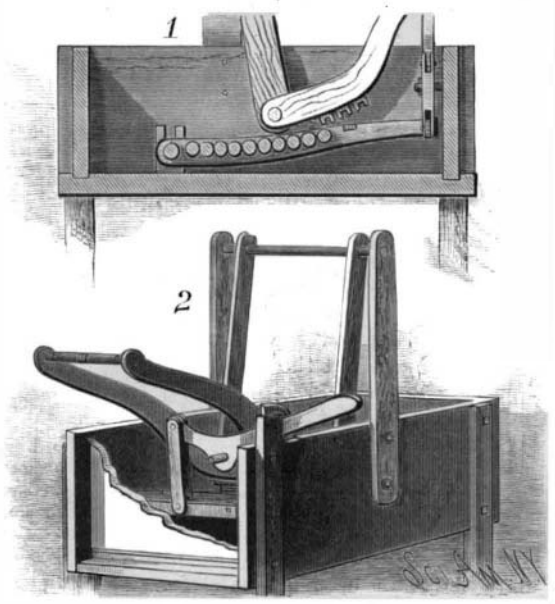
WASHING MACHINE.

The side bars of the rubber are mounted on a shaft uniting the lower ends of two arms projecting from a shaft held in the upper ends of two standards secured to the sides of the tub; the side bars of the rubber are united by grooved rubber bars, as shown in Fig. 1. The bottom rubber consists of a frame pivoted in blocks on the inner sides of the tub at the bottom, to adapt the free end of the rubber to be raised or lowered. Journaled in this frame are rollers. The frame is moved by an elbow lever, over the handle of which a hook on one side of the box can be passed. The clothes to be washed are placed between the rubbers, the upper one being rocked to



DIXON'S WASHING MACHINE.

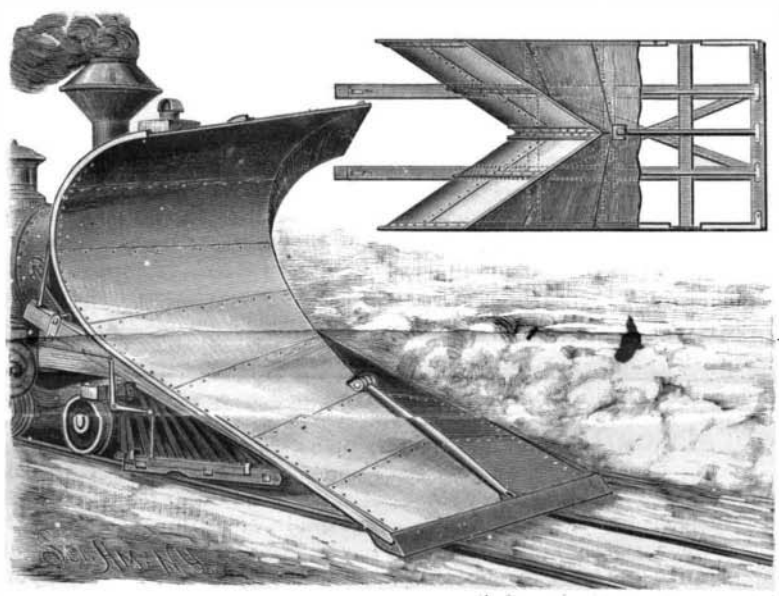
and fro and at the same time pressed upon the clothes. The lower rubber can be adjusted according to the quantity of clothes to be washed.

This invention has been patented by Mr. Ellis W. Dixon, of Yakima, Washington Territory.

IMPROVED SNOW PLOW.

The accompanying engraving represents a snow plow for which letters patent have been granted to Mr. John M. Poitras, of Deseronto, Ontario, Canada. One of the main objects of the inventor was to provide a plow light enough to be carried upon the forward part of the locomotive, and which would always be in readiness to clear the track of any depth of snow that could be removed by any snow plow propelled by one or more locomotives.

