

**New Inventions.**

**Improved Street Sprinkler.**

Daniel Worthington, of St. Louis, Mo., has invented an improved Street Sprinkler, on which he has made application for a patent. The nature of the invention consists in arranging the water vessel in a vertical instead of a horizontal position for the purpose of securing greater pressure in the sprinkling spout, until the water in the vessel falls below a certain point, and in introducing the water into the sprinkling spout by means of two branch pipes leading from the main supply pipe which connects with the water vessel. The sprinkler is also made of a semi-elliptical form, so that the water may be thrown from the sides as well as the ends of the spout.

**Car Trucks.**

Amos Johnson, of Laporte, Ind., has invented an improved Car Truck, the novelty of which consists in constructing each truck with three separate frames, and connecting the middle one to the others, which turn upon a king bolt, by means of loose joints or pins, which allow the front and rear frames to adjust themselves to the shape of the curve over which the cars may be running. This central frame is so connected with the main frame that it will be caused to move laterally inward and outward while moving round a curve. The invention also embraces a novel mode of attaching railroad wheels to their journals. A patent has been applied for.

**Machine for Making Barrel Heads.**

N. W. Robinson, of Keesville, N. Y., has invented an improvement in machinery for making barrel heads, on which measures have been taken to obtain a patent. The invention consists in the combination of the rotary cutting discs, stationary bed, movable slide, and clamp, arranged in such a manner that barrel heads may be made out of one or several pieces of stuff, without changing the position of the piece until the head is finished. The cutting discs are so constructed that they may be firmly attached to the arbors, and a free passage given to the shavings. The clamp is made adjustable so that it may be made to fit heads of different size and thickness.

**Sawing Machine.**

J. Myers, and R. G. Eunson, of this city, have invented certain improvements in machinery for light sawing, such as stuff for mirror backs, on which they have applied for a patent. The nature of the invention consists in the employment of deflection plates placed at the sides of a circular saw, so as to prevent the stuff from coming in contact with the sides of the saw, and also to expand the saw kerf, and thus prevent the stuff from pinching the saw; a thinner kerf can thus be cut. Elastic clamps are secured to the adjustable beds, which have also upon them stationary cutters, so arranged as to trim the edges of the stuff.

**Improved Corn Planter.**

Charles A. Wakefield, of Plainfield, Mass., has made application for a patent upon an improved Corn Planter, of which the novelty consists in forcing the seed directly into the soil by a plunger or its equivalent when it is constructed and arranged so as to be capable of operating the seed slide simultaneously. The handle is attached to the plunger, and the gauge or stop plate to the lower end of the machine, so that the plunger will have a slight inclination from a vertical line. The plunger is cleaned from any dirt which may be attached to it by scrapers, and is capable of being adjusted, so as to plant the seed at any required depth.

**Evaporating Pans.**

H. G. Buckley, of Kalamazoo, Mich., has invented an improvement in pans for boiling salt, sugar, and other similar substances. The pan is divided into the necessary number of compartments, and through these metal pipes are arranged transversely, passing through the sides and having their ends closed with loose stoppers which can be removed for cleaning the

pipes. They are connected to a single flue, which receives the heat from the furnaces. A patent has been applied for.

