afterward give a coat of paint, so that he may finish the puttying the next day; now it has been puttied twice before the first has had time to dry, and consequently will show every place where there is a nail or screw, because no precautions have been used against it.—*Carriage Monthly.*

NEW HUSKING GLOVE.

The engraving shows a device for protecting the parts of a glove most exposed to wear in husking It is applied to a glove of ordinary make, and consists of a coil of wire surrounding each finger and the thumb of the glove. The coils are fastened at the front and back by means of small metal clips riveted to the glove. These clips are sustained by straps fastened to the same rivets, and extending down the back of the glove to a point near the wrist, where they pass out through slits in the glove, and are received by buckles attached to the wrist portion of the glove, so that the straps can be tightened or loosened to sustain more or less of the strain on the fingers and back of the glove.

This invention was lately patented by Mr. J. F. Glidden, of De Kalb, Ill.

Arsenic and Vanadium in Caustic Soda.

Since caustic soda is no longer exclusively made from crude soda and lime, but is also produced directly from red liquor, the product is often contaminated with undue proportions of chlorides, sulphates, carbonates, even nitrites, and sometimes cyanogen compounds. The author has now also met with arsenic and vanadium in caustic soda. The latter impurity may be disregarded, being rare and very minute; but the former is more serious. A sample of this caustic soda, dissolved in dilute sulphuric acid, and the solution tested directly in Marsh's apparatus, yielded a strong arsenic mirror. Assay by means of precipitation with hydrosulphuric acid, etc., yielded 0·16 per cent of arsenic acid. The same sample contained also 0·014 per cent of vanadic acid. The latter may be recognized by passing through a solution of the caustic soda a current of hydrosulphuric acid, when the liquid will finally assume an intense reddish-violet. This is filtered and acidulated with dilute sulphuric acid, when a precipitate will be obtained, which, after being washed, will produce with borax a yellow bead in the outer blow-pipe flame, and a green bead in the inner. On heating the precipitate in the air, a reddish-yellow mass is obtained, which is soluble in ammonia with a yellow color. The latter solution, slightly acidulated with hydrochloric acid, yields a bluish-black precipitate with infusion of nutgalls.—*Dingler's Pol. Jour.*

NOVEL TROTTING SULKY.

The axle of the sulky shown in the cut is curved upward and extends over the horse. The horse travels between the wheels, and the driver's seat is at the summit of the axle.

The shafts, formed of a continuous piece, meet in a curve at the rear of the horse, and are attached to the axle at a suitable height.

To prevent the irregular movements of the horse's body from being transmitted to the vehicle, the inventor attaches springs to the upper and lower side of each shaft and to the harness saddle.

It is claimed that this improved sulky is safer than those of ordinary construction, and enables the horse to make greater speed.

This invention was recently patented by Mr. C. F. Stillman, of Plainfield, N. J.

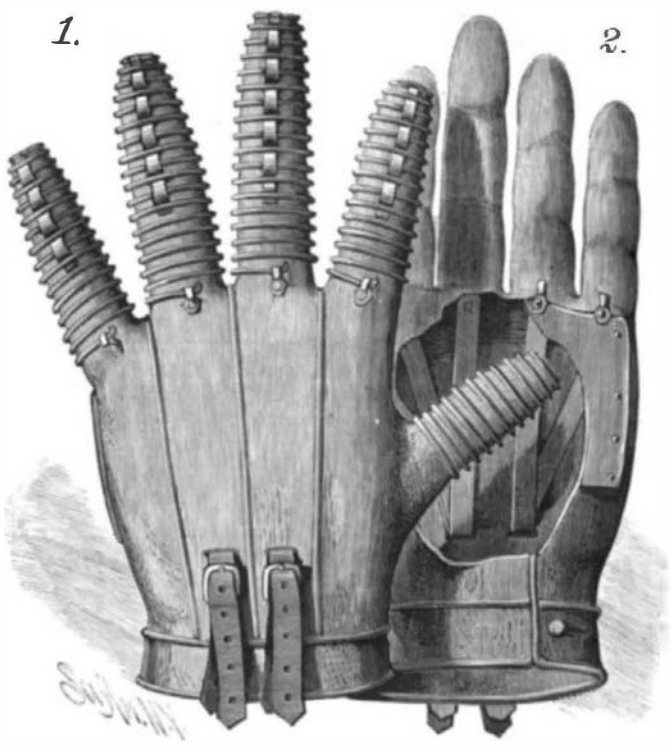
A Plague Among the Violets.

