

No. 22,013. Manufacturing of Saccharine Compounds. (*Fabrication des Compositions Saccharines.*)

Constantni Fallberg, New York, N.Y., U.S., and Adolph List, Leipzig, Germany, 6th July, 1885; 15 years.

Claim.—1st. The process of making a new, sweet compound from toluene and other derivatives of coal tar, which consists of the following successive steps: first, converting toluene and the substitution products of benzene and its homologues into toluene-monosulphonic acids by fuming or concentrated sulphuric acid; second, converting the toluene-monosulphonic acids into calcium toluene monosulphonates by chalk or carbonate of lime; third, converting the calcium toluene-monosulphonates by sodium carbonate, or bi-carbonate, or any carbonate of the alkalies into sodium toluene-monosulphonate or any toluene monosulphonate of the alkalies; fourth, evaporating the sodium toluene-monosulphonate in open or vacuum pans, and cooling and drying the same; fifth, converting the dry product into the two isomeric toluene-monosulphochlorides and phosphochloride by the action of phosphor-pentachloride and separation of the resulting solid toluene-monosulphochloride in a centrifugal machine; sixth, converting the liquid toluene-monosulphochloride into the corresponding amid by treatment with caustic or carbonate of ammonia; seventh, treating the amid thus obtained with certain oxidizing agents in an alkaline solution to obtain the salts of the same; and, eighth, separating the pure saccharine compound from its salts by acids, acid salts, etc., substantially as described. 2nd. The process of making a new, sweet compound from toluene and other derivatives of coal-tar, which consists in converting toluene into toluene-sulphonic acid, oxidizing said acid or its salts into sulpholenzoic acid or its salts, then evaporating the latter and treating it with phosphor-penta-chloride, and caustic or carbonate of ammonia, and finally separating the pure saccharine from the ammonium salt thus obtained, substantially as set forth. 3rd. The regeneration of toluene and the generation at the same time of hydrochloric and sulphurous acids from the solid toluene monosulphochloride by the action of carbon, water, and superheated steam under pressure, substantially as described. 4th. The generation of chlorine for the preparation of phosphor-pentachloride from phosphoroxychloride, bleaching powder (hypochlorite of lime) and water, respectively, hydrochloric and phosphoric acids, or one of them, substantially as set forth. 5th. The saccharine compound, benzoic sulfide, substantially as described. 6th. The saccharine compound, benzoic sulfide, made by the process herein described.

No. 22,014. Pulley Block. (*Chape de Poulie.*)

Merrill R. Skinner, Hamburg, and Frank L. Bapst, Buffalo, N. Y., U.S., 6th July, 1885; 15 years.

Claim.—1st. The combination, with a pulley-block, of a chain catch secured to the casing of the block, and a changeable support, whereby the position of the block can be changed to place the catch in an operative or inoperative position at desire, substantially as set forth. 2nd. In combination with the pulley casing, of a supporting loop B, provided with two bearings *b*₁, *b*₂, substantially as set forth. 3rd. The combination, with the pillow casing, provided with depending rear portions *a*₁, of a catch E attached to said rear portions and a loop B provided with two bearings *b*₁, *b*₂, substantially as set forth. 4th. The combination, with the pulley casing, of a chain catch composed of a cross piece E, provided with jaws *e*, *e*₁ having notches *f* on their under sides, substantially as set forth. 5th. The combination, with the casing, of a pulley block and its pulley or sheave, of a chain catch adjustably secured to the casing, substantially as set forth.

No. 22,015. Improvements in Corsets, etc.

(*Perfectionnements dans les Corsets, etc.*)

Clinton E. Brush and Seely B. Brush, Toronto, Ont., (Assignees of James F. J. Gunning, New Haven, Ct., U.S.), 7th July, 1885; 5 years.

Claim.—1st. The stiffeners B, cut shorter than the section C, and secured in position by the fly A, substantially as and for the purpose specified. 2nd. The stiffeners B, cut shorter than the section C, and secured in position by the fly A, in combination with the cap E, arranged to cover and protect the ends of the stiffeners B, substantially as and for the purpose specified. 3rd. The stiffeners B, cut shorter than the section C, and secured in position by the fly A, in combination with the covering piece D, substantially as and for the purpose specified. 4th. The stiffeners B, cut shorter than the section C, D, and secured in position by the fly A, in combination with the cap E, arranged to cover the ends of the stiffeners B, and the covering piece D arranged to cover the whole, substantially as and for the purpose specified.

No. 22,016. Air Compressor.

(*Pompe de Compression*)

William T. Fox, Rochester, N.Y., U.S., 7th July, 1885; 5 years.

Claim.—1st. In an air compressor, the body composed of two cylindrical sections secured at their inner ends to opposite sides of the head C, the latter being mounted and arranged to oscillate upon trunnions, substantially as described. 2nd. In an air compressor, the combination, with the tilting air chambers B, B₁, valve-casing E₁, provided with water passages *e*₁, *e*₂ of the valves *e*, *e*₁, connected by a gear rack *e*₂, gear segment *e*₃, mounted upon a stem *f* and a depending weighted arm F, secured to the stem, substantially as set forth. 3rd. In an air compressor, the combination, with the tilting air chambers B, B₁, of water inlet valves G, G₁, valve seats *g*₅, whereby the two valves are opened and closed alternately, substantially as set forth. 4th. The combination, with the tilting air chambers B, B₁, of a weight J pivoted to the said air chambers, and supporting surfaces whereby the weight is held on one or the other side of the trunnions by which the air chambers are supported, substantially as set forth. 5th. The combination, with the tilting air chambers B, B₁, of the air inlet passages *h*, *h*₁, and air valves *i*, *i*₁, attached to a rocking beam,

