

of electric current, of means for locally converting such current or a portion thereof into a current of lower tension, a metallic rivet included in the circuit of the converted current and adapted to be heated by said current, and means, such as a reciprocating heading tool and anvil, for heading or upsetting the rivet when sufficiently softened or heated. 12th. In an electric riveting apparatus, the combination, with a distant primary generator or source of electric current, of means for locally converting such current or a portion thereof, a metallic rivet adapted to be heated by said converted current, means, substantially as described, for heading said rivet when heated, and a current-controlling device for controlling or regulating the rivet-heating current. 13th. In an electric riveting apparatus, the combination, with the jaw or frame of the machine, of a removable metallic anvil or heading tool carried thereby, but electrically insulated from it by an interposed sleeve or bushing of non-conducting material, substantially as described. 14th. In an electric riveting apparatus, the combination, with the movable heading mechanism for exerting endwise pressure upon a rivet or blank, of means for regulating the degree of incandescence of the rivet or blank while undergoing such pressure. 15th. In an electric riveting apparatus, a movable heading die forming one terminal of an electric circuit, and arranged to make initial electrical contact with the rivet for heating the same, and means for increasing the pressure exerted by it upon the rivet so as to head the same when the latter is sufficiently heated. 16th. In an electric riveting apparatus, rivet-heating tools or terminals made of metal having a higher specific conductivity than the rivet to be heated, substantially as described. 17th. In an electric riveting apparatus, a metallic heading tool and anvil forming the terminals of an electric heating circuit, and having a higher specific electrical conductivity than the rivets to be heated, substantially as described.

No. 34,946. Gaining Machine.

(Machine à rayure progressive.)

Joseph W. Baker and Edward Abraham Pennock, Chatham, Penn., U.S.A., 1st September, 1890; 5 years.

Claim.—1st. The combination, with a bed plate or frame provided with a rack, of a carriage mounted on the bed plate or frame, standards carried by the carriage, curved slots 26 formed in the standards, a shaft 25, with the axis of which the curved slots are concentric, a means for driving the shaft, a gear connecting the carriage and rack and operated from the drive shaft, a cutter-head shaft, boxes in which said shaft is mounted, said boxes riding in the standard slots, and a means for adjusting the boxes, substantially as described. 2nd. The combination, with a bed plate or frame provided with a rack, of a carriage mounted on the bed plate or frame, standards carried by the carriage, curved slots 26 formed in the standards, a shaft 25, with the axis of which the curved slots are concentric, a means for driving the shaft, a gear connecting the carriage and rack and operated from the drive shaft, a cutter-head shaft, boxes in which said shaft is mounted, said boxes riding in the standard slots, and adjusting screws 31, substantially as described. 3rd. In a gaining machine, the combination, with a bed plate provided with clamps and a rack, of a carriage, standards carried thereby, a driving shaft, a cutter-head shaft, gearing by which the shafts are connected, a worm carried by the driving shaft, a vertical shaft 35, provided with gears 34 and 39 meshing into the worm and rack respectively, and a shifting lever which engages the shaft 35, to throw the gear into and out of engagement with the rack, substantially as set forth. 4th. The combination, with the frame adapted to rest on the work, and provided on its under side with clamps for engaging opposite edges thereof, and a longitudinal rack on the frame, of a reciprocating carriage on the upper side of the frame provided with a horizontal tool shaft, a drive shaft parallel therewith and provided with an operating crank, and gearing connecting the crank-shaft and rack, whereby, when the crank is turned, the tool shaft will be rotated and the carriage propelled, substantially as set forth. 5th. The combination, with the frame 10, having longitudinal slots 12 in its side bars, clamps 14 on the underside of the frame, and provided with adjusting bolts 13 extending through said slots, a longitudinally extending screw 15 at the opposite end of the frame, provided at its inner end with a clamp 17, and the longitudinal rack 11 on one side bar, of the reciprocating carriage on said side bars, and provided with a tool shaft and gearing for operating said shaft and engaging said rack, substantially as set forth.

No. 34,947. Cooking Stove and Range.

(Poêle et landier de cuisine.)

The D. Moore Company, Hamilton, Ont. Canada, (assignee of William Augustus Greene, Berlin, Ont.), 1st September, 1890; 5 years.

Claim.—1st. In combination with a stove or range, a rabbet formed on the edge of the top plate and a corresponding rabbit formed on the top of a removable reservoir to fit the same, and the reservoir secured to the stove or range tops by bolts and nuts, substantially as and for the purpose described. 2nd. In combination, with a stove or range, a removable plate, detachable behind the lower part of the reservoir when the latter is attached to a stove or range, and arranged to be attached to the stove or range when the reservoir is removed, substantially as and for the purpose specified. 3rd. The combination of the removable plate E, with the top of the stove when the reservoir is removed, substantially as and for the purpose specified. 4th. In a stove, or range, the combination of the removable reservoir B, secured by bolts and nuts, oven set-off *cc* and space *y*, under the bottom of reservoir, substantially as and for the purpose specified. 5th. In combination with a stove or range, the front fire-door I, constructed and arranged with three permanent openings and three mica lights, and its draft slide J constructed with two openings, so that when the slide is in position on the door, three draft openings, or three mica lights, will always be exposed, substantially as and for the purpose specified. 6th. In a stove, or range, the combination of the air chamber S, in front of the fire-box K, draft op-

enings *r*, in the front plate L, air chamber *t* on three sides of the fire box, perforations *u* in the linings of the fire-box, and outer draft openings *v, v, v, v*, in the outer plates of the stove or range, for admitting oxygen to the interior of the fire-box, substantially as specified.

