

**Claim.**—1st. A pan forming machine operated by a cam shaft and having a reciprocating male die, the female die having side and end wings that operate in succession upon the blank. 2nd. The combination, with the reciprocating male die, of the female die having side and end wings that operate in succession upon the blank, and corner folders that act after the end wings have operated. 3rd. The combination, with the reciprocating male die, of the stationary side wings or plates, between which the blank is forced by the male die, and the folding end wings, operated simultaneously independent of the movement of the male die. 4th. The combination, with the reciprocating male die, of the female die having stationary side wings or plates, and folding end wings which turn the ends of the blank and then fall back out of the way, and the corner folders working across the open ends of the female die, while the male die is in its lowest position. 5th. The combination, with the reciprocating male die, of the female die having stationary side wings and folding end wings and the vertically yielding plate forming the bottom of the female die. 6th. The combination, with the folding end wings of the female die, of the stationary side wings adjustably and removably secured to the bed of the machine. 7th. The folding end wings of the female die, in combination with rock bars to which such end wings are removably secured, and boxes in which the rock bars turn adjustably secured upon the frame of the machine, such rock bars being connected with the operating mechanism and working the said end wings independent of the movement of the male die. 8th. The combination, with the end wing of rock bars upon which they are mounted, and the adjustable boxes in which said rock bars turn the cranks in the end of the rock bars, and the slotted T-slide for operating the rock bars simultaneously and permitting the adjustment of the boxes. 9th. The combination, with the end folders, rock bars, adjustable boxes, cranks and slotted T-slide, of the links connecting the T-slide with the cranks, such links being adjustable in their length. 10th. The combination, with the folding end wings, of the rock bars, the adjustable boxes, the cranks, the slotted T-slide, the adjustable connecting links, the lever pivoted to the frame and connected with such T-slide, and the pin wheel on the cam shaft which depresses the lever for operating such folding end wings. 11th. The combination, with the folding end wings of the female die, of the corner folders, adjustable with such end wings towards and away from the centre of the machine. 12th. The combination, with the folding end wings, the rock bars upon which they are mounted, and the adjustable boxes in which the rock bars turn, of the corner folders sliding as bars secured at their ends to such boxes. 13th. The combination, with the corner folders, mounted on blocks which slide on laterally adjustable cross-bars, of slotted arms, adjustably secured to rock shafts running at right angles to said cross bars and connected with such blocks, and suitable means for connecting the rock shafts with the operating shaft. 14th. The combination, with the adjustable corner folders, the sliding blocks and cross-bars, of the adjustable slotted arms, the rock shafts, the segmental gears connecting the rock shafts so that they will operate simultaneously, and suitable means for connecting the segmental gears with the operating shaft. 15th. The combination, with the adjustable corner folders, the sliding blocks, cross-bars, adjustable slotted arms, rock shafts, and connecting segmental gears, of a pivoted lever beneath the bed of the machine, connected with one of such gears and with a lever at or near the top of the machine, and a pin wheel keyed on the cam shaft, for operating such corner folders. 16th. The combination with the male die, of an edge turning frame supported on such male die and moving therewith, and pushed downward to turn the edge of the pan independent of the cam rod that works such male die. 17th. The combination, with the male die worked by a cam, of the edge turning frame surrounding the cam rod of the male die and connected with two operating rods, which are forced down by cams situated on the same shaft as the die cam and on opposite sides of such die cam. 18th. The combination, with the male die worked by a cam, of the edge turning frame, supported on the male die by springs and moving therewith, and independent cams for forcing such edge turning frame downward against the pressure of the springs, while the male die is in its lowest position. 19th. The combination, with the male die and the folding wings of the female die, of the edge turning frame operated by cams, such folding wings being raised into position before the edge turner acts. 20th. The combination of the vertically moving male die, the female die having side and end wings that operate in succession, the corner folders operating after the sides and ends of the pan have been formed, and the edge turner acting after the operation of the corner folders. 21st. A pan forming machine having, in combination, the male die having a simple vertical movement with a stop at each end thereof, the stationary side wings of the female die between which the blank is forced by the male die, the folding end wings of the female die which turn up the ends of the blank, then fall back to make room for the corner folders, and then rise up again to support the edge of the pan, the corner folders folding the corners of the pan between the movements of the end wings, and the edge turner operating after the end wings have risen the second time, all of such movements commencing with the first operation of the folding end wings being effected, while the male die is resting at the lowest limit of its movement.

**No. 12,519. Improvements on Waggon Axle Cutters.** (*Perfectionnements aux coupleurs pour les essieux des wagons.*)

Charles E. Pearson, Iperville, Que., (Assignee of John Harris and William Kirkpatrick, Hinesburg, Vt., U.S.), 19th March, 1881; for 5 years.

**Claim.**—1st. The chuck A provided with movable jaws *b b* adjusted by set screws and fitted to receive a removable collar *a*, in combination with the sleeve *c* and the feed wheel *B* screwed upon it. 2nd. The combination, with the chuck, of the face plate *C*, feed wheel *B*, sleeve *c* and removable cutting tool, the parts being arranged to operate as shown. 3rd. The combination of the chuck A for attaching the machine to the axle, the removable collar, sleeve *c*, feed wheel and face plate, arranged as described.

**No. 12,520. Improvements on Gas Heating and Cooking Apparatus.** (*Perfectionnements aux appareils de chauffage et de cuisine à gaz.*)

Albanus W. Morton, Brooklyn, N.Y., U.S., 19th March, 1881; for 5 years.

