between the strips, in order to prevent the roof from cracking and covering the whole with cement.

No. 13,317. Improvements in the Manufacture of Gas. (*Perfectionnements dans la fabrication du gaz.*)

John Dixon, Liverpool, Eng., 16th August 1881; for 5 years.

Claim.—1st. In generating illuminating gas from metals, earths, earthy bases, acids, carbon and hydrocarbon substances, or liquids and other chemicals such as herein defined, by subjecting such materials or some of them, to a cherry-red heat in closed retorts, and intermittently injecting mixtures such as are above mentioned conveyed in solution by kerosine, or other equivalent, as a vehicle. 2nd. Generating illuminating gas from hydrocarbon liquids such as kerosine, in combination with certain metals, earths, earthy bases, acids, carbon or other chemicals, such as herein defined, by the chemical heat resulting from the combining of such ingredients, or some of them, in closed retorts, subjected to a cherry-red heat. 3rd. The use, in the manufacture of gas, of the several mixtures for the primary charge of the retorts. 4th. The use, in the manufacture of gas, of the secondary charge. 5th. Recovering the vehicle such as kerosene used in the generation of illuminating gas by extraction such kerosene from the gas in the hydraulic or first main and afterwards distilling and re-using the vehicle and the residuary products. 6th. The construction and arrangment of retorts used for generating gas. 7th. The construction and arrangement of retort supplier cisterns and the connection and combination of such retort supplier cisterns with the retorts.

No. 13,318. Improvements on Flying Targets.

(*Perfectionnements aux cibles volantes.*)

George Ligowski, Cincinnati, Ohio, U. S., 26th August 1881; for 5 years.

Claim.—1st. A concave or dish-shaped "flying target" composed of a suitable fragile material and having a tongue permanently attached to its exterior. 2nd. The tongue C glued or cemented to the exterior of a "flying target" and strengthened by a slotted washer D E or its equivalent. 3rd. A concave or dish-shaped flying target having attached to it a tongue or equivalent device that ensures an axial rotation of said target, when it is thrown from a trap. 4th. A dished or concave target adapted to be rotated axially by a force applied to its periphery when projected from a trap or sender.

No. 13,319. Improvements on Saw Gauges. (*Perfectionnements aux calibres des scies*)

John Gives, Galt, Ont., 26th August 1881; for 5 years.

Claim.—1st. In a saw dressing device composed of a file holder formed by back A, top B and flange C, a gauge for the cutting and clearing teeth formed by the recess D in top B and back A, a saw set formed by the nicks E in back A, and a setting gauge formed by the recesses F. 2nd. The plate A with recess in top B having ribs *b*. 3rd. The gauge recess D for jointing clearing teeth of saws, in combination with the file holder formed by top B and flanges C for jointing cutting teeth, and gauge recess F for regulating set of cutting teeth and saw set nick E. 4th. The file holder formed by back A, top B and flanges C, in combination with the saw set E and gauge F for setting saws. 5th. The saw-set E, in combination with setting gauge F.

No. 13,320. Improvements on Door Springs.

(*Perfectionnements aux ressorts des portes.*)

Theodore Butler and Hugh McConnell, Cleveland, Ohio, U. S., 26th August, 1881; for 5 years.

Claim.—1st. The combination of a shaft A having in four opposite sides thereof, a groove, oblong socket C in which the said shaft is inserted and secured, having a lug projecting from the inner side thereof corresponding to the grooves, for locking the shaft by its engagement with the said grooves or groove, and a bracket for attaching the spring to the door.

No. 13,321. Improvements on Berth Locks for Sleeping Cars. (*Perfectionnements aux serrures des lits des chars dortoirs.*)

James L. Howard and Charles P. Howard, Hartford, Ct., U. S., 26th August, 1881; for 5 years.

Claim.—1st. One or more spring car-berth latches combined with a handle, and with means whereby the latches are held positively out of operation when the berth is in use, and thrown into operative position when the berth is being moved out of use. 2nd. In a lock for the hinged berths of railway cars, the combination of the handled spindle *h j*, provided with a cross arm or arms *l* and having both a turning and a longitudinal movement within fixed bearings on the berth frame, with a fixed racket plate or cap *k m*, which forms a lock for the cross arm or arms *l* and means for connecting said arm or arms with the latch or latches of the berth. 3rd. The combination of the handled spindle *h j*, provided with a cross arm or arms *l* and having both a turning and a longitudinal movement within fixed bearings on the berth frame, a fixed ratchet plate or cap *k m*, which forms a lock for the cross arm or arms *l*, a spring *q* adapted to control the inward longitudinal movement of said handle spindle, and means for connecting said arm or arms with the latch or latches of the berth. 4th. The combination of the handled spindle *h j*, provided with a cross arm or arms *l* and having both a turning and a longitudinal movement within fixed bearings on the berth frame, a fixed ratchet plate or cap *k m*, which forms a lock for the cross arm or arms *l*, the stops *t t* on the fixed ratchet plate, which limit the throw of the arms *l l*, and means for connecting said arm or arms with the latch or latches of the berth. 5th. The combination, with the latch or latches of the berth, of a locking and unlocking device connected with the said latches by means of a connecting contrivance *d p w* or its equivalent, whereby the latches are caused to move with the locking device when they are to be locked in or back, and are allowed a movement independent of the locking device when they are not locked in or back. 6th. The combination of pivoted swing latches, draw bars having pivoted connections with the free or swing ends of said latches, springs *f* for projecting said latches, and a spring *u* interposed between the latch and its pivoted draw-bar connection. 7th. The handle spindle *h j* provided with arms *l l*, a fixed locking plate or cap *k m* and the spring *q*, in combination with the latch connecting rods *u u* and the spring draw-bar connections of the latches, the said connecting so as having swivelled or pivoted boss connections with the arms *l l*, and the throw of the arms being limited by the stops *t t* on the fixed locking plate. 8th. The combination, with the berth frame, of a safety locking device centrally located therewith, and consisting of a handled spindle provided with cross arm, an interior fixed ratchet plate, an exterior sunken or cap plate for said handle, and a spring adapted to control the inward longitudinal movement of said handle spindle, the said locking device being connected with, and actuating latches which, at times, have movements independent of said lock connections. 9th. The handle spindle *h j*, provided with arms *l* and having both a turning and a longitudinal movement, a fixed bearing cap *k* having locking teeth *m* and forming a guard for the arms *l*, in combination with rods *u u*, pivoted latches *a a* and draw-bars *d* having pivoted connections with the swing or free ends of said latches, and adapted for independent movement therewith upon the lock connecting rods *u u*.