The general form of the plow is very clearly shown in the engraving, the upper cut being a plan view. The face or share of the plow is formed of sheet metal attached to a substantial frame, the upper end of which is firmly secured to the locomotive. The shoe of the plow is made of steel and is secured to the under side of an oak nose piece; the under side of the shoe is curved to fit the nose piece, and on its front is a sharp flange projecting toward the rear and overlapping the



POITRAS' IMPROVED SNOW PLOW.

sheet metal covering. The construction allows the front part of the plow to be sprung down upon the rails under a great pressure, but it is usually held about 1¼ inches above the rails. The side edges of the plow are strengthened by angle irons. Flanges held on the bottom edge of the cow catcher can be lowered to thoroughly sweep the remaining snow from the track. When there is but little snow on the track, the nose of the plow swings clear of the rails; but when the snow is of sufficient depth, the shoe is forced down upon the rails, and the snow is all guided up the inclined faces of the plow and thrown to the sides.

Manufacture of Hydrogen Gas.

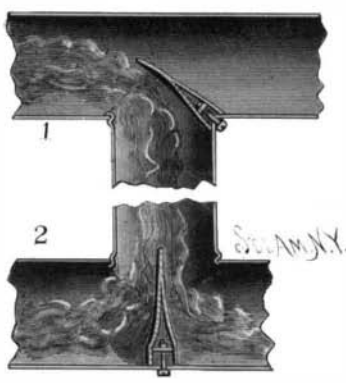
A new method for producing hydrogen gas is described by MM. Hembert and Henry. Superheated steam is passed through red hot coke in a retort. The result is a mixture of hydrogen and carbonic oxide—or what is known as water gas. These gases are then passed on into a second retort, strongly heated, in which a quantity of some refractory substance, such as firebrick, is placed. At the same time, jets of steam superheated to the point of dissociation are passed into the retort, the result being a mixture of carbon dioxide and a double amount of hydrogen. The carbon dioxide can be absorbed by passing through milk of lime, and thus pure hydrogen be obtained and collected in a gas holder. One ton of coke is stated to correspond to 3,200 cubic meters of gas, and the cost is given as 0·015 franc per cubic meter.

Three Chimneys.

Three tall chimneys belonging to Kunheim & Co., of Berlin, were lately destroyed by means of gun cotton. The largest was about 147 feet high, and 10 feet diameter at the base. In order that it should fall outward from the city, the charge of gun cotton (about 57 lb.) was attached in portions to the side next the city and to the adjacent sides. All three were exploded simultaneously with a magneto-electric apparatus. The chimney, instead of falling obliquely, collapsed vertically, and on inspection the four walls of the pedestal were found to have been driven outward. The bricks were all detached from each other, and nearly all entire. The debris was thrown a very little distance. The two other chimneys, treated similarly, fell as was expected, *i. e.*, obliquely away from the city. One of them, in falling, broke in two about the middle.

SMOKE CONDUCTOR.

The object of this invention, which has been patented by Mr. Thomas Rundle, Jr., of Iron Mountain,

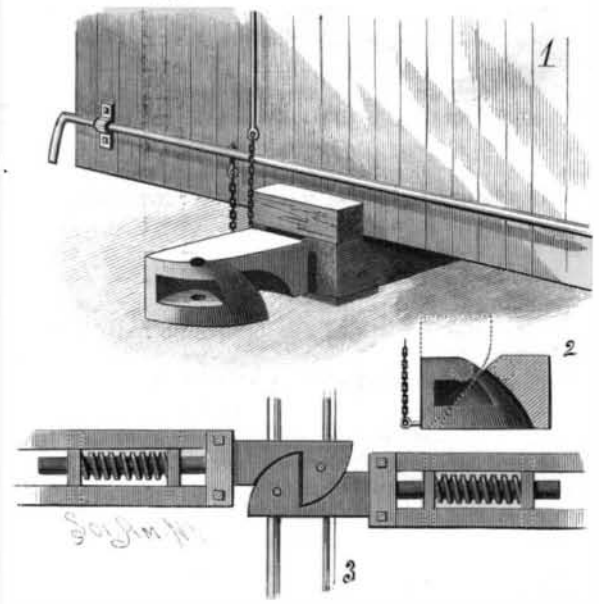


RUNDLE'S SMOKE CONDUCTOR.