**Claim.**—1st. The combination, in a gas stove or heater, of the flue B and the burners A placed to heat the said flue. 2nd. The combination of wire-netting D with the flue B, and a series of burners A placed to heat the said flue and thereby cause the upward draught of a volume of air through the flue and in contact with the heated netting. 3rd. The combination of the

flue B provided with the wire-netting D, the series of burners A placed to heat the flue B and its contained wire-netting, and the studs or radiators *m* placed to communicate heat to a secondary volume of air during its passage, to unite with the primary volume of air heated by its passage through the flue B. 4th. The combination, with one or more burners A, of the gas inlet M having the nozzle *s*, and the cut off P arranged to shut off at will the inlet of air to the gas chamber. 5th. The combination, in a gas stove or heater, of a gas chamber C heat radiating studs or spurs *w* springing from the plate *a*, and one or more burners placed to heat the plate *a*, thereby to heat the radiating studs or spurs, and in burning the gaseous material as it passes to the burner. 6th. In a burner for gas stoves, &c., the combination of the platinum foil, or other refractory substance, with the burners arranged in rotation with each other as described, whereby light is produced by a comparatively small portion of the calorific of the flames while the major part of said calorific is applied to heating the metal of the burners in order that heat may be radiated therefrom. 7th. A gas heater composed of a series of burners, the outlets of which are arranged to throw the flames in immediate contact with the material or substance of the burners in a horizontal direction, or at an angle below the horizontal. 8th. A gas heater composed of a series of prism-shaped burners A, the gas outlets of which are arranged to secure the contact or impingement of the flames. 9th. The combination of platinum foil A or other refractory substances, with a series of burners arranged to heat the said foil or substance. 10th. The baffle B', in combination with the chamber C, the series of burners A and the gas inlet pipes M provided with means for the admission of atmospheric air. 11th. In a gas cooking or heating oven, a heat radiating bottom *f'* and a series of gas jets placed in the top of said oven, the whole combined and arranged to permit the article to be baked to be placed between and simultaneously subjected to the action of the heat radiating bottom *f'*, and of the naked flames of the gas jets or the heat directly radiated from said flame burners. 12th. The oven C\* having a series of gas jets A in its upper part, and at its lower part the heat radiating bottom *f'*, and in its sides the openings *a\**, in combination with the jacket E\* having, between it and the oven C\*, the space F\* and provided at bottom with the opening H\*, and at top with the opening C\*. 13th. The flange *b* in combination with the series of gas jets A placed in the upper part of the oven C\*, the said oven being constructed with the openings *a\** in its sides.

**No. 12,521. Method of Packing Fish for Transportation.** (*Méthode d'emballage du poisson pour l'exportation.*)

Enoch Piper, St. John, N.B., 19th March, 1881; (Extension of Patent No. 5,827).

**No. 12,522. Improvements on Paper Files.** (*Perfectionnements aux serre-papiers.*)

Adélar F. Martel, Montreal, and François Gourdeau, Ottawa, Ont., 19th March, 1881; for 5 years.

**Claim.**—In an automatic or other file, the open box composed of the bottom A to which are fitted sides B B, and piece C to which is attached the spring E, catch G and fastener to clamping board D by fastener F.

**No. 12,523. Improvements on Barrel Swings.** (*Perfectionnements aux porte-barils.*)

William J. Marden, Constantine, Mich., U.S., 21st March, 1881; for 15 years.

**Claim.**—1st. In a barrel swing in which the barrel is swung from under a counter upon a swivel-post, the combination of said swivel-post, a barrel cover adapted to be raised clear of and lowered upon the barrel, and an attachment of the swivel-post, whereby the swing of the barrel raises and lowers the cover. 2nd. In combination with swivel-post, a barrel cover and a raising and lowering cord attached to said swivel-post and to the cover, to give a winding leverage as the post turns, whereby said cover is raised and lowered automatically by the swinging of the barrel. 3rd. The lower holding jaw for the barrel chime composed of the two cast plates *n o* provided with offset angles *p* having coinciding semi-circular openings *y* and fastened by a through bolt to the post. 4th. The top jaw connection with the barrel chime, consisting of the casting F provided with the open neck hook *u*, in combination with the angle wire grasp having a free movement therein, to adapt said grasp to be raised over the chime. 5th. The combination of the angle stop *f f'* depending from the counter, with the strap *g* connecting said stop with the barrel cover and the cover raising and lowering attachment of the swivel-post, whereby to preserve the proper central rotation of said cover with the barrel.

**No. 12,524. Improvements on Billiard Cue Tips.** (*Perfectionnements aux procédés des queues de billards.*)

George C. Barney, Detroit, Mich., U.S., 21st March, 1881 for 5 years.

**Claim.**—A composition of matter, made up of chalk, whiting, emery sand, pulverized glass or stone with liquified India rubber, in equal proportions, so as to render the substance of sufficient hardness to be used as a billiard cue tip.

**No. 12,525. Improvements on Ore Concentrators.** (*Perfectionnements aux concentrateurs des minerais.*)

Judson J. Embrey, Fredericksburg, Va., U.S., 21st March, 1881; for 5 years.

**Claim.**—1st. The combination of a shaker A suspended from the main frame of the machine, means for imparting longitudinal movement of the shaker, and an endless travelling ore bed B which works in contact with, and has movement on, and is driven by a roller secured to said main frame. 2nd. A water distributor R<sub>2</sub> and means for vibrating it, independent of the shaker A, in combination with ore bed B, whereby, when the machine is in operation, the water shall be distributed crosswise of and over the bed.

**No. 12,526. Hay Rake.** (*Râteau à foin.*)

Onézime I. Bergeron, La Rochelle, Que., 21st March, 1881; for 5 years.

**Résumé.**—Le système d'élever on de baisser les blocs A A A qui permet d'ajuster les râteaux sur des roues de différente hauteur, la manœuvre