whereby said passages are alternately opened and closed, substantially as set forth. 6th. The combination, with the tilting air chambers B, B₁, of the air inlet passages *h*, *h*₁ and air valves *i*, *i*₁ attached to a rocking beam I, and a weight J whereby such passages are alternately opened and closed, substantially as set forth. 7th. The combination, with the tilting air chambers B, B₁, of a water inlet valve and a depending weighted arm whereby said valve is shifted, substantially as set forth. 8th. The combination, with the tilting air chambers B, B₁, of the inwardly opening valve G, valve seat *g*, and guide *g*₆, and a weighted connecting bar, whereby said valve is shifted, substantially as set forth. 9th. The combination, with the tilting air chambers B, B₁, of the air valves K₂, arranged in openings in the chambers B, B₁, cap K and air conduit *k*, substantially as set forth. 10th. The combination, with the tilting air chambers B, B₁, of a flexible stop or support D, whereby the movement of the chambers B, B₁ is arrested, substantially as set forth. 11th. The combination, with an air compressor, of the movable counter weighted water discharge trap M, provided with tube *n*, adapted to be opened and closed by the motion of the trap, substantially as set forth. 12th. The combination, with an air compressing apparatus, of the movable counter weighted water discharge trap M, provided with tube *n*, adapted to be operated and closed by the movement of the trap, and a tube or pipe, whereby the compressor and trap are connected, substantially as set forth. 13th. The combination, with the movable trap M, provided with tube *n* and support *m*, of the arm *r*₁ and weight *p*, whereby the opening into the tube *m* is adapted to be closed against the bottom of the trough, substantially as set forth. 14th. The combination, with an air compressing apparatus and the pipe through which the compressed air is delivered, of a water trap in which the water carried by the compressed air is deposited, and means whereby the water is automatically discharged from the trap, substantially as set forth. 15th. The combination, with an air compressing apparatus, of a pressure regulator consisting of the inlet pipe *t*, chamber *t*₂, tube *u*, provided with a piston U at its lower end, chamber *u*₁, and adjustable spring *v*, substantially as set forth.

No. 22,017. Grapple for Lifting Barre ls.

(*Loue pour Soulever les Barils.*)

Anthony Flansbury, Saratoga, N.Y., U.S., 7th July, 1885; 5 years.

Claim.—1st. A grapple for lifting and carrying barrels and other objects, consisting of two horizontal and parallel bars, the extremities of which form the handles, and two frames connected thereto and pivoted together, substantially as and for the purposes set forth. 2nd. A grapple for lifting and carrying barrels and other objects, consisting of two horizontal and parallel bars and two frames connected thereto and pivoted together, the lower portion of said frames being curved to correspond in form to the object to be lifted and carried, substantially as and for the purpose specified.

No. 22,018. Machine for Wringing Clothes.

(*Essoreuse à Linge.*)

Charles F. Smith (Assignee of George D. Armstrong), Belleville, Ont., 7th July, 1885; 5 years.

Claim.—1st. The lugs *a*, *a*₁, having shoulders *e*, upon which the boxes D may rest, substantially as and for the purpose hereinbefore set forth. 2nd. The lugs *a*, *a*₁, having shoulders, in combination with the boxes D, bearings *d*, clips *e*, and spring C, substantially as and for the purpose hereinbefore set forth.

No. 22,019. Protected Nitrate of Ammonia for use in Explosive Compounds.

(*Azotate d'Ammoniaque Protégé pour servir dans les Composés Explosibles.*)

Russell S. Penniman, Dover, N.J., U.S., 8th July, 1885; 15 years.

Claim.—Nitrate of ammonia in a finely divided, or in a granulated condition, protected against deliquescence by a coating of petroleum or its soft and viscous educts or products, substantially as described.

No. 22,020. Wire Mat. (*Sommier Elastique*)

Henry T. Windt, Toronto, Ont., 8th July, 1885; 5 years)

Claim.—1st. A series of helically twisted wires A, coupled together by intertwining with each other, in combination with a series of wires B, correspondingly twisted, but arranged to intertwire with and at right angles to the series of wires A, substantially as and for the purpose specified. 2nd. A series of wires A, each twisted in the form of a right hand helix, and intertwined with each other, in combination with a series of wires B, each twisted in the form of a left-hand helix, and arranged to intertwire with and at right angles to the series of wires A, substantially as and for the purpose specified.

No. 22,021. Hook. (*Crochet.*)

Peter F. Chambard, Fayette, Ohio, U.S., 8th July, 1885; 5 years.

Claim.—1st. The hook A, formed at its end with a shoulder extending at right angles to the hook, and an eye or loop formed with said shoulder and projecting rearwardly and inwardly therefrom, so that its opening will be on a line with the hook, and also extending downwardly below the shoulder, as shown and described for the purpose set forth. 2nd. The hook A, formed with a shoulder extending at right angles to said hook, and an eye or loop formed with said shoulder and projecting rearwardly therefrom, so that its opening will be on a line with the hook and extending below the shoulder, as shown, in combination with a bar or link pivoted to the hook, and operating as and for the purpose set forth.

No. 22,022. Electric Valve for Regulating Temperature, etc. (*Valve Electrique pour Régler la Température, etc.*)

Warren S. Johnson, Whitewater, Wis., U.S., 8th July, 1885; 5 years.