

No. 29,642. Incombustible Paint. (*Peinture incombustible.*)

Frank De Coninck, San Francisco, Cal., U. S., 7th August, 1888; 5 years.

Claim.—An incombustible paint, composed of pulverized asbestos, oxide of zinc, chloride of zinc, borate of ammonia and gelatine, in the proportions and for the purposes specified.

No. 29,643. Extraction of Metals from Refractory, Complex and other Ores. (*Extraction les metaux des minerais réfractaires, complexes et autres.*)

Henry L. Lewis, London, and Charles B. Phillips, Chester, Eng., 7th August, 1888; 5 years.

Claim.—1st. The extraction of the gold and silver, or either metal, from auriferous or argentiferous ores, with or without the simultaneous production of pig iron or alloys of iron, by reducing such ores in a blast furnace, together with manganese or manganesiferous ores, and iron and lead or ores containing the same, or either of them, in the requisite proportions, with suitable fluxes, substantially as above described, having regard to the amount of manganese iron and lead already present in the ores to be treated. 2nd. In the above described process, the simultaneous production of pig-iron and auriferous or argentiferous lead by the employment of a blast furnace, constructed substantially as described. 3rd. The employment in the above described process of treating auriferous and auriferous ores, of a furnace constructed with a solid hearth crucible, and with several tap holes used at various levels, in the manner and for the purposes substantially as described.

No. 29,644. Washing, Bleaching and Dyeing Textile Materials and Machinery and Apparatus for use Therein. (*Lavage, blanchiment et teinture des matières textiles et machinerie et appareils pour cet objet.*)

Ely Sutcliffe and George E. Sutcliffe, Halifax, Eng., 7th August, 1888; 5 years.

Claim.—1st. The general arrangement and combination of apparatus for washing, dyeing and drying textile materials, substantially as hereinbefore described and shown. 2nd. In preparing packages of sliver for dyeing or treating coloring, the sliver eccentrically and progressively around a central perforated tube *b*, as shown at Fig. 2 of the drawings. 3rd. Dyeing or washing a package *a* of sliver coiled in the indicated manner upon a perforated tube *b*, by mounting it upon a hollow perforated revolving shaft *h*, provided with collars *k*, spaced equally apart, the package *a* being surrounded by a porous envelope *l*, and the whole surrounded by an outer case *f*, within which the package of sliver and envelope are revolved in one direction, while dyeing or washing liquid is being forced through it, and in the other direction to partially remove moisture, all substantially as described and shown. 4th. Drying the dyed or washed package *a* of sliver, by mounting it on its hollow perforated core *b*, between hollow centres *e, e*, through which cold or heated air is forced, substantially as described and shown.

No. 29,645. Art or Process of Manufacturing Gas for Illuminating and Heating Purposes. (*Mode de production du gaz pour l'éclairage et le chauffage.*)

John B. Archer, Washington, D.C., U.S., 7th August, 1888; 5 years.

Claim.—1st. In a gas making apparatus, a heater consisting of two coils of pipe, the one within the other, and an annular jacket or body of iron or steel cast directly around the outer coil, as and for the purpose described. 2nd. The combination of the furnace, the two coils of pipe, the one within the other, the cylindrical casing of iron or steel surrounding the outer pipe, and an annular casing or furnace wall of refractory material, as and for the purpose described. 3rd. In a gas making apparatus, a vapor heater consisting of two coils of pipes, the one within the other, the open end of the inner pipe terminating at a short distance from the closed end of the outer pipe, as and for the purpose described. 4th. In a gas making apparatus, a vapor generating chamber and a heater consisting of two coils of pipe, the one within the other, the open end of the inner pipe terminating at a short distance from the closed end of the outer pipe, combined together as and for the purpose described. 5th. The combination of the casing *C*, having a dependant part *S*, the spherical shell *P*, provided with perforated shelves *h*, the oil induction and vapor eduction pipes, and the pipe *H* coiled within the dependant part, as and for the purpose described. 6th. The combination of the casing *C* having a dependant part *S*, the spherical shell *P* and the coil *H* coiled within the dependant part, as and for the purpose described. 7th. In a gas making apparatus, a vapor heater consisting of two coils of pipe the one within the other, in combination with a retort communicating with the outer pipe, as and for the purpose described. 8th. The combination of the furnace, the two coils of pipe, the one within the other, the cylindrical casing of iron or steel surrounding the outer pipe, and a furnace wall in which is placed an annular retort. 9th. In a gas making apparatus, the combination of the vaporizing retort, the oil induction pipe, the vapor eduction pipe, and branch pipe leading from the oil induction pipe to the vapor eduction pipe, as and for the purpose described. 10th. The combination of the furnace, the two coils of pipe, the one within the other, the cylindrical casing of iron or steel surrounding the outer pipe, and a furnace wall enclosing the steam superheating pipe, as and for the purpose described. 11th. In a gas making apparatus, a superheater consisting of a coil of pipes and annular jacket or body of iron or steel cast directly around said coils. 12th. The combination of the furnace, the steam superheating

coil of pipes enclosed in a cylindrical casing of iron or steel, the vapor coil of pipes enclosed in a cylindrical casing of iron or steel, inlet pipes for steam and oil, and outlet pipes. 13th. The combination of the superheating coil of pipe, the cylindrical casing of iron or steel surrounding such coil of pipe, and an arular casing or furnace wall of refractory material. 14th. The combination of a spherical chamber provided with steam and oil induction pipe and deflecting plates, a vapor eduction pipe projecting downward from the spherical chamber, and casing surrounding the spherical chamber and vapor eduction pipe. 15th. The process of manufacturing gas which consists in, first, superheating the steam, second, intermixing with the superheated steam about one half of the oil to be vaporized, third, intermixing the vaporized oil and steam in a mixing chamber, fourth, adding the remaining portion of the oil required to the mixture, and, fifth, heating the mixture to form a fixed gas by surfaces which are not in direct contact with the flame, as and for the purpose described.

