

use when required, and adjustable axles *b* be supported by wheels *a* and operated by levers, 4th The adjustable axles *b* be, guides *d* *d* and jaws *A*, *A*.

### No. 10,209. Improvements in Land Rollers.

(*Perfectionnements aux rouleaux d'agriculture.*)

John Dryman, Ramsey, Ont., 9th July, 1879, for 5 years.

*Claim*.—1st. The arrangement and combination of the roller *A*, journals *a*, boxes *b* and frame *B* having the tongue *C*, secured to one of its sides, with the brace *c* and seat *h*, 2nd. The forward roller *A* and frame *B*, connected with the rear roller *D* and frame *E* by the hinge *d* and brace chain *g*.

### No. 10,210. Improvements on Sun Dials.

(*Perfectionnements aux cadrans solaires.*)

Joseph W. Holmes, Wheatville, N. Y., U. S., 9th July, 1879, for 5 years.

*Claim*.—1st. The combination of a graduated quadrant or segment of a circle mounted on a horizontal axis, a pivoted graduated circle and a fixed graduated circle, both mounted upon the segment and a gnomon consisting of an arc of a circle, and a traversing arm having apertures and fixed upon the pivoted circle, 2nd. The combination of detachable sights with the traversing arm.

### No. 10,211. Improvements on Steam Boilers.

(*Perfectionnements aux chaudières à vapeur.*)

Edward H. Ashcroft, Lynn, Mass., (Assignee of Daniel Sullivan, Bangor, Me.), U. S., 9th July, 1879, for 5 years.

*Claim*.—The combination of a boiler and a steam drum or receiver, arranged and connected by a series of tubular necks, with a hood or casing enclosing the said drum or receiver and necks, and extending to the boiler and forming over the latter and about the drum and necks a space or chamber for the smoke and volatile products of combustion, from the smoke box or furnace, to circulate in and through previous to their escape into the chimney or discharge flue or duct, the steam boiler or drum having one or more connecting tubular extensions pressed out from, and in one piece with the metal from which the extension or extensions may project, each connecting neck of such boiler and drum being composed of two of such extensions arranged and riveted together, the steam boiler and drum connected by one or more tubular necks, each of which is composed in the whole or in part of tubular extensions, each of which is pressed out from and in one piece with the metal from which it may project, the steam boiler and drum connected, at their opposite ends, by such tubular extensions or necks, and having heads, each of which is in one piece of metal, and forms part of one of the necks.

### No. 10,212. Improvements on Sleighs.

(*Perfectionnements aux traîneaux.*)

Joseph T. Clarkson and George W. Morrill, both of Amesbury, Mass., U. S., 9th July, 1879, for 5 years.

*Claim*.—1st. The combination, with body *A* and frame *B*, of the elastic hinge bars *h*, 2nd. The combination, with the elastic hinge bars *h* and body *A*, of the elastic buffers *i*; 3rd. The combination of the elastic hinge bars *h* and the springs *m*, supported by the frame *B* and arranged to cushion the body *A*, 4th. In combination with the springs *n*, the pivoted guide rods *m*, 5th. The springs *o* arranged upon guide rods *m*, between the floor *C* and nuts *p*, 6th. In a tilting top or sleigh, the pivoted guide rods *m* secured to ends of the racking bar *l*.

### No. 10,213. Improvements on Photo-Mechanical Printing.

(*Perfectionnements dans l'impression photo-mécanique.*)

William E. Lindop and William A. Cooper, both of St. Thomas, Ont., and Benjamin F. Porelson and Adolph Mueller, both of Detroit, Mich., U. S., (Assignees of Johann B. Obernetter, Munich, Germany,) 9th July, 1879, for 5 years.

*Claim*.—1st. The process of preparing photographic plates, for printing from by mechanical means, which consists in forming first, on a transparent or non-transparent plate, a coating or film of albumen and soluble glass, and then applying thereto a second or sensitive film for receiving the photographic image, 2nd. As a new article of manufacture, a photographic printing plate provided with a ground coating of albumen and soluble glass and superposed sensitive coating or film.