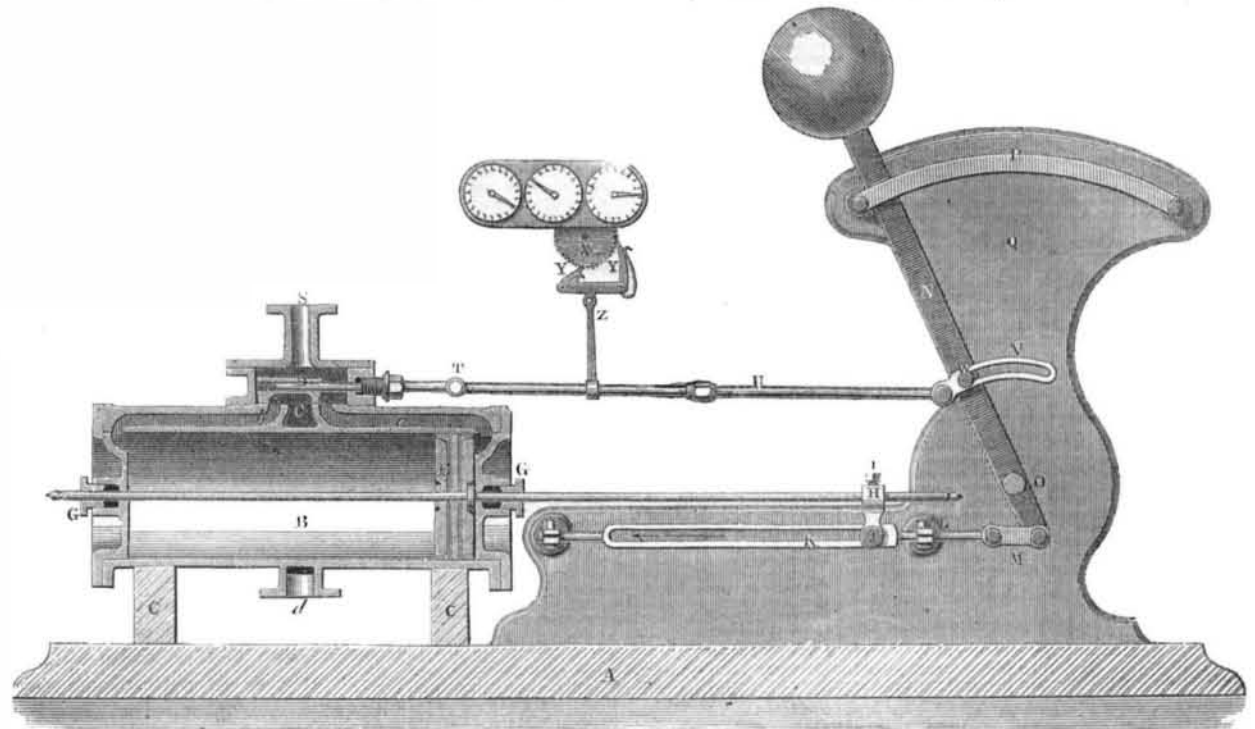
**Machine for Making Clinch Rings.**

G. M. Patten, Bath, Me., has invented an im-

provement in machines for punching clinch rings, such as are frequently employed as washers. The nature of the invention consists in a novel arrangement of levers, by which the upper die is punched through the ring for forming the central hole, and the lower die is at the

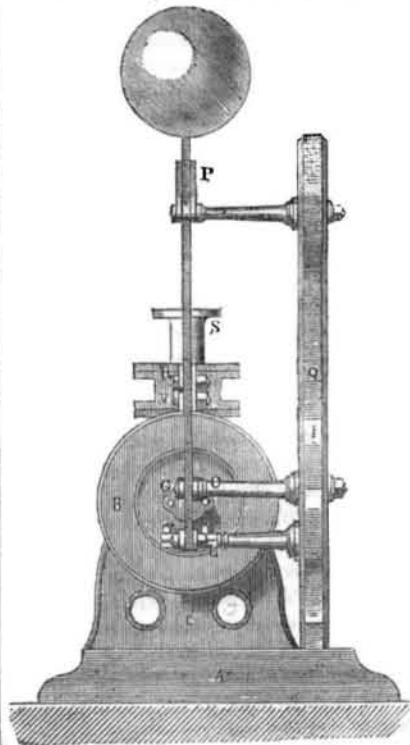
same time made to give the proper shape and finish to the rings. The punching die is provided with a sliding collar, and the female die with an elastic seat, by the action of which the ring is discharged from the dies after it is formed.

**HARTIN'S CYLINDER WATER-METER---Figure 1.**



This Meter which has been patented in this country and England, is a simple arrangement of a cylinder and piston, fitted up with slide-valves, for the ingress and exit of the water to

**FIG. 2.**



be measured; the cylinder, which is the actual measuring vessel, being filled at each stroke of the piston, after which the slide-valve is rever-

