

of said pipes with the pipes G¹, L¹, one of which has the shoulders engaged by the catches, and the spring-pressed hemispherical sections N¹, engaging the spherical section and having the pipes O¹, fitting on the ends of the pipes G¹, O¹, substantially as described.

No. 37,165. Wood Screw. (*Vis à bois.*)

American Screw Company, assignees of Charles D. Rogers, all of Providence, Rhode Island, U.S.A., 15th August, 1891; 15 years.

Claim.—A pointed screw having the thread or threads upon the cylindrical body extended with the same diameter over a part of the surface forming the point.

No. 37,166. Generator for Steam.

(*Générateur de vapeur.*)

James Joseph Bush, Newark, New Jersey, and Thomas Francis Powers, Brooklyn, New York, both in U.S.A., 15th August, 1891; 5 years.

Claim.—1st. The combination, with a boiler, of a water heater and steam generator consisting of a pipe or series of pipes, as B, arranged immediately below the boiler and in the fire box or flame chamber, communicating through a coupling at one end with a pipe which communicates with the boiler at or near the bottom thereof, and at the other end through a coupling or water box, as D, with a pipe which communicates with the boiler at or near the top thereof, substantially as shown and described. 2nd. The combination, with a boiler, of a water heater and steam generator consisting of a series of straight pipes B, arranged immediately below the boiler and in the fire box or flame chamber, communicating through a compound coupling at one end with a single pipe which also communicates with the boiler at or near the top thereof, and at the other end through a compound expansion coupling with a pipe which communicates with the boiler at or near the bottom thereof, substantially as shown and described. 3rd. The combination, with a boiler, of a water heater and steam generator consisting of a series of straight pipes, as B, arranged immediately below the boiler and in the fire box or flame chamber, communicating through a compound coupling at one end with a single pipe which also communicates with the boiler at or near the top thereof, and at the other end through a compound expansion coupling with a pipe which communicates with the boiler at or near the bottom thereof, the said couplings being also provided with passages, as J, in a direct line with the pipes of the series, substantially as shown and described. 4th. The combination, with a boiler, of a steam generator consisting of a series of pipes B, arranged immediately below the boiler, the couplings F, and D, the pipes E, and C, and the mud drum G, the pipe E, being in communication with the boiler at one end at or near the bottom thereof, and the pipe C, being in communication therewith at the opposite end, and at or near the top thereof, each of said pipes being also in communication with each of the pipes of the series B, by means of curved passages in the couplings F, and D, said couplings being also provided with passages J, which communicate with the pipes B, in a direct line, substantially as shown and described. 5th. The combination, with a boiler, of a steam generator consisting of a series of pipes B, arranged immediately below the boiler, the couplings F, and D, the pipes E, and C, and the mud drum G, the pipe E, being in communication with the boiler at one end at or near the bottom thereof, and the pipe C, being in communication therewith at the opposite end, and at or near the top thereof, each of said pipes being also in communication with each of the pipes of the series B, by means of curved passages in the couplings F, and D, said couplings being also provided with passages J, which communicate with the pipes B, in a direct line, and the mud drum being in communication with the pipe E, by means of a passage through coupling F, in a direct line therewith, substantially as shown and described. 6th. The combination, with a boiler, of the steam generating pipes B, the expansion couplings F, the coupling D, and pipes C, and E, the construction being such that there is a direct communication from the lower part of the boiler at one end, and the upper part of the boiler at the other end, through said pipes and couplings, substantially as shown and described. 7th. The combination in a steam generator, of a coupling having a series of longitudinal passages entering the same at one end and communicating with the central vertical passage, a series of longitudinal passages entering at the opposite end, and communicating with the first named passages in a direct line therewith, substantially as shown and described. 8th. The combination, with a boiler, of a series of pipes B, arranged beneath the same, the coupling provided with passages with which the pipes B communicate, the passages closed by the plugs K, and the passages with which the pipes E, and H, communicate, said series of pipes being in communication with the boiler, substantially as shown and described.

No. 37,167. Stomach Pump. (*Pompe stomacale.*)

William M. Lottridge, James E. Valjean, and William V. Simmonds, all of Portsmouth, Ohio, U.S.A., 15th August, 1891; 5 years.

Claim.—1st. A surgical device, comprising an exhausting and forcing apparatus provided with a valve chest or casing having suitable inlet and outlet ports, a valve reversing device fitted in said chest, and oppositely working valves seated in said reversing device, in openings which register with said inlet and outlet ports, whereby the valves may be reversed so as to convert either valve into an inlet or exhaust valve at will, substantially as described. 2nd. In combination, with the exhausting and forcing apparatus, having a valve chest or casing provided with suitable inlet and outlet ports, a rotary valve reversing device or turn plug provided with oppositely working valves seated therein, in openings which register with said inlet and outlet ports, and a suitable operating handle, whereby the reversing device may be rotated to reverse the valves so as to fill or exhaust the pump barrel through either valve, substantially as described. 3rd. The combination, with the pump cylinder and plun-

ger, the valve chest or casing having a transverse bore or opening extending through the same, a valve reversing device or turn plug fitted in said opening having a suitable operating handle, and apertures or openings therein which register with the inlet and exhaust ports of the valve casing, and oppositely reciprocating valves seated in said apertures, substantially as described.

