available attraction with a constant current, a controller magnet placed in the circuit, constructed to open and close a set of contacts completing a shunt around said regulator magnet, a spark absorbing device, for absorbing the energy that would otherwise injure said contacts, and a shifting current changer or commutator attached to the movable portion of said regulator magnet.

No. 15,167. Improvement in Mechanisms for Signalling. (*Perfectionnement des appareils à signaux.*)

Ambrose Webster and Edgar F. Webster, Waltham, Mass., U.S., 25th July, 1882; for 5 years.

Claim.—1st. The combination of the series of variable gears *f*, and the operative gears *c d* and *h* and the supporting arms of the said gears *h*, with the series of star wheels A B C, etc., and the sliding arm T and gear P combined with the slide bar N. 2nd. The combination of the tooth x^1 and the notched bar M with the slide bar N, and the series of arms *g* provided with the actuating gears *h*, of the series of variable gears. 3rd. The combination of one or more sectors I and levers W with the series of star wheels A B C, etc., the notched bar M and the slide bar N provided with the tooth x^1, the said slide bar and star wheels being provided with operating gears *c d f* and *h*. 4th. The combination of the dial, its pointer and the vertical shaft of the latter and its pinion, with the slide bar N provided with the toothed rack and the sliding arm and gear, to operate with the star wheels and their actuating gears. 5th. The combination of the shaft *z* and the cam Y^1 thereof, with the levers W applied to the sectors Y and to the notched bar M. 6th. The combination of the stationary cam X, with the machine frame and with the sliding arm T, its splined shaft and the whistle operating arm projecting from such shaft. 7th. The combination of the two shafts *b e*, their connection gears *c d*, the series of star wheels A B C, etc., the separate trains of gears *f* and *h*, the gear supporting arms *g*, the slide N, gear P, splined shaft R, arm T and the splined shaft S provided with the arm U.

No. 15,168. Improvements in Wheel Hubs.

(*Perfectionnements aux moyeux des roues.*)

Jules Lajeunesse and Edmond Armant, Montreal, Que., 25th July, 1882; for 5 years.

Claim.—1st. The hub consisting essentially of the wooden inner hub A having mortises B B and with circumferential metallic band *c* provided with mortises *c c*, one for each of the mortises B B, but larger than the same, so as to form ledges *a a* on the wooden hub at each mortise for the spokes to bear upon. 2nd. The combination with the metallic band C provided with the mortises *c c* having bevelled sides, of the spokes D constructed with bevelled shoulders *d d*.

No. 15,169. Improvements on Transom Lifters. (*Perfectionnements aux bascules des vasistas de portes.*)

Iville E. Dayton, (Assignee of Francis V. Phillips,) Chicago, Ill., U. S., 25th July, 1882; for 5 years.

Claim.—1st. In a transom lifter, the combination, with the rod guide G having the flanges *f* and notches *n*, of the slide I provided with the finger hold F and the spring catch J J^1. 2nd. In combination with the guides G G^1, the rod L having its ends curved at *l*, and the slide H or I provided with a correspondingly curved aperture h^2 to receive the rod. 3rd. In a transom lifter, the combination, with the rod L^1 confined at its lower end, of the arm R connected with the rod L^1 and provided with the fixed screw R^1.

No. 15,170. Improvements on Wheel Barrows. (*Perfectionnements aux brouettes.*)

Thomas Brewer, Toronto, Ont., 25th July, 1882; for 5 years.

Claim.—In a wheel barrow provided with an ordinary central front wheel B, the combination of back wheels F journalled upon the cross axle *c* and arranged to carry the back portion of the wheel barrow.

No. 15,171. Improvements on Corsets and Shoulder Braces. (*Perfectionnements aux corsets et aux bretelles,*)

Catharine A. Williamson, St. Louis, Mo., U. S., 25th July, 1882; for 5 years.

Claim.—1st. The combination of the corset parts A A, the lacings B B, the flat elastic stays E E and the elastic connection C. 2nd. The combination of the corset parts A A, the lacings B B, the flat elastic stays C E, the elastic connection C and the inelastic connection D. 3rd. The combination of the corset parts A A, lacings B B, stays E E, elastic connection C, inelastic connection D and the arm pieces F F. 4th. As a new manufacture, the corset and shoulder brace stay. 5th. In a corset and shoulder brace stay having the openings c^2 elongated and extended. 6th. A corset and shoulder brace stay having its upper end broadened and curved.

No. 15,172. Improvements on Belt Replacing Devices. (*Perfectionnements aux appareils à replacer les courroies.*)

George P. McConnell and Louis P. Snider, Cincinnati, Ohio, U. S., 25th July, 1882; for 5 years.

Claim.—In a tooth or finger C having one or more out turned portions or lips *c* and projecting rigidly from the rim of a belt pulley. 2nd. In a tooth or finger projecting from the rim of the pulley, spiral, straight, round or flaring, cast in wheel, bolted or otherwise affixed.

No. 15,173. Improvements on Elevators.