Another interesting problem for microscopists to solve is the cause of the disease which has broken out among the violets, an account of which was lately given by a leading florist.

When the disease commenced its ravages, some three years ago, violet growing was so far in the hands of a single producer that he had won the titular dignity of the violet king among New York florists. His vast plantation was wrecked in one summer, and he was financially prostrated by the operations of an invisible enemy. The season had been rather dry, and the blight was attributed in this special instance to the substitution of well for brook water in irrigating the plants. Experience soon furnished an emphatic negative to this theory, and showed that the disease was a true blight, like the potato rot, the vine disease, the pear tree blight, and similar destructive agencies that infest the vegetable kingdom. In the violet the disease makes its appearance while the plants are in blossom. The first symptom is the development of nearly circular spots on the petals of the flower, which resemble the spots caused by the concentration of the beams of the sun upon the surfaces of the leaves of plants by the refractive agency of raindrops after a summer shower, the globular and lenticular shape of the drop rendering it equivalent to a minute burning glass, concentrating the rays of the summer sun upon the surface beneath, and completely destroying the delicate vessels thus exposed to intense heat. After this symptom appears, the destruction of the plant is a question of a few hours only; the leaves become limp and wilted, the stem withers from the root, and the delicate organism is soon transformed, from the minutest rootlet to the tip of the leaf, into a dry and lifeless effigy. The origin and natural history of the violet blight have not yet been investigated.

Poisonous Perfumes.

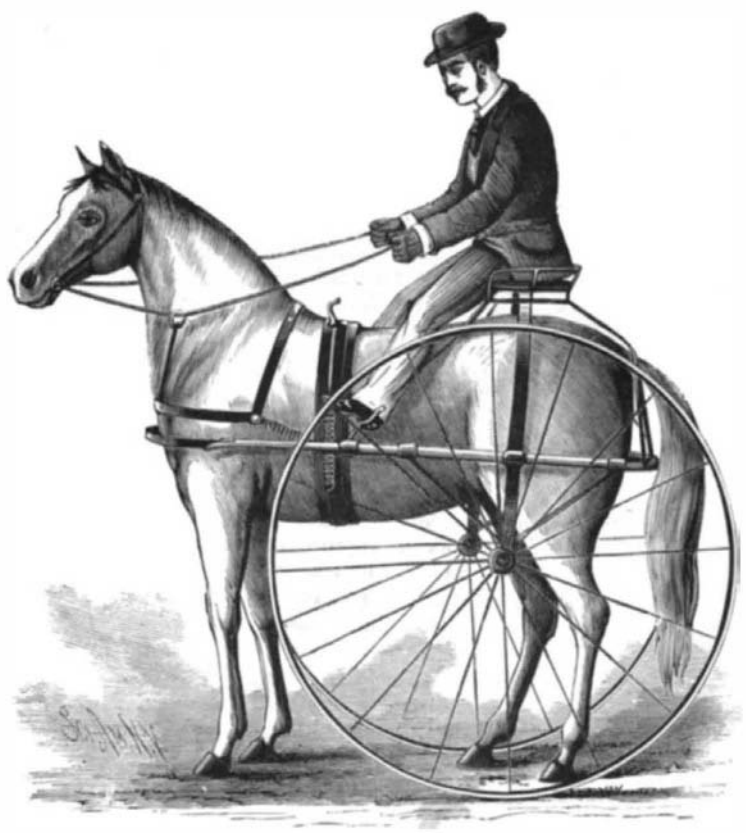
Various cases of poisoning from the use of perfumes have been reported in recent English journals. In one instance a little girl had bought some heliotrope perfume at a bazar, and had applied it on her face. This caused a vesicular eruption, swelling, itching, and in fact erysipelas, which lasted for some time. The scent was made with some of the products of coal tar, and not with the odoriferous principles of plants, thus acquiring its irritating properties.



GLIDDEN'S HUSKING GLOVE.

MECHANICAL INVENTIONS.

Mr. Andrew Hein, of Trenton, Mo., has patented an improved vehicle wheel, by which friction is reduced. The object of this invention is to facilitate the construction and easy running of vehicle wheels. The invention consists in providing the hub of the wheel with metallic bands having end cups adapted to contain boxes that carry rollers which bear on the inner circumference of the said cups or hub band extensions. The whole weight of the axle and the load supported by it rest on the rollers which run on the inner faces of the cups, so that the vehicle wheel will move more easily.



