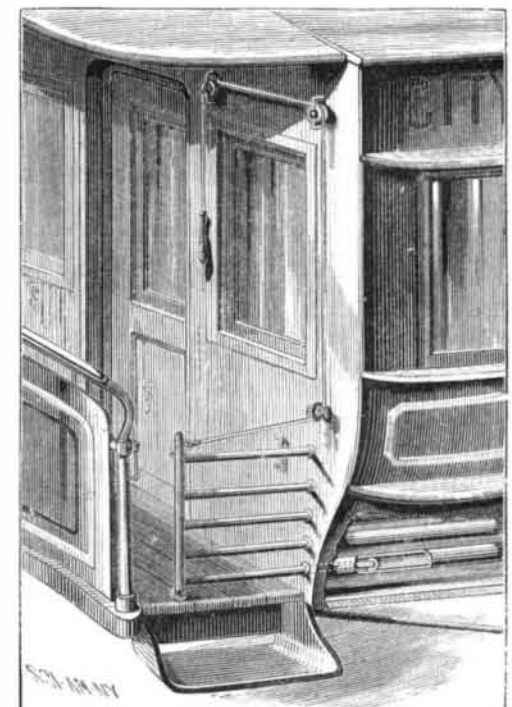
The top is bent into a conical shape, the inner edge being close to the tree, and is creased to form radial ridges which, after the protector has been placed in position, are pressed down flat. This shaped top permits it to expand with the growth of the tree. The lower edge of the protector is placed in a shallow trench.

**CAR GATE.**

In the side wall of the car is inserted a series of tubes screwed into a plate, the openings in which are smaller in diameter than the tubes, in order to prevent the withdrawal of the bars. The gate is composed of bars projecting through the end wall of the car into the tubes, and secured at their outer ends to a vertical bar. The inner ends of the bars are provided with rollers to steady them in the tubes, and the vertical bar is furnished at its lower end with a roller that rests upon the car platform, and supports the outer end of the gate. The gate is formed with an eye in which engages either of the hooks attached to the end of the car and to the platform rail, to hold the gate in either an opened or closed position. A cord, secured to the upper end of the vertical bar, extends under a pulley attached to the wall of the car, and over pulleys which bring it within easy reach of the conductor; by pulling this cord the gate may be opened.

This car gate is applicable to street and railway cars and platform exits, and may be applied without material change either in the cars or in the building. It may also be adapted to elevator doorways.

Further particulars regarding this device may be obtained

**HUGHES' CAR GATE.**

by addressing the inventor, Dr. C. H. Hughes, 3000 Chestnut Street, St. Louis, Mo.

THE sagacity of birds is illustrated by a pair of orioles in the Central Park, this city, who built their nest on a twig which they found too weak to support it. By means of a string ingeniously secured to the twig and branch above, the nest was properly secured.