No. 29,646. Nail Finishing Machine. (*Machine à finir les clous.*)

Erastus E. Pierce, New Brighton, Penn., U. S., 7th August, 1888; 5 years.

Claim.—1st. The combination, with finishing dies, of a transferring device provided with grasping jaws, and indenting dies adapted to indent the nail blank presented by the transferring device, substantially as described. 2nd. The combination, with finishing and indenting dies adapted to finish and indent the nail blank, and a shearing device, of a transferring device provided with grasping jaws for taking the nail after it has passed between the roller dies, and presenting it to the indenting dies, and from thence taking and presenting it to the shearing device, substantially as described. 3rd. The combination, with a nail indenting device, and a transferring device to feed successive nail blanks to said indenting device, of a second transfer device, jaws adapted to size and remove the blank after it has been indented, substantially as described. 4th. The combination, with a nail indenting device, and a transferring device provided with jaws adapted to feed successive nail blanks to said indenting device, of a second set of jaws adapted to seize and remove the blank after it has been indented, substantially as described. 5th. The combination, with finishing dies and a shearing device, of intermediate indenting dies, and a transfer device arranged and operating to carry the blank from the finishing to the indenting dies, and then to the shearing device in a reversed position, substantially as described. 6th. The combination in a device for feeding successive blanks, of a rotating notched disk *q*, detent and two sets of jaws mounted adjacent to said disk, and means for rocking said jaws, one of said sets of jaws adapted to feed the blank part of the distance, and the other set adapted to take said blank and feed it the remainder of the distance, substantially as described. 7th. The combination, with finishing dies and a shearing device, of a nail blank feeding device, and an indenting device consisting of a pair of dies between which the blank is presented by two feeding device, substantially as described. 8th. The combination, with a nail blank feeding device, of an indenting device consisting of a stationary die, and a movable die or anvil, and means, substantially as described, for moving the latter against the stationary die. 9th. The combination, with a blank feeding device, of an arm carrying indenting dies and adjustably supported to bring said dies to operate on the end of the blank, after the latter is presented in position by the feeding device, substantially as described. 10th. The combination, with a nail blank feeding device, for feeding and holding the blanks to be indented, of a carrier movable to and from the end of the blank, and an indenting device carried by said carrier, substantially as described. 11th. The combination, with a nail blank feeding device for feeding blanks to be indented, of an indenting device carried by a vibrating carrier, whereby to first embrace the blank held by the feeding device, and then to indent it, substantially as described. 12th. The combination, with a movable carrier for a nail blank, of indenting dies and die operating mechanism, and a carrier for said dies reciprocating to and from the blank carrier to carry the dies into position to operate on the blank, and then out of the path of the blank prior to its further movement by the blank carrier, substantially as described. 13th. The combination of a carrier, a supporting shaft, indenting dies supported by said carrier, a toggle arm for operating one of the dies, and a rocking sleeve on said shaft having a socket for said toggle arm, substantially as described. 14th. The combination of a rock shaft, a carrier hung thereon and carrying a stationary and a movable indenting die, a support for the movable die, and a toggle arm connected therewith and seated in a socket in the shaft, and a connection having a limited play between the shaft and the carrier, substantially as described. 15th. The combination, with an arm provided with an indenting die, as 9, of a pivoted tongue carried by said arm, and having an anvil co-operating with said die, and a device bringing the said anvil and the indenting die together, substantially as described. 16th. The combination, with a rocking arm carrying an indenting die, as 9, of a tongue carried by said arm, and having an anvil co-operating with said die, and a device for rocking said arm, substantially as described. 17th. The combination, with an oscillating shaft and an arm mounted thereon, of a tongue carried by said arm and anvil, and die carried by the tongue and arm, and a toggle whereby to press the die and anvil towards each other, substantially as described. 18th. The combination, with an arm carrying an indenting die as 9, of a tongue carried by said arm, and having an anvil for co-operation with said die, and provided with a tapering mouth for centering the blank between the die and anvil, substantially as described. 19th. The combination, with a disk rotating in one direction of two pairs of jaws, the jaws of each pair mounted upon opposite sides of said disk, adapted to rotate both with and in an opposite direction to the disk, substantially as described. 20th. The combination, with an anvil of a revolving head carrying a guiding device, and cutters for centering and shearing the blank upon the anvil, of adjustable arms, as *j*, for operating the guiding device, substantially as described. 21st. The combination, with a shearing device, of an anvil, a revolving head carrying cutter arranged to shear against the edges of the anvil, a guiding device for centering the blanks upon the anvil, and adjustable arms, as *j*, for operating the guiding device, substantially as described. 22nd. The combina-