

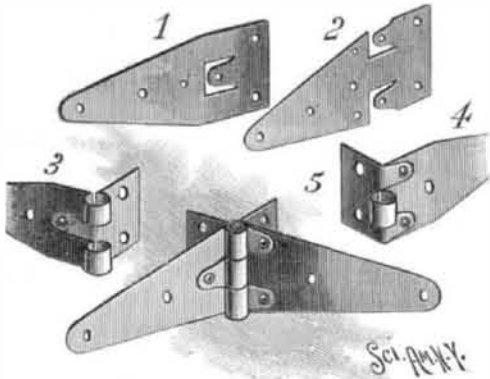
**Keep on the Alert.**

The manufacturer who hopes to hold his own in the fierce competition which characterizes modern industry must of necessity keep a sharp lookout for valuable improvements in machinery, and must introduce them promptly when they are presented. The movement of the industries is always forward. Thousands of ingenious minds are continually studying out methods for making processes easier and more economical. Every month some kind of a device for bettering the way of doing a thing, or for saving a little labor, is patented. The manufacturer who simply ignores these things, and runs along heedlessly in the old way, with the old devices, will be left behind and beaten as surely as the earth rolls around the sun. A mill built and filled with machinery twenty years ago, and left unimproved, could not begin to compete with a modern mill containing all the new mechanical improvements. And the way to keep a mill properly from deteriorating is to add every important improvement as it is put on the market. The most successful mills are the mills that do this very thing; and they succeed because they do it.—*The Cooper's Journal.*

**IMPROVED HINGE.**

One blank, Fig. 1, has a U-shaped slot forming a tongue, and the other, Fig. 2, has two L-shaped recesses in the side edges, forming two tongues at the sides. The first blank is then bent at right angles to form the two loops, Fig. 3, and a short wing at right angles to the long wing, the tongue being riveted to the latter. The second blank is bent to form one loop, Fig. 4, and a short and long wing, and its tongues are riveted as shown. Holes for nails or screws are provided in the wings. The two parts of the hinge are put together as shown in Fig. 5.

By making the tongues, waste of material in cutting or punching the blanks is avoided, and the sections are strengthened and stiffened at the angles.

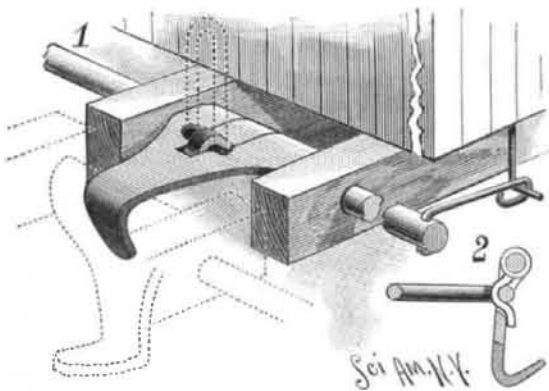
**WHEELER'S IMPROVED HINGE.**

Nails can be used for fastening the hinge as well as screws, as there is no strain in the direction of their length and they are not apt to be pulled out by the hinge. As each section has two wings, one wing can be fastened on the face of the door or window and the other on the edge.

This invention has been patented by Mr. Ferdinand Wheeler, of Pine Grove, Pa.

**CAR COUPLING.**

The car coupling herewith illustrated can be operated from the side of the car, thereby obviating the danger attending the coupling of cars in the usual way. In the buffers projecting from the end of the car frame is journaled a shaft which extends to the sides of the car. On the shaft between the buffers is secured a hook,

