Claim.—1st. In a machine for cutting hoops, the combination, of the roller B1, adjustably secured between the arms C, C, pivoted bar P secured at one end to the roller B1, lever I, sprocket wheel S, chain R, connecting lever I and pivoted bar P, and spring J adapted to hold the roller B1 in operative position, substantially as described, for the purpose set forth. 2nd. In a machine for cutting hoops of substantially the described construction, the combination, with the sawarbor A, having pulley U and circular saw T, of the adjustable crossbeam H, having longitudinally slotted arms C, C, within which the laterally adjustable rollers A1, B1, are secured, all constructed and arranged to operate, substantially in the manner and for the purpose shown and described.

No. 18,641. Hood or Guard for Circular Saw.

(*Garde-Scie Circulaire.*)

Joseph G. Groff, Connersville, Ind., U. S., 7th February, 1884; 5 years.

Claim.—1st. An automatic self-adjusting guard for circular saws consisting of a hood hung upon a pivot, which has a free vertical movement in its bearings and having a forward inclined projection, upon which the advancing material to be sawed acts to raise the forward end of the hood, and having also another inclined surface, upon which the said material acts to raise the rear end of the hood, and thus cause the hood to rest wholly on the material, substantially as described. 2nd. An automatic self-adjusting guard or hood hung upon a pivot, which has a free vertical movement in its bearing and having a forward inclined projection, upon which the advancing material to be sawed acts to raise its forward end, another incline upon which said material acts to raise its rear end, and a third incline acting upon the material to gradually lower its rear end to the table again, as described. 3rd. The herein described saw guard having the rearwardly extending arms, the forward inclined projection and the angular bottom, in combination with the vertical slotted blade or plate, the pivot adjustable in said slotted plate, substantially as described. 4th. The combination of the hood having the rearwardly extending arms, the vertical slotted plate embraced by said arms, the pivot adjustable in said slotted plate, and the adjusting screw connecting the lugs on the arms, substantially as described. 5th. The combination of the vertical plate having the angular backwardly inclined lower end, with the socket plate on the table having a socket corresponding to the lower end of the vertical plate, with a saw hood pivoted to the vertical plate and projecting to the front thereof, the whole arranged substantially as described. 6th. The combination of the hood having the rearwardly extending arms, the vertically adjustable pivot, the slotted plate having the angular lower end, the angular socket in which the lower end of said plate fits, substantially as described. 7th. The combination of the hood having the rearwardly extended arms, the adjustable pivot, the slotted plate and the means for limiting the descent of the rear end of the hood, substantially as described. 8th. The combination of the rearwardly extending arms of the hood embracing the vertical plate, the vertical plate having the vertical slot and the circular opening at the end of the slot, and the pivot bolt having the grooved shank, the whole arranged and operating substantially as described. 9th. The combination of the vertical plate, the hood having the rearwardly extending arms and the slot in its rear portion for receiving the vertical plate, substantially as described. 10th. The combination of the plate having the vertical slots, the hood having the rearwardly extending arms, and the rollers carried by the said arms working in the said vertical slots, substantially as described. 11th. The plate having the vertical slots, the hood having the rearwardly extended arms embracing the plate, the lower arms having horizontal slots, in combination with the rollers carried by said arms and working in the slots of the plate, substantially as described. 12th. The combination of the plate having the two vertical slots for the rollers, and the third slot for the adjusting set screw, with the hood having the rearwardly extending arms provided with the horizontal slots, the rollers carried by said arms and the adjusting set screw, substantially as described. 13th. The slotted frame A provided with the removable sides B, forward inclined projection C and rearward extending arms D, in combination with the vertical slotted and perforated blade F and detent E, substantially as shown and described. 14th. The vertical slotted and perforated blade F, in combination with the arms D, slotted frame A, removable sides B and forward inclined projection C, with or without the detent E, substantially as shown and described.

No. 18,642. Milk Can and Process for Cooling Milk and Purifying Cream.

(*Boîte à Lait et procédé pour rafraîchir le Lait et purifier la Crême.*)

William Morton and John H. Mayer, Wellesley, Ont., 7th February, 1884; 5 years.

Claim.—1st. The employment and use of a covering for a milk can, made of the materials and in the manner hereinbefore specified. 2nd. The process of cooling and purifying milk, by bringing the milk into almost direct contact with water, and thus procuring the absorption by the water of all gases and odours arising from the milk, and ensuring the more rapid cooling of the milk and rising of the cream purified by the absorption of such gases and odours. 3rd. The employment and use for such purpose of such a can covered, as hereinbefore described, in the process of submergence of milk in water, thus effectually securing the process of cooling, purifying and absorption, as hereinbefore set forth.

No. 18,643. Improvements in Gloves and Mitts. (*Perfectionnements aux Gants et aux Mitaines.*)

Jean B. A. Lanctot and François X. Lanctot, Montreal, Que., 7th February, 1884; 5 years.

Claim.—A glove having its front, back and thumb all cut out of one piece, substantially as herein set forth.

No. 18,644. Feeding Reservoir for Stoves Consuming Saw-Dust and the like. (*Réservoir-Alimentateur pour Poêles brûlant le bran de Scie ou autre Combustible Semblable.*)

Bernard Lemay, Coaticook, Que., 7th February, 1884; 5 years.