No. 37,168. Art of Making Screws.

(*Fabrication des vis.*)

Nettlefolds Limited, assignees of Hugh Nettlefold and John Sheldon, all of Birmingham, England, 15th August, 1891; 5 years.

Claim.—Manufacturing screws threaded or wormed by pressure, by first reducing a screw blank (having a shank of uniform thickness, and of a length sufficient to provide for the rolling of the screw) in its diameter, for a portion of its length, and secondly by the operation of pressing mechanism, worming or threading the part of the blank of reduced diameter, thereby forming a screw, the wormed or screwed part of which is of a diameter about or not exceeding that of the part of the finished screw on which no screw thread is formed, substantially as herein stated.

No. 37,169. Tobacco Spraying Machine.

(*Pulvérisateur pour le tabac.*)

John Thomas Carter, Danville, Virginia, U. S. A., 15th August, 1891; 10 years.

Claim.—1st. The combination of the agitating device with an atomizing device, the same consisting of a tank, a rotated liquid raising roller therein, a scraping blade adapted to gather a quantity of the liquid from said roller, and a brush roll adapted to project the liquid from said blade, substantially as specified. 2nd. The combination, with an agitating device, of an atomizing device, the same consisting of a tank, a water raising roller therein, and a rotated brush adapted to bear against the surface of the roller and to discharge the film of water carried thereby, substantially as specified. 3rd. The combination, with an agitating device, of an atomizer consisting of a liquid gathering roller, a brush roller adapted to regulate the thickness of the film of liquid carried by the liquid gathering roll, substantially as specified. 4th. The combination, in a tobacco treating machine, of an atomizer with an agitating device, the same consisting of a belt adapted to carry the tobacco and devices for guiding said belt into the form of a partial cylinder, substantially as described. 5th. The combination, in a tobacco treating machine, of an atomizer with an agitating device comprising a surplus slatted belt guided to the form of a partial cylinder, the surplus covering being made to assume the form of ribs, substantially as specified. 6th. The combination, in a tobacco treating machine, of an atomizer with an agitating device comprising a slatted belt curved to the form of a partial cylinder, and a brush rotated in contact with said belt to clean the same, substantially as specified. 7th. The combination, in a tobacco treating machine, of an atomizer with an agitating device comprising a slatted belt in the form of a partial cylinder, link belts at the opposite edges of said slatted belt, sprocket wheels adapted to guide said link belts and a tobacco feeding device, substantially as specified. 8th. The combination, in a tobacco treating machine, of the frame longitudinal shafts mounted in bearings on said frame, a slack agitating belt passing around said shafts, with an atomizer and a feed chute situated in front of said belt, substantially as and for the purpose set forth. 9th. The combination, in a tobacco treating machine, of the belt composed of a series of slats, one portion of the belt being covered with canvas or other flexible material, and the other portion of the belt being covered with plates, with an atomizing device opposite that portion of the belt covered with plates, substantially as set forth. 10th. The combination, in a machine for treating tobacco, of the carrying belt, one portion of the belt having canvas or other suitable material on its surface, the other portion of the belt having plates which overlap with an atomizing device opposite that portion of the belt carrying the overlapping plate, substantially as set forth. 11th. The combination, in a tobacco treating machine, of the carrying belt mechanism for driving the same, said belt being arranged on an incline so that the tobacco will be fed transversely by gravity with an atomizer arranged in front of the belt, so that, as the tobacco is fed along the belt, it will be sprinkled with the liquid from the atomizer, substantially as set forth. 12th. The combination of the shafts B, and C, sprocket wheels thereon, tobacco carrying belt adapted to said sprocket wheels, with positive driving belt wheels on said shafts, positive driving belt adapted to said wheels, one of said positive driving wheels being adjustable on its shaft, whereby the trough of the belt can be regulated to have more or less curve, substantially as set forth.

No. 37,170. Means for Connecting Tubes and Pipes. (*Moyen de joindre les tuyaux et les tubes.*)

Edwin Lewis and Sons, (assignees of William Howard Lewis), all of Wolverhampton, England, 15th August, 1891; 5 years.

Claim.—1st. The combination, in a joint for joining or connecting tubes or pipes of the T-shaped collar c, c', consisting of a flat ring having at its outer edge a cross head or rim, thereby forming a right angled projection or annular shoulder at each side of the collar, under which projections or shoulders the flanged ends of the tubes or pipes are pressed and held and the packing prevented from being forced or blown out, the said T-shaped collar and flanged ends of the pipes or tubes being used in conjunction with loose gripping rings or flanges or loose gripping rings or flanges and separate bosses, substantially as hereinbefore stated. 2nd. The combination, with the T-shaped collar c, c', and the flanged ends of the pipes or tubes, of gripping rings or flanges each made in three parts for the purposes and substantially as hereinbefore stated. 3rd. The combina-