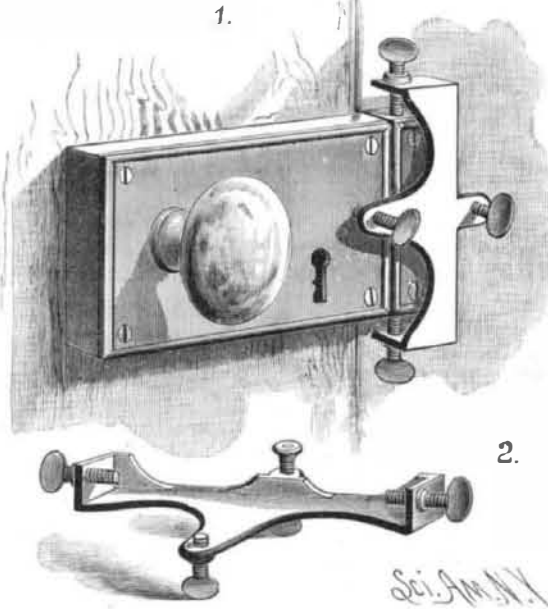
**CARRUTHERS' CAR COUPLING.**

shaped as shown in the cut. In a slot in the hook is an arm so arranged as to carry an ordinary coupling link, as shown in the sectional view and by the dotted lines in Fig. 1. In the ends of the shaft are holes to receive a rod formed with a loop at its free end, by which it is operated. In the side of the car is a hook for holding the handle rod in a horizontal position. When two cars provided with this coupling are brought together, the hook of one car is dropped over the body of the other hook, which hangs down as indicated by the dotted lines in Fig. 1. This coupler, which is the invention of Mr. G. F. Carruthers, of Winnipeg, Mani-

toba, Canada, can be made of rough material without any special finish; it requires but one hand of the train man to operate it, and it adjusts itself automatically to the vertical and lateral movements of the car.

**DOOR SECURER.**

This device is designed more especially for travelers, being so arranged that it can be quickly and easily

**SIMON'S DOOR SECURER.**

secured to the keeper of an ordinary lock, in which position it will effectually prevent the opening of the door from the outside. The attachment consists of a malleable iron plate formed with corner pieces and a central flange as shown in the cut. The attachment is held to the keeper of the ordinary form of rim lock by screws that pass through the end pieces. Passing through a projection in the middle of the side is a screw provided with a rubber buffer upon its inner end, which bears against the door casing; a screw passing through the inner edge of the plate strikes against the face of the lock, so that there can be no possible play between the attachment and the door, which cannot then be opened from the outside.

This invention has been patented by Mr. Michael Simon, of Millersburg, Ohio.

**Ventilation by Flues.**

The *Sanitary News*, of Chicago, having the inquiry if a bath tub, water closet, or sink connecting with a cesspool 30 feet away would be best ventilated if the ventilator pipe was run up through a chimney or along outside of it, submitted the communication to the Department of Health. Mr. De Wolf, the Commissioner, replies as follows: "If you mean to run the pipe into and up through the smoke flue, I unhesitatingly say, do not do it. First, because this permits the pipe to become unduly heated, thereby causing a very rapid upward movement of the air within the pipe, very often so rapid as to cause the entire sewage in the horizontal drain and connecting traps to become frozen in the winter months. Second, because of the destructive action upon iron pipes of sulphur compounds and other gases generated in the combustion of coal, which in a comparatively short time "honeycombs" or perforates the pipe, thereby permitting drain air to be discharged directly into the building during fluctuating currents (at times when flues are not heated). Third, because of the possibility, if not probability, of concealed work being imperfectly done. The best method is to carry the drain vent pipe outside of but near to a heated flue, and continue same to a proper distance above the roof of building.

**Diversity of Opinion.**

The *Pharmaceutical Record* says that editing a paper is a pleasant business—if you like it. But, like most other occupations, there are some annoyances.

If the type is large, it don't contain much reading matter.

If we publish many formulæ, says the editor, folks say they are not reliable.

If we omit them, we have no enterprise or are know-nothings.

If we have a few jokes, folks say we are rattleheads.

If we omit jokes, folks say we are fossils.

If we publish original matter, they scold us for not giving selections.

If we give selections, people say we are lazy for not writing more, and give them what they have not read in some other paper.

If we give a complimentary notice, we are censured for being partial.

If we don't, all hands say we are a great humbug.

If we remain in our office attending to our business, folks say we are too proud to mingle with other fellows.

If we go out, they say we don't attend to our business.

