the leather in said tank, a drenching tank having communication with the degreasing tank, a steam jacketed pan for vaporizing the solvent communicating with the degreasing tank a longitudinal pipe located beneath and communicating with degreasing tank condensing coils connected with said longitudinal pipe and with the solvent storing tank, a pump for conveying the solvent from the storing tank, to the drenching tank, and a pan connected with the vaporizing chamber and with the degreasing tank, substantially as described. 4th. In an apparatus for degreasing leather, a degreasing tank formed with flanged pipes *c*, and provided with orifices *d*, communicating with said flanged pipes and provided also with an oblong passage *j*, and having angle and tee bars 17, located therein, substantially as described. 5th. In an apparatus for degreasing leather, the combination, with a degreasing tank, angle and tee bars located witin said tank, of perforated trays for showering the solvent upon the leather, and of leather supporting frames provided with rollers running on said angle and tee bars, substantially as described.

No. 40,550. Pavement. (*Pavé.*)

John Armstrong Chanler, New York, State of New York, U.S.A., 3rd October, 1892; 6 years.

Claim.—1st. The roadway, constructed substantially as described, of flat iron rails laid with their top surfaces flush with the general surface of the roadway, said flat iron rails being of sufficient width and so located as to be adapted to wheels of common vehicles, and filled in between with macadam or similar composition, substantially as and for the purposes described. 2nd. The improved roadway, consisting of the flat iron rails A, laid with their top surface flush with the general surface of the roadway, the macadam or composition B, and stone filling C, all combined together, substantially as and for the purposes described. 3rd. In a roadway, the tracks or ways for the wheels of vehicles, which consist of flat iron rails laid with their top surfaces flush with the general surface of the pavement and broad enough to accommodate the wheels of vehicles throughout the ordinary deviations of the horses between said rails, substantially as and for the purposes described.

No. 40,551. Wheel. (*Roue.*)

James Stothers, Melbourne, Ontario, Canada, 3rd October, 1892; 6 years.

Claim.—1st. As a new article of manufacture, a wheel, the portion of the felly of which between the tire and the end of the spoke tenon is left solid or integral with the main body of the felly, substantially as shown and described and for the purpose specified. 2nd. As a new article of manufacture, a wheel, having a plate or packing P, of rubber or other suitable pliable material, interposed between the end of said spoke tenon and the adjacent face of the felly, substantially as shown and described and for the purpose specified. 3rd. A felly, the portion of which between the tire and the end of the spoke tenon is left solid or integral with the main body of the felly, in combination, with a plate or packing of rubber or other suitable pliable material, interposed between the end of the spoke tenon and the adjacent face of the felly, substantially as shown and described and for the purpose specified.

No. 40,552. Method of Making Illuminating Gas.

(*Méthode de faire du gaz d'éclairage.*)

Julius Wiesender, San Francisco, California, U.S.A., 3rd October, 1892; 6 years.

Claims.—1st. The process of improving and purifying illuminating gas, consisting in subjecting the same to the action of hot and cold water or other liquid successively, subtantially as set forth. 2nd. The process of improving and purifying illuminating gas, consisting first in passing the gas through hot water, secondly in passing the gas through cold water, and thirdly in passing the gas through a suitable purifier, substantially as set forth. 3rd. The process of improving and purifying illuminating gas, consisting first in passing the gas through hot water, then through cold water, and finally through a purifying compound consisting of iron-planings and sand, in about the proportions stated, substantially as specified.

No. 40,553. Grain Binder. (*Lieuse à grain.*)

Louis H. Grieser, Duluth, Minnesota, U.S.A., 3rd October, 1892; 6 years.