### No. 10,214. Improvements on Harvester Pitmans.

(*Perfectionnements aux bielles des moissonneuses.*)

Christopher C. Bradley, Syracuse, N. Y., U. S., 9th July, 1879, for 5 years.

*Claim*.—The conical joint for the wrist pin bearing, in combination with the ball and socket joint for the cutter bar head.

### No. 10,215. Improvements on Car Starters.

(*Perfectionnements aux impulsurs des wagons.*)

John P. Weyer, Elmira, N. Y., U. S., 9th July, 1879, for 5 years.

*Claim*.—1st. The combination of the clutch rods *f*, eccentrics *g*, lever *z*, rods *j*, spring lever *l* and the brakes; 2nd. The drum *p*, placed loosely on the shaft *d* provided with the double ratchet *r*, in combination with the double pawl *t*, bent rod *u* and spring *v*, the spring being fastened to the middle of the pawl and made to exert its pressure upon either end of the pawl, 3rd. The combination of the roller *l*, having the recess or catch in one side, with the spring *C* and rod *7*, whereby the springs are prevented from being acted on when the car is going down hill, 4th. The combination of the clutch drum *p* with the spring *d*, fastened thereto, and the large drum *p*, whereby the large drum is made to act more quickly, 5th. The combination of the drum *p* turning loosely on the axle, the ratchet secured to the axle pawl, bent rod *u*, spring *v*, roller *l*, connecting chains and springs.

### No. 10,216. Improvements on Sash-Holders.

(*Perfectionnements aux arrête-croisés.*)

Jacob B. Yeagley, Indianapolis, Ind., U. S., 9th July, 1879, for 5 years.

*Claim*.—1st. The combination of the notched or grooved pivoted check shanks *D* *F*, spring *G*, elliptical tumbler *H* and key *K*; 2nd. The combination of the notched or grooved pivoted check shanks *D* *F*, spring *G*, elliptical tumbler *H*, key *K*, case plate *I* *J* and the window frame face plate *C*.

### No. 10,217. Improvements in Book Making.

(*Perfectionnements dans la confection des livres.*)

Ira Reynolds, Dayton, Ohio, U. S., 9th July, 1879, for 5 years.