Mich., is to provide an attachment for the T-couplings of smoke or hot air pipes, whereby the different currents will be properly mixed and one cannot interfere with the other. The bottom edge of the circular plates is made semicircular to fit the inside of the pipe (Fig. 2), or on the corner in an elbow whose two pipes are united at right angles (Fig. 1). A recess in the plate increases from the middle toward the lower edge, and is provided with a cross piece having a hole, through which a bolt can be passed. By drawing the bolt up tight the edge of the plate is pressed firmly against the pipe or corner. In each case the plate acts as a deflecter, guiding the smoke in the proper direction. This device is of special advantage where the smoke from one stove is conducted into the pipe of another—for instance, when two stoves are at different distances from the chimney, and only one pipe is to be used to lead the smoke from both stoves to the chimney.

CAR COUPLING.

The car coupling herewith illustrated is automatic in its action of coupling, and is simply rotated in order to uncouple the cars to which it is attached. The drawhead and hook are formed in one piece, and are secured to the car in the usual way by means of a drawbolt, as shown in Fig. 3, which is an under side view. The forward, inner, and upper edges of the drawhook are rounded off, and the bearing face of each is at right angles to the length of the drawhead; the side point of the hook projects out beyond the side of the drawhead. Back of the face the drawhead is concavely recessed to fit the convex face of the hook. Upon the outer flat side of the drawhead is an eye, to which chains are fastened; one chain leads to a transverse rod having a crank at each end, and the other leads to a rod (Fig. 1) extending a little above the roof of the car. These chains support the drawhead and hook in the position shown in Fig. 1; for as the drawbolt projects from the upper central corner of the rear face of the head, the bulk of the weight of the head and hook is below the bolt, and if it were not for the chains, the head would drop down to a point directly below the drawbolt. When the cars come together, the convex faces of the couplings strike upon each other, and the drawheads are turned until the right angle faces are in line, when the force of gravity will return the parts to the position shown in Fig. 3, the points of the hooks entering the recesses. To uncouple the cars, one of the drawheads is turned by the chains



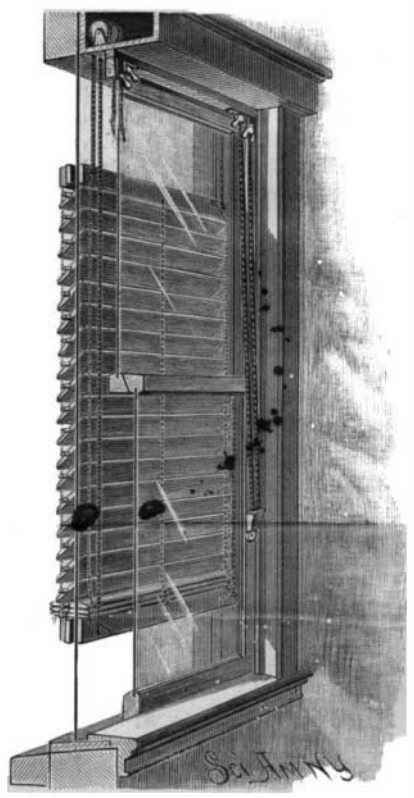
HARRINGTON'S CAR COUPLING.

to the position indicated by the dotted lines in Fig. 2, when the hooks will clear and the cars may be moved apart; or both couplings can be moved one-half the distance. Each drawhead is formed with a recess to receive the ordinary link when its use is necessary.

This invention has been patented by Mr. John H. Harrington, of New Bedford, Mass.

AN IMPROVED "VENETIAN" BLIND.

The illustration herewith represents a form of window blind composed of movable slats, so constructed that the blind will be easy of adjustment, and can be readily held at the top, bottom, or middle part of the window as desired. The top and bottom bars of the blind have tongues sliding in vertical grooves in the uprights of the window frame, while the slats have end pivots passed into the grooves, and are connected at the front and back edges by chains secured to the top and bottom bars, which hold the slats



HAWLEY'S WINDOW BLIND.

at the desired inclination and allow them to lie snugly on each other. The top and bottom bars have corner pieces, to which are secured chains for raising or lowering them, a chain being provided for each side of the window, which passes over pulleys in the top plate, the free end resting in boxes on the window frame, the slack being thus taken up, and the blind being secured in any desired position by small clamping levers at the upper corners of the frame.

This invention has been patented by Mr. Henry Hawley, of Culpeper, Va. For further particulars address Messrs. Latham & Hawley, of that place.