STILLMAN'S TROTTING SULKY.

A very simple and useful improvement in clocks for night use has been patented by Mr. Ferdinand A. Jaekel, of Cincinnati, Ohio. The object of this invention is the production of a clock the dial and hands of which may be projected upon a canvas or similar surface, like the pictures of a magic lantern, so as to be plainly visible at night. The invention consists in a transparent dial behind which is to be arranged a light, and which has a central stud that carries two wheels, arranged one behind the other, the central portions or bodies of which are also transparent, and have delineated on them, respectively, an hour hand and a minute hand. These wheels mesh with cog wheels on the hand arbors of a clock movement, which may be supported by a stand formed by a chamber for holding the light in rear of the transparent dial. By this construction and arrangement, all the advantages of an illuminated clock are obtained at a comparatively small cost.

An improvement in thill couplings, which provides for a ready and convenient coupling and uncoupling of the thill, firmly holds the latter to the axle, and avoids accidental uncoupling, has been patented by Mr. Harbert K. Forbis, of Danville, Ky. In this invention the thill is united to the jaws of the clip by a bolt or pintle which has an angular arm fast on its back end. This arm, when the thill is coupled, rests on the axle, and is held against the same by a spring latch bolt, the nose of which is beveled to permit of said bolt being forced back by the arm when the latter is adjusted to bear on the axle, after which the spring shoots the bolt and locks the arm. This prevents the removal of the pintle except by holding back the latch bolt and moving the arm of the pintle away from the axle.

A very useful invention, in the shape of a square attachment for saw blades, has been patented by Mr. Thomas U. Mekeel, of Poughkeepsie, N. Y. In this invention the heel portion of the blade of a handsaw has attached to it, by a pin passing through the blade, two bars or strips, that is, one on each side of the blade. These bars are formed with their edge or face toward the point of the saw straight and true. They constitute the head of the square or bevel, and can be turned on the pin which attaches them to the blade, either one independently of the other, to bring their faces at any angle to the back edge of the saw. Ordinarily they will be retained at right angles, in which position they may be held by a spring catch. This invention combines two tools that are generally used together, and the attachment, which is inexpensive, can be readily applied without injury to the saw blade. If desired only one pivoted bar may be used.

Mr. William C. Jones, of Coffeeville, Miss., has patented an improved baling press. The press, which is of a very strong and durable construction, offers every facility for baling cotton and other substances with precision and dispatch. It comprises a stout frame having an upper baling box, which is open below for reception of the follower, and has its sides and ends hinged to open downwards for convenience in removing the bale. Said ends fit grooves formed in the sides, and the latter when closed are secured by hooks. The head block fits within rabbets in the frame to allow it to be slid out for convenience in inserting the material to be pressed. The follower is worked up and down by a rotating screw box formed by the hub of a crown wheel, driven by a pinion, on the shaft of which are large and small pulleys for giving a slow pressing movement and quick return action of the follower.

Mr. William W. Wythe, of Ocean Grove, N. J., has patented an improved speed recorder for railway trains. In this improved apparatus the drum, which carries the chart, receives its motion from the axle of a car, by an eccentric on the axle acting against one or other of two pawls attached to levers on opposite sides of the axle, and provided with disks which operate respectively, according to the direction in which the car is moving, upon one or other of two elastic chambers that compress the air within them. These chambers are connected with two other flexible chambers that act upon levers having pawls which engage with a wheel of a train of gear to rotate the drum in either direction. A pencil moves over the ruled paper of the rotating chart in such manner that the diagonal lines produced are in the direction in which the train is moving, thereby obviating confusion in reading the record. This movement of the pencil is effected by a combination with a loose spur wheel of pinions, a spring operated detent, cord, spring drum, and other devices controlling a pencil-carrying rack bar. In this speed recorder compressed air is used not only to produce the movement, but also to indicate the direction of the prime mover.

Mr. James C. Scott, of Manchester, England, has patented an improved dividing engine, which is very ingenious. The invention consists in an arrangement whereby change wheels are dispensed with and an increased accuracy of division is secured. This is accomplished by causing the handle which gives motion to the movable part always to start from the same point, and to finish, after the required number of turns and fractions of a turn, against an adjustable stop on a graduated disk, after which it is turned in the reverse direction back to the starting point, which is a single notch in the disk that a spring-trigger in the handle