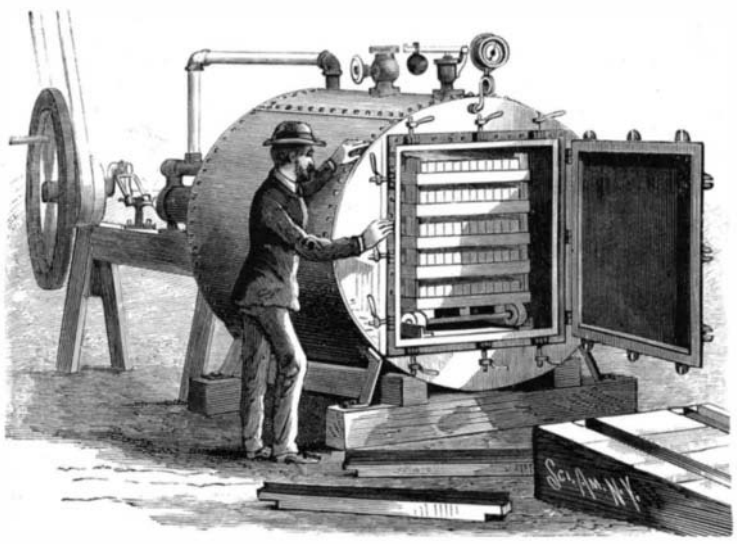
APPARATUS FOR TESTING SEALED CANS.

The object of this invention, recently patented by Mr. Marvin C. Hutchings, of Astoria, Oregon, is to test sealed cans for the purpose of detecting leaky ones in time to seal them and prevent the contents from becoming decomposed. A cylindrical iron or steel vessel, placed horizontally, is provided at one end with a hinged door which may be held closed hermetically. The cans to be tested are placed on a truck running on a track laid within the vessel. The cylinder is furnished with a pressure gauge and safety valve, and is connected with a pump for filling the vessel with air under pressure. After remaining in the vessel for several minutes, the compressed air is allowed to escape suddenly. The air has time to find its way into all cans which are not soldered perfectly tight, so that an equilibrium of pressure is maintained outside and inside; but upon the sudden relief of exterior pressure,

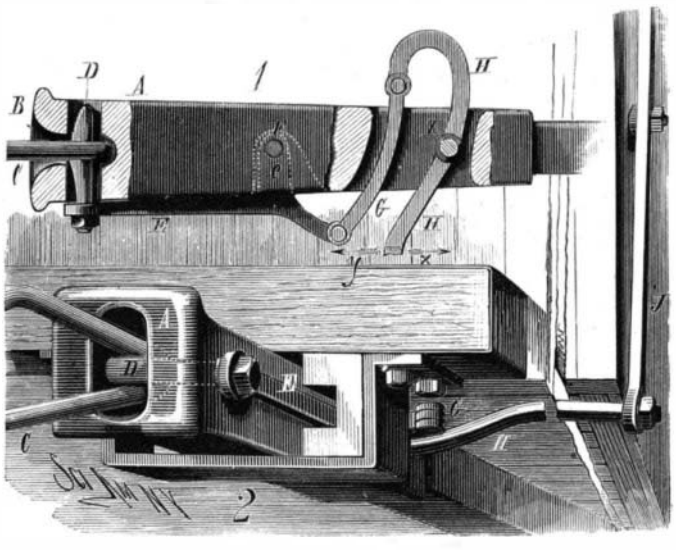


HUTCHINGS' APPARATUS FOR TESTING SEALED CANS.

the air within the defective cans fails to find ready exit, owing to the small size of the openings in them, and hence exerts a strong outward pressure, thereby bulging one or both heads. The bulged cans can easily be assorted from the rest, and are then soldered and again tested; by this means great losses in material and freight are avoided.

CAR COUPLING.

