consisting of a contractible clamping hook D_{12} provided with external hooks d_7 and tension rods d_5, combined with the reel rim D_1. 9th. The combination, with the feed spout having a door h and with the reel head provided with a cam face d, of an apertured hopper h_1 pivotally mounted within the spout, engaged with the cam and accessible from the door h, whereby objectionable substances in the material are retained and may be removed. 10th. A group of three centrifugal bolts mounted on a single frame and forming a unitary machine, two of said bolts being elevated equally and the third arranged centrally beneath them, combined with conveyers and a spout or spouts forming part of the machine, whereby material may pass from either of the elevated bolts to the lower one. 11th. In a group of two or more centrifugal bolts, the combination of two of said bolts arranged side by side, enclosing chests therefor provided with discharge openings on their adjacent sides, and a conveyer box or boxes located between said two bolts and common to both, the moving parts in said bolts, which carry the bolted flour out of the chests, being arranged to revolve in opposite directions inwardly and upwardly. 12th. As a means for communicating reduced motion from a flyer shaft to the reel and conveyer shafts in a centrifugal bolt, the combination, with a rotating reel, a flyer and two parallel conveyers, of gear connecting the conveyer shafts with each other, reducing gear leading from the flyer to one of said conveyer shafts, and gear leading from the other of said conveyers to the reel. 13th. In a group of three centrifugal bolts, the combination of the flyer shaft E, the driving belt E_2, the conveyer shafts G_2 G_3, gear wheels g g^1 g^2, fixed pulley I_4, loose pulley I_3 having the pinions i, flyer pullies I I_1 I_2 arranged in the plane of I_3, reel pulleys I_7 I_8 I_9 in the plane of the pulley I_4, the conveyor pulleys I_5 I_6, also in the plane of the pulley I_4, the belts R and R_1 and tightening pulleys J and J_1 arranged in the respective planes of said belts and located at the left of the pulleys I_1 I_7. 14th. In a group of centrifugal bolts, the combination, with the flyer reel and conveyer shafts and their pulleys and with the belt or belts forming the drive of the group, of the fixed head J_4 provided with a recess J_{10}, the arm J_3 supporting a pulley or pulleys on an axis J_2, at right angles with said arm, a screw J_8 J_9 and a spring J_7 interposed between the head J_4 and wheel or head J_8.

No. 15,900. Improvements on Magneto-Electric Railway Signals. (*Perfectionnements aux signaux électro-magnétiques des chemins de fer.*)

John R. Johnson and Orville B. Johnson, Boston, Mass., U. S., 5th December, 1882; for 5 years.

Claim.—1st. A cut-off mechanism arranged to disconnect the generator or signal from the mechanism connected with the track, at the first blow received from the same, and provided with clockwork or other suitable devices, to prolong said disconnection until the signal has been given and the train has passed said mechanism. 2nd. A rotary magneto-generator provided with a cushion or spring r inserted in the connecting rod C, between the actuating devices of said generator, and the lever struck by the passing train, said cushion being adapted to receive a blow given sharply and suddenly to said lever, and to transmit it gradually and without shock to the actuating devices of said generator. 3rd. A magneto-generator provided with a cushion or spring r, to diminish the suddenness of the blows imparted to the actuating mechanism by passing trains of cars, and with an auxiliary device for severing the connection between the track and said actuating devices and thereby prevent them from receiving more than one of said blows. 4th. In magneto-electro signalling apparatus, the cut-off mechanism consisting of two interlocking hooked rods C G for displacing the driving mechanism from its normal position, and a bent lever E operated by one of said rods to separate said rods provided with a clockwork N and connecting rod K to hold said rods apart, and with a spring h to drive said clock and to interlock said rods when released by said clock.

No. 15,901. Improvements on Impervious Packages. (*Perfectionnements aux boîtes imperméables.*)

John A. Wright, Keene, N. H., U. S., 5th December, 1882; for 5 years.

Claim.—1st. A package made of staves, or pieces of wood, and coated or lined with a compound of glue, water, linseed oil, borax and glycerine. 2nd. A package made of wood, prepared with a strip of paper or cloth, glued or fastened over each of its joints and coated or lined with a compound, consisting of glue, water, linseed oil, borax and glycerine. 3rd. A package made of wood, having each of its joints covered, or protected with a strip of paper or cloth, glued or otherwise fastened in place.

No. 15,902. Improvements in Guides for Paint Staffs. (*Perfectionnements aux guides des règles d'épreuve.*)

Thomas E. Davis, Range, Ohio, U. S., 5th December, 1882; for 5 years.

Claim.—In guides for paint staffs, the combination, with the foot A having the post a, and the adjustable paint staff B, of the slide b fitted at one end with a set screw d bearing upon the upper end of the mill spindle, and having in its other end an eye, which receives the post a, and also a set screw c thereat, and the eye piece e having a collar to adapt it to spindles of different sizes, and an arm adjustable in an aperture in the post a by a set screw f.

No. 15,903. Improvements in Means of Finishing Zinc-Coated Wire. (*Perfectionnements aux moyens de finir le fil de fer couvert en zinc.*)

Henry Roberts, Pittsburgh Penn., U. S., 5th December, 1882; for 5 years.

