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INVENTIONS PATENTED.

NOTE-Patents are granted for 15 years. The term of years for which the fee has been paid, is given after the date of the patent.

No. 29,414. Car Heating Apparatus.

(Apparail de chauffage des wagons.)

The Sewall Safety Car Heating Company, Portland, Me., (assignee of Arthur C. Walworth, Boston, Mass.,) U.S., 3rd July, 1889, 5 years.

Claim—1st. The combination, with a car, of a system of circulating pipes within said car, and two heaters both in operative contact with said circulating system, or with branches thereof, and adapted to be operated simultaneously or separately for imparting heat thereto? 2nd. In a car heating system, the combination, with a system of water circulating pipes within the car, of a suitable radiator in contact with said circulating system or a branch thereof, mechanism for supplying said radiator with steam as a primary means of heating said circulating system, and a secondary heater also in operative contact with said circulating system and adapted to heat the same. 3rd. In a car heating apparatus, the main steam pipe, the branch pipe c, steam drum and coil, and the circulation pipes combined with the auxiliary heater also connected with the circulation pipes, substantially as described. Claim-1st. The combination, with a car, of a system of circulat-

No. 29,415. Carriage Step.

(Marche-pied de voiture.)

Frank B. Johnson and William F. Johnson, Addison, N. Y., U. S., 3rd July, 1883; 5 years.

Cam.—The combination of the stationary pendent main shank having affixed to it the apper step, and provided with a vertical sleeve, the supplemental shank sliding longitudinally in said sleeve and provided with the lower step, and spring latches holding the supplemental of the supplemental shank sliding the supplemental states. tal shank in its oldinated position, substantially as described and

No. 29,416. Electric Motor. (Moleur flectrique.)

The George F Card Manufacturing Company, (assignee of George F. Card), Covington, Ky., U.S., 3rd July, 1889, 5 years.

Card), Covington, K., U.S., 3rd July, 1883, 5 years.

Claim.—1st. In an electro-motor, the combination, with the exterior field magnet 5, of the following elements, to wit, the attached standard '2 perforated concentrically of the said field-magnet, the the sh. a 5 of the interposed armature, the bobbin-ring 4, and two-formed field-poics composed of the attached projections N. s i of the inner and outer field magnet, in the manner set forth. 2nd. In the described combination with the armature-ring 4, the attached non-magnetic web 10, the recessed disk 14, the nut 12, the gasket 18 and the series of commanator-plates 17, etips 18 and wasters 19 having metallic contact with the terminals 20, 21 of the pairs of consecutive armatum bobbins, substantially as set forth. armaturo bobbins, substantially as set forth.

No. 29,417. Burglar Alarm.

(Avertisseur & sonnerie.)

William E. McIntosh and Frank H. Wyman, Reene, N. H., U. S., Srd July, 1888; 5 years.

Claim.—In an alarm device, a chamber provided with a curved floor which is slotted at the centre, and a losse roller in said chamber, in combination with an alarm mechanism having a bell, and provided with a striking hammer which is provided with an arm or projection in position to enter the slot in the floor when the hammer makes its apward movement, substantially as and for the purposes described.

No. 29,418. Curtain Carrier. (Porte-rideau)

Alfred Wood, Detroit, Mich., U.S., 3rd July, 1888; 5 years.

Main.—1st The combination, with a ring, of a holder, balls or collers beld in place by said holder, said holder organizes the ends of the ring together, substantially as described. 2nd The combination, with a ring, of a holder, balls or rollers held in place by said helder.

the ends of said holder impinging against the ring, substantially as described. 3rd. The combination, with a ring, of a holder and balls or rollers mounted apon said holder as an axis, substantially as described. 4th. The combination of a ring, a holder and balls or rollers held in place by said holder, said holder provided with an eye, substantially as described. 5th. The combination, with a ring, of balls or rollers mounted upon axis, said axis provided with an eye, substantially as described. 5th. The combination, with a ring formed of bent metal, of a holder balls or rollers held in place therewith by said holder, the extremities, of said ring held together by the urpingement of the holder theroupon, substantially as described. 4th. The combination, with a ring formed of two or more sections, of two or more holders, balls or rollers secured in position by said holder the sections of the ring held together by said holders, substantially as described 8th. The combination, with a ring made of a piece of tubing, of a holder having its ends engaged with the adjacent ends of the ring, balls or rollers supported by said holder and projecting beyond the inner surface of the ring, substantially as described. 18th. The combination, with a ring, of a ball or roller axially engaged thereupon, substantially as described. 18th. The combination, with a ring, of a ball or rollers axially engaged thereupon, substantially as described. 18th. The combination, with a ring of rollers means for holding said balls or rollers in place, and uniting the adjacent edges—the ring, sabstantially as described. 18th. The combination, with a ring of bent tubular metal, of a holder provided with balls or rollers, said holder, substantially as described. 18th. The combination, with a ring of bent tubular metal, of a holder provided with balls or rollers, said holder located within the ring and having one or both its ends impinging against the shell of the ring, said balls or rollers projecting through the ring, substantially as described.

No. 29,419. Regulation of Dynamo-Electric Machine. Régulateur de machine dynamo-électrique.)

Enos T Higham and Daniel Higham, Philodelphia, Pena., U.S., 3rd July, 1883: 5 years.

July, 1833: 5 years.

Ciaim.—1st. The combination of the dynamo shaft and engine shaft, and a spring connection between the two, and devices controlling the supply of motive fluid to the engine, with a compensator for the springs, substantially as and on the purpose set forth. 2nd. In combination of a dynamo-electric machine and driving-shaft, with a lever fast to the shaft, a wheel louse from the shaft, and springs connection with the lever, varying the leverage of the louer in proportion to the varying tension of the samings substantially as set forth. 3rd. The combination of a dynamo-electric machine and driving-shaft, with a lever fast to the shaft, a wheel louse from the shaft, an eccentric controlled by the wheel and lever to operate the saire of the motive power engine, and springs connected at one and to the whoel, and having at the other end a connection with the lever varying the leverage of the latter in proportion to the varying tension of the springs, substantially as set forth, 4th. The combination of a dynamo-electric machine and driving-shaft, with the wheel loose on the shaft, a lever fast thereto and having inclined bearing-faces, with an eccentric operated by the wheel to control the engine-valve, and springs connected to the wheel and having strap connection with the inclined faces of the lever, all substantially as specified.

No. 29.420. Automatic Grain Meter. (Compleur automatique à grain.)

Alfred Springer, Chemanati, Ohio, and William Kent, Passaic, N.J., U.S., 3rd July, 1888; 15 years.

U.S., 3rd July, 1883; 15 years.

Claim—1st A grain moter embodying in combination with the ordinary mechanism for utilizing the weight of the grain, in producing automatically a rotary or vibratory movement of the parts, molecular pivot or pivots through, or by means of which a measured resisting force is applied to determine and regulate such movement, substantially as and for the purpose specified 2nd. The combination, in an automatic grain moter, of a pivoted disc or frame carrying receiving buckets, and rotated by the grain delivered successively to said buckets, a projecting stud upon said disc or frame, an engaging resisting arm oscillating upon a molecular pivot constituting an inde-