By means of the coupling shown in the engraving the cars may be coupled without requiring the trainmen to stand between them. The drawhead, A, has a socket, B, which ranges vertically so as to receive the link, C, which stands edgewise instead of lying horizontally in the common way. The link is formed tapering, both ways from the center toward its ends, and the link sockets are correspondingly shaped. Near the base of the link socket is a horizontally ranging hole to receive the coupling pin, D, which is connected with the outer end of the lever, E, which is formed with a lug, *e*, entering a recess in the side of the drawhead; the lever is pivoted so as to swing in a horizontal plane by the pin, F. One end of the lever, H, is curved, and is connected by the link, G, with the short arm of the lever, E. The other arm of the lever, H, extends to the side of the car, where it connects with the lever, J, fulcrumed to



RYE'S CAR COUPLING.

the car body and leading to the roof, where it passes between two bars having a series of holes, in any one of which a spring pin on the lever may be passed; this locks the levers in any desired position, so that the coupling pin, D, cannot be displaced accidentally. To uncouple the cars, it is only necessary to unlock the pin from the bars and swing the lever, J, in a direction to withdraw the coupling pin. The forward edge of the coupling pin is curved, as shown in the plan view, Fig. 1, in order that it may be easily withdrawn by the levers should there be any tightness of the link on it. The levers may be locked so as to hold the pin withdrawn, so that when necessary the cars may come together without coupling. When the coupling is fitted to passenger cars, the frame of the locking device is fixed to the platform; and when applied to flat box or coal cars the lever, H, is extended to form a handle from which the mechanism can be operated; in this case the lever is provided with a suitable locking device. The coupling link, having narrow ends, will readily enter the link socket of an opposing draw head, be it higher or lower; the link need not be held and guided, as it enters the head automatically.

This invention has been patented by Mr. Edgar Rye, of Albany, Tex.

Electrical Bleaching.

M. Bonneville (in the *Teinturier Pratique*) gives the following recipe: Into a cold solution (containing 1 per cent of bromine) there is poured 1 per cent of caustic soda at 36° B., or the equivalent of another alkaline base; then the vegetable textile (previously wetted and perfectly saturated with water) is introduced, and is left in the bath until discoloration takes place. After a passage through acidulated water, drying and rinsing takes place. One per cent of sulphuric acid or of nitric acid, poured into the bath when the latter is exhausted by successive discolorations, suffices to place the bromine once more at liberty. By then adding the same proportion of caustic soda, the hypobromite of soda is regenerated. The hydrofluosilicic acid, in composing the bromide and the bromates, forms an insoluble salt of fluosilicate of sodium, which it is easy to eliminate by decantation. In this case there are neither sulphates nor nitrates mixed with the water containing bromine. In the last place, if during the bleaching there are placed in the bath the two electrodes in carbon of one pile, the decoloring oxygen is constantly renewed by the reformation of hypobromous acid. It has also been found that a bath entirely exhausted—that is, only still containing bromides and alkaline bromates—is regenerated by the passage of the current. The same phenomenon is produced with chlorine and its oxygenated compounds. In fact, therefore, M. Bonneville recommends the industrial employment of bromine and hyprobromites in the bleaching of vegetable textiles, the regeneration of the baths by acids, and more specially by hydrofluosilicic acid; and the reconstitution of the decoloring power of bleaching agents by means of electricity.—*The Dyer*.

IMPROVED SEAL LOCK.

The engraving herewith shows a seal padlock in which the casing is formed into ways for receiving a seal, which is retained in place by the shackle when it is snapped into engagement with a sliding bolt within the casing. The U-shaped shackle is hinged at one end to the casing provided in its outer surface with a longitudinal slot, *b*, through which the tag, *c*, can be seen; the tag is slipped in a recess through a slot in the free end of the casing. Held in the recess by a screw is a sliding bolt, *a*, the under side of which is formed with serrations, and on its upper side is a spring, which forces it forward to engage with a slot in the end of the shackle to lock the latter. The bolt and spring may be withdrawn from the casing by removing the screw. The spring is held in place by the bolt, no other means of securing it being required. The shackle is held to the car by a chain, as shown in the cut.