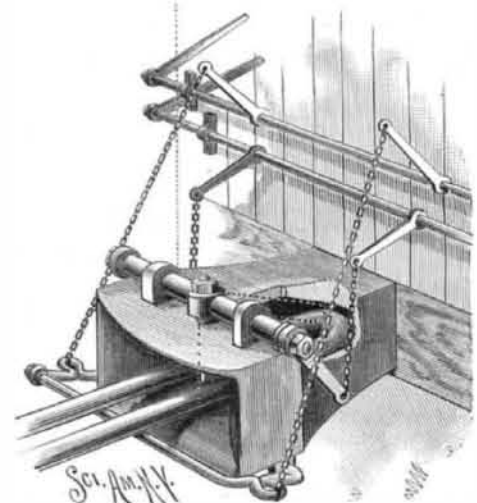
**The Bicentennial Celebration at Albany, New York.**

As July 22 will be the bicentennial of the incorporation of Albany as a city, very extensive preparations have been made for the commemoration of the event. Beginning on the previous Sunday with religious observances in all the churches, the entire week up to Saturday will be devoted to the celebration. An historical pageant, consisting of sixteen floats representing scenes in the history of Albany, and similar in character to those employed at the Philadelphia bicentennial and in the South during the Mardi Gras, will be a special feature of the occasion. The President, the Governor of New York, and other prominent officials will take part in the ceremonies.

**CAR COUPLING.**

The drawhead is formed with a deep link opening and with a vertical slot, whose rear walls are inclined. In the center of a rock shaft mounted in bearings secured to the upper face of the drawhead is a square hole to admit the end of the coupling pin, which is securely held by a nut screwing upon its projecting end. This construction provides for the easy renewal of the pin whenever necessary. On the ends of the shaft are arms connected by chains with lever arms on a shaft held on the end of the car and having arms at its ends.

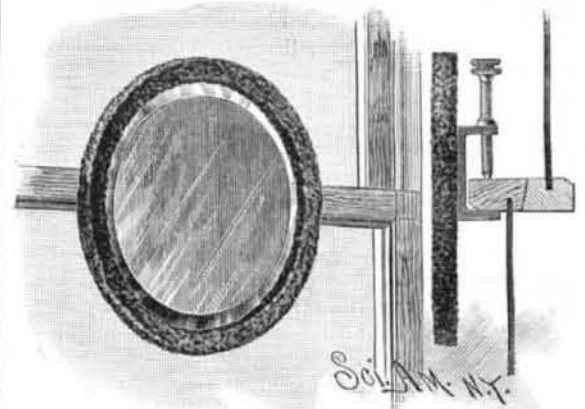
By properly moving either of these arms, the pin can be swung up to the rear to permit the passage of the link. A link lifter, by means of which the link may be lifted to a position to enter the drawhead of the approaching car, is operated by chains leading to arms on a second shaft held in bearings on the end of the car. It will be seen that as the projecting end of the link enters the drawhead of the approaching car, the coupling pin will be forced back; and after the link has passed the end of the pin, the latter will drop to its normal position, and couple the cars. It is not necessary to enter between the cars, either to couple, uncouple, or guide the links properly.

**BRENNAN'S CAR COUPLING.**

This invention has been patented by Mr. Matthew Brennan, of Louisville, Ky.

**SHAVING MIRROR.**

The convenient article herewith illustrated will be appreciated by all who make use of the razor. To the back of an ordinary mirror of any desired shape and size is secured a bracket, one arm of which is threaded to receive a screw, as shown in the small size view. One of the cross bars of a window is placed between the other arm of the bracket and the end of the screw, which is then turned so as to clamp the bar, thereby firmly holding the mirror in place. By this arrangement the glass can be placed in the best possible po-

**PHILLIPS' SHAVING MIRROR.**

sition as regards light, and can be quickly and easily brought into use or removed. The arms of the bracket are made long, and are at a sufficient distance apart to readily admit a cross bar of any depth or thickness.

This invention has been patented by Mr. S. A. Phillips, of 311 Church Street, New York city.