No. 13,322. Improvements on Street Connections for Hydrants. (*Perfectionnements aux tuyaux de raccordement pour les bornes-fontaines.*)

Michael Folliard, Brooklyn, N. Y., U. S., 26th August, 1881: for 5 years..

Claim.—1st. The combination of a return bend with the sheet main B and with the hydrant A situated either on the sidewalk or inside of a building, said return bend being formed in the manner described. 2nd. The combination of the street main, the pipe D, the bell E, the stop valve in said pipe beneath the bell and the hydrant. 3rd. The combination of the street main, the return bend C C^1, the pipe D rising from said return bend, the bell E, the stop valve in said pipe beneath the bell and the hydrant.

No. 13,323. Improvements on Baling Presses.

(*Perfectionnements aux presses d'empaquetage.*)

David Z. Seely, Albany, (Assignee of Alexander Buckman, Schodrack,) N. Y., U. S., 26th August, 1881: for 5 years.

Claim.—1st. The combination, with the press-box A and reciprocating plunger B, of a double acting toggle joint for imparting motion to said plunger, composed of the lever C arranged to vibrate on the main centre pin *c*, and the connecting bar C^1 pivoted to the plunger B and lever C, and the sweep D, the said toggle joint being adapted to move in such manner that the knuckle at c^1 will, at each alternate motion, protrude at opposite sides of the press. 2nd. The combination, with the centre pin *c* for the plunger moving mechanism, having its lower end secured to the bed of the press, of one or more detachable braces E secured to the head of the pin *c* and to the upper side of the press-box A. 3rd. The combination, with the baling chamber of the press and the plunger B, of the retaining device consisting of the spring yoke G provided with the roller *g* and serrated cross bar g^2, and the springs g^1 g^4. 4th. The retainers H provided with angle pieces *h* h^2, in combination with the plunger B provided with the hook pieces *b* adapted to co-operate with the angle pieces h^2 and move the retainers H with a positive motion. 5th. The combination, with the reciprocating plunger B, of a toggle joint composed of the lever C arranged to vibrate on the centre pin *c*, and connecting bar C^1 pivoted to the plunger B and lever C, and the detachable sweep D adapted to connect to the lever C. 6th. The separators J having slat channels *j* provided with spurs *j*^{1} and the tie grooves j^2. 7th. The detachable auxiliary baling chamber K adapted to receive a compressed and tied bale from a baling press.

No. 13,324. Improvements on Combined Fish and Animal Traps. (*Perfectionnements aux pièges combinés pour les bêtes et le poisson.*)

John S. Simpson, Nashville, Ten., U. S., 29th August, 1881: for 5 years.

Claim.—1st. In a fish and animal trap, the combination, with a plate D having projecting prongs *d*, of the separate sharp pointed blades or prongs E^1 suspended from the laterally adjustable shaft E in an inclined position, and the intermediate spring coils *e* also mounted on said shaft E. 2nd. The combination, with the side frame A^1 A^2 and shelves *c c*, of the removable partitions *i i*, rods *l l* and gates L L. 3rd. The combination, with the side frame A^1 A^2 and end inlet doors, of the shelves *c c* c^1, central glass bait-box C and compartments I I K provided with suitable doors or gates. 4th. In a combined fish and animal trap having perforated sides A^1 A^2, perforated lids B B, transparent bait-box C, inwardly swinging gates composed of separately pivoted rods E^1, and compartments I I K provided with removable partitions *i c*, gates L L and doors J J.

No. 13,325. Paint Brush Handle. (*Manche de pinceau.*)

The Napanee Brush Company, Napanee, Ont., (Assignee of Frederick W. Smith, Napanee, Ont., the Assignee of George W. Schermerhorn, East Limington, Me., U. S.,) 26th August, 1881: (Extension of Patent No. 6,485.)

No. 13,326. Improvements in Shoes. (*Perfectionnements dans les souliers.*)

Edwin Adams, East Salisbury, Mass., U. S., 29th August, 1881: for 5 years.

Claim.—1st. The improvement, in the manufacture of turned shoes with spring heels, which consists in stitching the upper and counter, wrong side out, to the inner surface of the sole as for turned work, connecting the same together from end to end, then turning the shoe, disconnecting the heel end of the sole from the counter and counter stiffener, inserting a heel lift or piece between the heel end of the sole and the counter, and securing the heel end of the sole, the said lift and the counter, and counter stiffener together by means of fastenings inserted through and through the said parts. 2nd. A turned shoe hav-