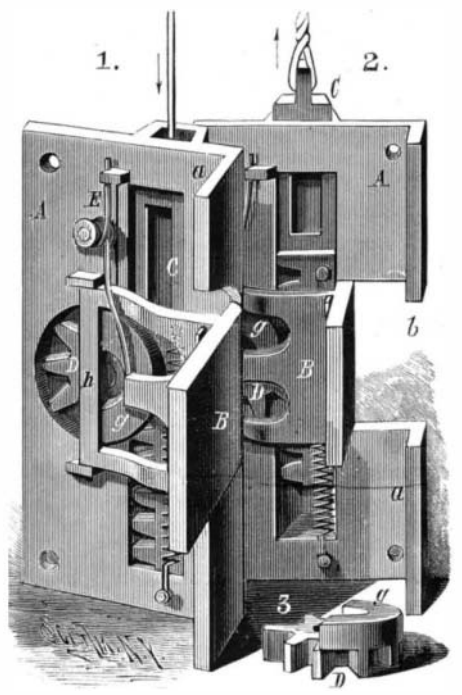
The tag or ticket showing the destination of the car is slipped into the recess. The door is shut, and the shackle passed through one of the staples, when the lock is closed by passing the end of the shackle through the end opening in the casing. Before the door can be opened, the shackle must be released from the casing, and this can only be done by withdrawing the sliding bolt. The bolt can only be withdrawn by piercing the tag with a suitable implement, the point of which will engage with the serrations on the bolt, which may be thus pushed back. This operation destroys the tag, and clearly shows that the lock has been opened. An aperture is formed in the end of the shackle for receiving the usual seal.

Additional particulars regarding this seal lock can be had by addressing the inventor, Mr David B. Reeve, Pier 39 East River, New York city.

DR. V. POULAIN writes to the *British Medical Journal* that he has always found a tablespoonful of fine bran in bread and milk, night and morning, to be the best method of combating constipation in children, and it is very useful in conveying to the child silica and phosphates. The bran may be allowed to soak in the milk, and then, when warmed up to a little below boiling point, it should be poured on the bread.

IMPROVED DOOR OPENER.

An invention lately patented by Mr. Edward G. Worley, of 2056 Lexington avenue, New York city, relates to door openers used in apartment buildings, for opening the front door from the different stories of the building. The main plate, A, of the holder is flanged at *a*, is cut away to receive the sliding keeper, B, and is recessed to receive the pull bar, *c*; it is also formed with a circular cavity and stud to receive the pinion, D, which is revolved by the pull bar for withdrawing the keeper, the rack teeth of the bar meshing with the cogs of the pinion. The pinion is formed with a segmental flange,



WORLEY'S IMPROVED DOOR OPENER.

g (Fig. 3), and the keeper is formed with a cross piece, *h*, which is constantly held against the flange by the action of the spring, E, serving to force the keeper to its most outward position. When the pull bar is drawn outward for opening the door, the revolution of the pinion causes the flange to act as a cam against the cross piece, *h*, to withdraw the keeper to the position shown in Fig. 2. The pull bar is normally held drawn downward to the bottom of the recess by a coiled spring, the reaction of which will replace the part of the opener (to the position shown in Fig. 1) after the strain upon the wire connecting the pull bar with the knob in the building above ceases. A one-quarter revolution of the pinion will wholly withdraw the keeper, and since the flange, *g*, is curved, any further movement of the pinion will not change the position of the keeper, so that the distance the bar may be drawn beyond the point at which it gives the pinion a one-quarter revolution will be independent of the keeper, and will be against the constantly increasing tension of

REEVE'S IMPROVED SEAL LOCK.

the spring. This furnishes a yielding pull for the opener, which is very effective in preventing overstraining and breaking of the wire. The keeper is guided by studs at the back of the main plate, and its outward movement is limited by side projections striking against the flange, *a*.

RATS have a great aversion to the odor of the chloride of lime, and, when mixed with water and poured into the holes through which the rats pass, they usually vacate their haunts. This mixture is harmless, does not kill the rats, but drives them away—sometimes.