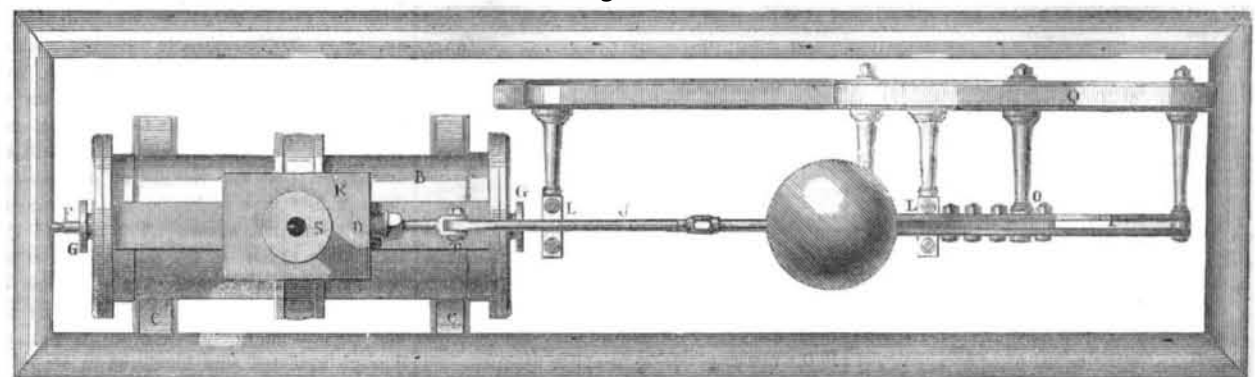
sed, when the water escapes, and a fresh supply is admitted on the opposite side of the piston. This action therefore keeps a reciprocating movement of the piston, and the registration of the measured fluid is effected by a counter attached to the valve-spindle, and actuated by the slide movement.

Fig. 1. is a sectional elevation of the meter complete; fig. 2 is a corresponding end view of the meter; and fig. 3 is a plan. At A, is a wooden or base-plate, for supporting the cylinder and working parts of the apparatus. The cylinder, B, is carried by the two vertical supporting brackets, C, and is fitted by a slide-valve, D, and piston, E, screwed on to the piston-rod, F. This rod passes through a stuffing-box, G, in each end of the measuring cylinder, and has a short adjustable arm, H, screwed to it near its outer extremity by a pinching screw, I. The lower end of this arm is fitted with a stud-pin, J, which works in the longitudinal slotted rod, K. This rod slides in the fixed bearings, L, which are bolted to the main vertical portion of the framing. The outer extremity of the slotted rod is connected by a short link, M, with the lower end of the vertical weighted tumbling lever, N, working on a fixed centre, O. The upper end of this lever is guided in its movements by the segmental guide-plates, P, which are carried by a pillar, Q, bolted to the main framing. The slide, D, is contained in the chamber, R, which is furnished with an inlet-pipe, S, and the spindle of the slide is jointed at T, to one end of the adjustable connecting-rod, U. The opposite end of this rod is jointed to the segmentally-

slotted plate, V, in which works a stud-pin, W, fitted into the lever. The slot on this segmental plate is rather shorter than the traverse of the pin in the lever, so that, when the lever is caused to oscillate or vibrate, a certain amount of traverse is given to the slide, D. The movement of the lever, N, is effected by the stud-pin in the slotted rod, K, the slot in this rod being shorter than the stroke of the piston; and consequently, when the pin arrives at the end of the slot, the further traverse of the piston slides the rod, K, in its bearings, and thereby turns the lever, N, on its fixed centre, O. The registration is effected by the ratchet-wheel, X actuated at every stroke of the slide by the pawls, Y, fitted to the T-lever Z, which is secured to the connecting-rod of the valve-spindle.

In measuring fluids by this meter, the fluid to be measured enters by the inlet-pipe, S, into the chamber, R, whence it passes along the open part, a, into the corresponding end of the cylinder, B. The pressure of the fluid forces the piston to the opposite end of the cylinder, thereby causing the pin, J, to traverse along the slotted rod, K, and move it in the direction of the arrow. This movement of the rod reverses the lever, N, which effects the movement of the slide, D, by means of the stud-pin, W, and slotted link, V. By this means, the port, b, is opened suddenly, and the fluid is allowed to enter the opposite end of the cylinder, thereby forcing the piston back again, and consequently expelling the fluid which was contained above the piston; this fluid escapes by the egress port, c, which is now in communication with the inlet thoroughfare, a. A hollow

**Figure 3.**



**Valves of Locomotives.**

On the 28d inst., a freight train on the Hudson river railroad ran into another, because the engineer was unable to reverse his engine, by the great pressure on the slide valves. Balance valves are wanted for our locomotives. One man was killed, and another severely injured.

zone or belt is cast round the cylinder, and forms the outlet for the fluid which pours into the source-pipe through the branch-pipe, d, cast in one piece with the cylinder. By fitting a moveable false bottom or end to the cylinder, so as to be capable of adjustment by an external screw or other movement, the capacity of

the cylinder may be regulated to the greatest nicety, by simply screwing or setting in or out the internal false bottom.

The American Patent of this invention was issued May 24, 1853. Any further information can be obtained by addressing the inventor, J. Hartin, 278 West 37th street, N. Y.