(*Perfectionnements aux ascenseurs.*)

George C. Tewksbury, Newark, N. J., U. S., 25th July, 1882; for 5 years.

Claim.—1st. In combination with an elevator, a shifting device adapted to change the direction of the box or to arrest the same, and an automatic stop mechanism adapted to be set for any given station or floor, and to be acted on by the box to arrest the same when it reaches that point. 2nd. The combination of the pivoted lever J, the pulley E F G and intermediate belt shifting devices, the revolvable and vertically sliding rod K having suitable clutch pins *a* arranged at different points on the rod, to project radially therefrom, the handles *f* secured to the rod K, and the intermediate gearing mechanism. 3rd. The combination of the lever J pivoted with the pulleys E F G and intermediate belt shifting devices, the revolvable sliding rod K having clutch pins *a*, arranged at different points on the rod to project therefrom in either direction, the lever handle *f* fulcrumed, the indicator O for determining the relative position of the clutch pins *a*, and the intermediate gearing mechanism whereby the rod K may be turned. 4th. The combination of the revolvable vertically sliding rod K provided with clutch pins *a*, gear wheels *b* and suitable disks *c*, said pins, gears and disks being arranged upon the rod at different points with the pins *a* projecting therefrom in different directions the handle *f* having toothed plates on one end to mesh with the gears on the rod, and suitable indicating mechanism for locating the relative position of the clutch pins *a*. 5th. The combination of the elevator car, the detachable block 12, the lever pivoted to the detachable block and provided with projecting tongues, and mechanism for pushing forward the lever so as keep the tongues in position. 6th. The combination, with the movable lever on the elevator box, of the stud pin 15 attached to the wall of the building adapted to automatically engage with the tongue 14 on the lever when the box is moved so as to throw the tongue 10 on the lever out of engagement with clutch on the rod *k* 7th. The indicator O which consists of a semi-cylindrical case having two systems of vertical slots, one on each side of a central horizontal opening with the said horizontal slot, all in combination with the handle *f*. 8th. The electric signal for elevators consisting of the plate 29 carried by the elevator car, the springs 7 8 27 28, the battery and the connecting wires.

No. 15,174. Improvements on Sawing Machines. (*Perfectionnements aux scieries.*)

David Jesseman and Dorion G. Jesseman, (Assignees of Charles Jesseman,) Lisbon, N. H., U.S., 25th July, 1882; for 5 years.

Claim.—The combination of the balance wheel G provided with a series of pivoted holes *h* arranged in it, the driving gear H, pin or stud *b*, slide F, slotted part E, slide bar A, guides B B D and saw connecting rod C.

No. 15,175. Improvement in Paint Compounds. (*Perfectionnement dans les couleurs.*)

Anthony W. Burke, Stayner, Ont., 25th July, 1882; for 5 years.

Claim.—A liquid paint composed of petroleum oil, linseed oil, lime water, Canada balsam, resin, beeswax, japan, sulphate of zinc, soluble glass, rock salt alum, water lime, kaolin, asbestos and whiting the whole compound as and in about the proportionate quantities specified, with or without the addition of coloured pigments or petroleum gas tar in the variable quantity.

No. 15,176. Improvements in Boots and Shoes. (*Perfectionnements dans les chaussures.*)

Solomon K. Hindley, Worcester, (Assignee of Charles W. Shippee, Milford,) Mass., U. S., 25th July, 1882; for 5 years.

Claim.—A boot or shoe having the insole extended between the upper or vamp and the outer sole to their edges and secured to the said upper or vamp by a row of stitching or fastenings going through it and such insole, and also by a second row of stitches or fastenings aside of the first row and going through the upper or vamp, insole and outer sole.

No. 15,177. Improvement in Barrel Covers.

(*Perfectionnement des fonds de barils.*)

Francis M. James and Joseph W. Fearns, Big Rapids, Mich., U. S., 25th July, 1882; for 5 years.

Claim.—In combination with a barrel cover, the hooks *e* and the eccentric C, the edge of which is spirally grooved.

No. 15,178. Improvements in Reel Rakes for Harvesters, (*Perfectionnements aux râteaux des moissonneuses*)

William H. Knapp, Gatesburg, Mich., U. S., 25th July, 1882; for 5 years.

Claim.—1st. The band wheels carrying a chain or band with the rakes secured thereto, in combination with means adapted for grinding and supporting said rakes and throwing them into the grain, and carrying them back to and past the cutter bar in the parallel position. 2nd. The band wheels carrying a band or chain rakes, a cam guide or supporting way and means for operating said wheels and rakes to effect the object stated. 3rd. The band carrying the rakes and provided with the draw-bar and rake support, in combination with means for tripping the rakes. 4th. In a reaper reel and rake, the wheel and chain carrying rakes, in combination with means for guiding, supporting, turning, and tripping said rakes and throwing them into the grain in the parallel position to the cutter bar. 5th. The wheels and chain, or band carrying the rakes, a guide or way, adapted for guiding and supporting said rakes in transit around the