Reclâme.—1o. La combinaison, avec le tuyau réservoir A et des clefs B, C, tel que décrit. 2o. La combinaison, avec le tuyau réservoir A et les clefs B, C, des manches H, H, de la charnière E, de l'alarme J, de la corde F, de la poulie K et des barres flexibles D, tel que décrit et pour les fins indiquées. 3o. Le gril M, muni de dents relevées *a*, *a*, *a*, *a*, *a*, *a*, tel que décrit. 4o. La combinaison du gril M, muni de dents relevées *a*, *a*, *a*, *a*, *a*, *a*, avec le gril L, tel que ci-dessus décrit et pour les fins indiquées.

No. 18,645. Stock Car. (*Char à Bétail.*)

Marion H. Walker, White Hall, Ill., U. S., 7th February, 1884; 5 years

Claim.—1st. In a stock car having an end doorway, the combination of the said car, a gangway platform hinged at the base of said doorway and turning outward, the post *c* journalled vertically at one side of the doorway, and the door supported on said post, substantially in the manner described, whereby it may be moved longitudinally along, and swung with said post and adjusted to close the car doorway, or serve as a side guard to the gang platform, as and for the purposes specified. 2nd. The combination of the car having end doorway, the door hinged at one side of said doorway and provided with a suitable latch at its outer end, the gangway platform hinged at one end in the base of said doorway and adapted to be turned vertically outward or up against the door, and locking bar pivoted at one end on the car and swung across in front of platform B, and secured at its other end by means of hasp and staple, substantially as described and for the purposes specified. 3rd. In a stock car, the combination, with the car having a doorway and staples *a*1 arranged therein, of the platforms B, and straps *b* having their upper ends pivoted to the sides of the platform, and their lower ends bent laterally and extended into the staples *a*1, the said staples and straps serving as a hinge for the platform, and also to permit its elevation, substantially as described and for the purposes specified.

No. 18,646. Hydro-Carbon Furnace.

(*Calorifère à Hydrocarbure.*)

Orland D. Orvis, Chicago, Ill., U. S., 7th February, 1884; 5 years.

Claim—1st. The method of utilizing hydro-carbon liquids for heating purposes, the same consisting in forcing said liquid, by means of steam, into a retort heated by the furnace, in which retort the hydro-carbons rise and escape only in vaporous form to the fire-chamber, as hereinbefore set forth. 2nd. The method of utilizing hydro-carbon liquids for heating purposes, the same consisting in forcing said liquid by, and in conjunction with steam and air into a retort heated by the furnace, in which retort the hydro-carbons are vaporised and rise in their escape to the fire chamber, substantially as described. 3rd. The method of utilizing hydro-carbon liquids for heating purposes, the same consisting in forcing said liquids by means of steam into a retort heated by the furnace, in which retort the hydro-carbon vapors rise and escape in a sheet-like form into the fire or combustion chamber, substantially as described. 4th. The combination, with a steam and air inlet pipe of a furnace, of a hydro-carbon retort secured to the inner end of said pipe and projecting below the plane of the same, said retort being provided toward its upper end with an outlet for the escape of the hydro-carbon vapors generated, substantially as described. 5th. The combination, with a steam and air inlet pipe of a furnace, of a hydro-carbon retort secured to the inner end thereof and projecting below the plane of said pipe, said retort being provided toward its upper end and in a plane above the centre of the inlet pipe with an outlet for the escape of the hydro-carbon vapors, substantially as described. 6th. The combination, with the retort, the inlet pipe, the globe vacuum chamber and means, substantially as described, for supplying steam and air to the same, of an oil nozzle opening in the inlet pipe at a point between said retort and chamber, and means for supplying the oil, all substantially as described.

No. 18,647. Magazine Electric Lamp.

(*Lampe Electrique à charbons continus.*)

Nelson S. White, Canton, Walter N. Dole, Lynn, and Albert F. Upton, Newtonville, (assignees of Alenza T. Gifford, Hopedale,) Mass., U. S., 8th February, 1884; 5 years.

Claim.—1st. In an electric lamp, the combination, with the magazine provided with devices for discharging single pencils successively therefrom, of the endless chain provided with projections for striking the pencils discharged and forcing them toward the opposite electrode, and suitable devices for operating said chain automatically as the result of increased resistance in the lamp circuit, substantially as described. 2nd. The combination, with the magazine provided with the automatically closing doors and automatic means for discharging the pencils through the doorway, of the endless chain provided with means for opening said doors and driving the discharged pencil forward longitudinally, substantially as described. 3rd. The magazine provided with the automatically closing doors, means for automatically discharging the pencils, and a guide for a single pencil outside of said doors, substantially as described. 4th. The combination, with the magazine provided with a guide for single pencils and with automatically closing doors, of the travelling chain provided with means for driving the pencils longitudinally, and automatic devices for opening the doors to permit a fresh pencil to pass, substantially as described. 5th. In an electric arc lamp, the combination, with the electro-magnets for lifting a carbon pencil from an opposite electrode, to establish the arc, of an electro-magnet of higher resistance in a derived circuit around said magnets, a feed operating magnet in a shunt circuit, and shunting devices operated by said magnet of