Claim.—1st. The automatically opening and closing die made in four, or other convenient number of parts divided centrally, or approximately so, in combination with the bath I of melted metal and provisions for inducing the traverse of the wire through the bath and dies. 2nd. The combination of the dies N_1 N_2 N_3 N_4 formed to leave the tapering hole n between them, with the yoke R having inclined sides and the adjustable weight T. 3rd. The combination, with a melted metal bath I, of the scraper N_1 N_2 N_3 N_4 and the material W, for a subsequent wiping treatment.

No. 15,904. Improvements on Gate Attachments. (*Perfectionnements aux pentures des barrières.*)

Robert E. Chambers, New Glasgow, N. S., 5th December, 1882; for 5 years.

Claim.—1st. The combination of an ordinary gate g having a lower hinge of ordinary construction H h and an upper double jointed hinge consisting of a lever H_1 pivoted upon an ordinary staple hinge pin h, one end h_2 engaging the eye of a common hinge H, and the other end h_3 cranked sideways and, if necessary, upwards, and provided with means for attaching a cord or cords, led and arranged for moving the lever forward and backward from a point at a distance therefrom. 2nd. The combination of the gate g hinged to a gate post P_1 by an ordinary hinge H h below and above by a double jointed lever hinge H_1 H h to which a cord or cords are attached and led directly and indirectly to posts p_1 p_2 over suitable pulleys in the rail P, the gate having ordinary latches engaging catches on the posts P_2 P_3. 3rd. The lever hinge H_1 having a boss or crank h_1 arranged to be pivoted upon a hinge pin h and one end provided with a pin h_2 to engage the eye of a common hinge H, the other end h_3 cranked sideways and provided with the means of securing thereto a cord or cords, or their equivalents. 4th. The combination of the cords C_1 C_2 C_3 C_4 attached to the lever H_1 C_1 being led direct, and C_2 indirect over suitable pulleys to a distant post p_1 c_4 being led direct, and c_3 indirect to the post p_2.

No. 15,905. Improvements on Electro-Magnetic Watchmen's Registers. (*Perfectionnements aux régistres électro-magnétiques des gardiens de nuit.*)

George F. Ransom, Cleveland, Ohio, U. S., 5th December, 1882; for 5 years.

Claim.—In a watchman's time registering clock, the combination, with a clock movement, a revolving dial connected therewith, and parallel bars located on opposite sides of the dial and radially thereto, of a series of electro-magnets having needles secured to their armatures and arranged radially to the clock dial for piercing the dial on a radial line.

No. 15,906. Improvements on Boat Lowering Apparatus. (*Perfectionnements aux appareils pour descendre les canots.*)

Martin Bourke, Youngstown, Ohio, U. S., 5th December, 1882; for 5 years.

Claim.—1st. The combination, with suitable cranes, or davits, or arms, to which the ropes or falls are connected, of the drums D E, sliding gear wheel l and stationary gear wheel K, and the adjustable shafts carrying their respective gear wheels and pinions. 2nd. The combination, with the windlass mechanism for elevating or lowering the boat, of the hollow standards B and swinging arms C. 3rd. The combination, with the clutches F, of the standards S having braces a_1, and the bolts Q with stops b_1. 4th. The combination, with the standard S having eloow i_1, of the clutches F provided with spring tripping devices U. 5th. The combination, with the clutches F, of the standards S, bolts Q and pins g_1.

No. 15,907. Improvements on Bed Clothes Fasteners. (*Perfectionnements aux agrafe-couvertures des lits.*)

Allyn Cox, New York, N. Y., U. S., 5th December, 1882; for 5 years.

Claim.—1st. The combination, with a clamp for holding the clothes, of an attached flexible connection for securing the fastener to the bottom of the mattress, or to the bedstead beneath the bed or mattress. 2nd. The combination, with the bed or mattress B, of the flexible strip or connection b and a clamp E. 3rd. In a bed clothes fastening clamp E, the jaws or sides c d united at their base, but constructed to form a contracted space or mouth at the opposite ends, for reception of the clothes, and a wedging surface within them for the hold of the clothes, in combination with the movable clip or locking device K. 4th. The combination, in the clamp E, of an elastic stand or holder consisting of the two sides c d, united at their base e and inclining toward each other, as they rise from said base, with a moving clip K arranged to work upon or against one of the sides d and having an elastic bearing as produced by the elastic construction of said holder. 5th. The combination of the rigid internally-corrugated side c of the clamp, the elastic side, or jaw and the sliding clip K.

No. 15,908. Improvements on Car-Couplers. (*Perfectionnements aux accouplages des chars.*)

Asher W. Clark, Orangeville, Ind., U. S., 5th December, 1882; for 5 years.

Claim.—1st. A spring-actuated coupling hook, an uncoupling device and a locking mechanism, whereby the hook can be held at different positions. 2nd. The combination, with the hook h, of the spring k, the rod m, pawl n and spring s.

No. 15,909. Improvements in Force Pumps. (*Perfectionnements aux pompes foulantes.*)

David O. Holman and Charles A. Macfarlane, Knowlton, Que., 5th December, 1882; for 5 years.