*Claim*.—1st. A flexible consecutively ruled side opening book, composed of leaves, a flexible cover sheet board, both stitched through the centre and both folded in one fold, the stitching threads whereof are carried through and secured on the back or outside of the flexible cover sheet or board, and the dollar and cent or down line, or lines of which, on the right hand side of the book when opened and the date or down lines of which, on the left hand side of the book when opened, are consecutively ruled, 2nd. A blank book composed of paper and manilla or other tough cover sheet, held by a line of stitches through the centre and folded in one fold, the dollar and cent or down line or lines of which on the right hand side of the book when opened and the date or down lines of which on the left hand side of the book when opened, are consecutively ruled; 3rd. In combination with a flexible, consecutively ruled side opening book as above, a flexible side opening removable binder, arranged with one or more cords, tapes or bands around the pockets, which cords, tapes or bands are lapped where the ends come together, and reinforced at the points *a* *a* *a*, by turning the finishing leather around the cords, tapes or bands and inside boards of the pockets, 4th. A flexible end opening removable binder, arranged with one or more cords, tapes or bands around the pockets, which cords, tapes or bands are lapped where their ends come together and reinforced at the points *a* *a* *a* by turning the finishing leather under and around the cords, tapes or bands and side boards of the pocket; 5th. In combination with a flexible end opening removable binder, as above, a book complete, composed of leaves and flexible finishing board, both stitched through the centre, and both folded in one fold, the stitching threads whereof are carried through and secured on the back of the cover, 6th. In securing the convex portion of the back of a book with strong fletcher linen or other suitable material, by firmly pasting or glueing the same over the convex portion and between the cords, tapes or bands, flexible cover-sheet or board, and inside finishing sheet; 7th. The cords, tapes and bands, as passed through, and secured to, the outside of the flexible cover-sheet or board, in combination with the strong fletcher linen or other material, as firmly pasted or glued over the convex portion of the back of a book and between the cords, tapes or bands, flexible cover-sheet or board and inside finishing sheet; 8th. The stop *B*, as arranged for the adjustment of the two boards of the cover and back of the book cover, in combination with the former or representative book *A*; 9th. The springs *o*, arranged so as to bring the two points *w* of a book back on a level, while in the act of securing the two boards *n* *n*, of the book cover, 10th. The curved spring *p*, as arranged to press and hold the book back to the former *A*, while the two boards of the cover are being secured to the linen, or other suitable material, that is pasted or glued to the concave portion of the book back, 11th. The hub and band cut away on the inside as seen at *n*, or as cut away at *u*, and cast with elongated teeth, as seen at *h*, for the better security of the hub and band to the removable finishing binder; 12th. The corner and side tips, as cast with elongated teeth *k* *k*, on the inside, so that the same may be pressed down into, and firmly secured to, the cover of a finishing binder; 13th. A removable book cover, the back of which is made of metal having its two points turned in, so as to span and grasp the back of a book, and its points clipped or chamfered off as seen at *d* *d*, so as to obviate the cutting of the linen or other material at these points, 14th. A removable stitched book, provided with compressed longitudinal ribs upon its back, as seen at *i* *i*, and its corner clipped or compressed so as to more readily enter the removable cover *c*, which is shaped to span and grasp the same, 15th. The combination of the double spring back, the points *d* of the outer spring being clipped or chamfered off, so as to prevent the cutting of the linen, or other material, which holds the two lids of the cover, said linen or other material being glued and rivetted between the two springs, thus leaving the inner spring, with its points clipped or chamfered off, free and open to receive and grasp a book correspondingly so shaped as to be held firmly by the inwardly turned points *d* of the inner spring; 16th. The clamping frame *n*, arranged with guide supporting pieces *a*, as extended across slot 10, and of sufficient height to catch the points *a* *a*, of the upper guide supporting pieces when there is interposing paper laid between the upper and lower parts of the same, equal to the capacity of the stabber; 17th. In combination with the clamping frame *n*, arranged with guide supporting pieces *a* of sufficient height to catch the points *a*, of the upper guide supporting pieces, the rabbeted rib *b*, extended up and on a line with the upper face of the lower sections of the clamping frame; 18th. The swivelled screw adjusters arranged on both sides of the stabber, for the purpose of producing a simultaneous action of the sides of the sliding table *l*, 19th. The combination of the grooved square and straight-edge, as arranged to adjust the spindles to a perpendicular position, 20th. The adjustable driving roller or drum *B*, when it is dropped down so as to drive the spindles *p* *p*, either from the upper or lower side of the roller, without a guide roller.

### No. 10,218. Improvements in Sewing Machines.

(*Perfectionnements aux machines à coudre.*)

Edmund Wiseman, Luton, England, 10th July, 1879, for 5 years.

*Claim*.—1st. The application and use to, and in machines for uniting together bands or plaits of straw, or other similar material, by the particular kind of stitch herein referred to, of an eye pointed needle *a*, and a hooked instrument *b* working together, 2nd. The combination with the before mentioned arrangements of eye pointed needle *a* and hooked instrument *b*, working together, of the looper or loopers *c* *d*, for placing the needle thread in such a position as to be caught by the hooked instrument *b*, when withdrawing from the material, 3rd. The peculiar adjustable feed mechanism, consisting of the combination of the slides *y* *z* with the levers *w*, in conjunction with the pivoted feed bar *e*, 4th. The modifications of the feed mechanism re-