Claims.—1st. The method herein described of binding grain, which consists in compressing a gavel unequally at intervals, thereby segregating strands or portions thereof, then successively separating such segregated strands or portions, and twisting them into a band, and finally tucking the free end of said band under the strands first twisted, substantially as specified. 2nd. In a grain binder the combination with the revoluble wheel, having the segmental flanges on its outer face, with spaces between the ends thereof; of the gates pivoted to said wheel, the inwardly projecting curved lug, the upright arm having a roller, the oscillating arm to which said rod in secured and the packer connected with said oscillating rod, substantially as specified. 3rd. In a grain binder the combination of the wheel having segmental flanges on its outer face, the gates pivoted to said wheel, the inwardly extending curved lug formed with or secured to one of said flanges, the upright having a roller at its upper end, the oscillating bar or rod to which said arm is secured, the segment and pinion, the bar or rod to which said pinion is secured, and the two part packer, substantially as specified. 4th. In a grain binder, the combination with the wheel having segmental flanges on its outer face, the gates pivoted to said wheel, the inwardly extending curved lug formed with or secured to one of said flanges, the upright arm having a roller at its upper end, the oscillating bar or rod to which said arm is secured, the segment and pinion, the bar or rod to which said pinion is secured, and the two part pivoted packer having V-shaped longitudinal grooves on its inner surface, substantially as specified. 5th. In a grain binder, the combination with the two part packer having longitudinal V-shaped grooves, and means substantially as described for actuating the same, of the wheel having a bevelled pinion, and the hub having a cogged disc, of the pinion journalled in front face of said wheel and meshing with said disc, the shaft connected with said pinion and rotated thereby, the cage carried by said shaft and provided with a finger, and a revolving shaft having a series of curved twisting blades, substantially as set forth. 6th. In a grain binder, the combination with the two part packer, and the driving wheel provided with a rotating shaft, of the carried by said shaft, having the finger, the revolving shaft, the pinions connected with said shafts, the curved twisting blades, and the roller adapted to run on the periphery of the packer, substantially as described. 7th. In a grain binder, the combination with the cage having the finger and revolver twister, of the two part packer, having longitudinal V-shaped grooves on its inner surface, and a reciprocating tucker, substantially as described. 8th. In a grain binder, the combination with a cage having a finger and a revolving twister, of the two part packer having longitudinal V-shaped grooves on its inner surface, the reciprocating tucker, working in a race in an extension of the packer and having its end bevelled forming a jaw, and the jaw pivoted to said tucker, and connected with said pivoted jaw, substantially as described. 9th. In a grain binder, the combination with the cage having the finger and revolving twister, of the reciprocating tucker working in a race in an extension of the packer, and having its front end bevelled forming a jaw and with a groove in its upper side, the jaw pivoted in lugs on said tucker, and the arm connected with said jaw and working in the aforesaid groove, substantially as described. 10th. In a grain binder, the combination with a cage having the finger and revolving twister, of the two part packer, the reciprocating tucker working in a race in an extension of the packer, and having its front end bevelled forming a jaw and with a groove in its upper side, the jaw pivoted in lugs on said tucker, a bar or rod connected with said pivoted jaw and working in said groove, a pin or stud on the said rod, a plate having a slot through which said stud projects, a shaft journalled on the said extension of the packer, and a two armed plate adapted to be struck by the cage in its movement and actuate the tucker, substantially as described. 11th. In a grain binder, the combination, with the cage having the finger and revolving twister, of the two part packer, the reciprocating tucker working in a race in an extension of the packer and having its front end bevelled, forming a jaw and with a groove in its upper side, the jaw pivoted in lugs on said tucker, a rod connected with said pivoted jaw and working in said groove, a pin or stud on the said rod an arm having a slot through which said stud passes, and at its other end provided with notches, a shalf journalled in the said extension of the packer, a two armed plate secured to said shaft, a pivoted spring pawl adapted to engage with said notches, a spring rod connected at one end with said pawl and having its outer end formed into a hook, and engaging with a stud on the other section of the packer, substantially as described. 12th. In a grain binder, the combination, with the packer made in two sections, pivoted together and provided with a series of V-shaped grooves on its inner surface, of the adjustable segmental plates, connected with said sections and provided with recesses having bevelled sides, whereby the size of said groove may be varied, substantially as specified. 13th. In a grain binder, the combination, with the binder driving wheel having segmental flanges and pivoted gates, an inwardly projecting lug or finger, of the oscillating bar having an upright carrying a roller, the segment mounted on the other end of said shaft having a projecting pin, the curved arm having an extension and slot, in which said stud works, the pivoted curved arms connected with said arm and having longitudinally extending bars provided with inwardly projecting slats, substantially as described. 14th. In a grain binder, the combination, with the binder driving wheel having segmental flanges on its outer face, pivoted gates and an inwardly projecting lug or finger, of the oscillating shaft having an upwardly extending arm provided with a roller, a segment secured to the opposite end of said shaft, the pinion meshing with said segment, the rod connected with said pinion, the bell crank lever and shaft connected therewith, the pivoted lever, the shaft having a crank, the rods connecting said levers and cranks, and the inwardly extending fingers or slats secured to said shafts, substantially as described. 15th. In a grain binder, the combination, with the oscillating shaft having a segment at one end provided with a stud, the pinion meshing with said segment, a rod connected with said pinion, a bell crank lever and shaft connected therewith, the pivoted lever, the shaft having a crank, the rods connecting said lever and cranks, and the inwardly extending fingers or slats secured to said shafts, of the pivoted arms having longitudinal bars, with inwardly extending fingers or slats, the curved arm pivoted to said arms and having a slotted extension in which the pin or stud on the segment works, substantially as described.