No. 34,948. Tongue Support.

(Appui de timon.)

John All Lemmon, Velpen, and John T. Corn, Jasper, Ind., U.S.A., 1st September, 1890; 5 years.

Claim.—In a tongue support, the combination of the tongue, the prop constructed of metal and having its upper end bent upon itself to form an eye, the staple engaging the eye and hinging the prop to the tongue, the spring-catch adapted to engage the free end of the prop and hold the same along the lower face of the tongue, and consisting of the metal plate depending from the tongue, and the spring secured to the lower end of the plate, and being inclined toward the prop, and having its free end provided with a shoulder, substantially as and for the purpose described.

No. 34,949. Machine for Cutting Excelsior.

(Machine pour réduire le bois en fibres.)

Charles Giles Smith, Detroit, Mich., U.S.A., 1st September, 1890; 5 years.

Claim.—1st. The combination, in an excelsior cutting machine, of the square shaft for carrying the slitting knives, and washers provided with journals at the ends to engage the journal bearing or box suitably connected with the cutter-frame, the screw-threads between the journal, and the square portion of the shaft for the reception of the nuts *c, c'*, the nuts *c, c'*, for holding the blades and washers in position, the cutting blades *e*, and the washers *f*, threaded alternately on the square shaft and held in position by the nuts *c, c'*, all substantially as shown and described. 2nd. The combination, in an excelsior cutting machine, of the square shaft for carrying the slitting knives, and washers provided with journals at the ends to engage the journal bearing or box suitably connected with the cutter-frame, from the screw threads between the journal, and the square portion of the shaft for the reception of the nuts *c, c'*, the nuts *c, c'*, for holding the blades and washers in position, the cutting blade *e*, the washers *f*, threaded alternately on the square shaft, and held in position by the nuts *c, c'*, the movable journal box or bearing *t*, for the reception of the journal on the slitter, seated in a recess in the proper journal box bearing, the journal box bearing *A*, provided with suitable recess to receive the movable journal box for the journal of the slitting knife, and provided with a stud *j*, to slide in the grooves *L, L*, in the post of the frame *D, D*, of the cutter-plate, and the frame of the cutter-plate provided with grooves in the posts for the reception of the stud on the journal box bearing, all substantially as shown and described. 3rd. In an excelsior cutting machine, the combination of the posts *D, D*, provided with grooves *L, L*, for the reception of the shaving knives *A*, and the stud *j*, on the journal box bearing *A*, of the roller slitter, the girts or bars *D¹, D¹*, at the upper and lower ends of the frame for the purpose of connecting the posts *D, D*, and holding the shaving knives and roller slitter or slitters in place, the shaving knives inserted in the grooves in the posts of the frame, the journal bearing box of the roller slitter inserted in the grooves in the post of the frame at any desirable point, and the roller slitter, journaled in the journal box in the journal box bearing, and the journal box, all substantially as shown and set forth. 4th. In an excelsior cutting machine, the combination of the shaving knives *A*, provided with a shoulder *W*, at each end on the outer face of the knife, to engage with suitable grooves or slots in the posts of the cutter frame, and suitable set-screws in the posts of the cutter frame, and suitable set-screws in the posts of the cutter frame, to engage with suitable grooves or slots in the posts of the cutter frame, to press the knives forward and hold them in position against the front part of the grooves *L, L*, in the posts *D, D*, all substantially as described. 5th. In an excelsior cutting machine, the combination of the shaving knives *A*, provided with a shoulder *W*, at each end on the outer face of the knife, to engage with suitable grooves or slots in the posts of the cutter frame, and suitable set-screws in the posts of the cutter frame, to engage with suitable grooves or slots in the posts of the cutter frame, to press the knives forward and hold them in position against the front part of the grooves *L, L*, in the posts *D, D*, and the blocks *t*, inserted in the grooves in the posts of the cutter frame under opposite ends of each alternate knife, giving an angular set to the knives, all substantially as shown and described. 6th. In an excelsior cutting machine, the combination of the shaving knives *A*, provided with a shoulder *W*, at each end on the outer face of the knife, to engage with suitable grooves or slots in the posts of the cutter frame, suitable set-screws in the posts on the rear of the knife to press the knives forward, and hold them in position against the front part of the grooves *L, L*, in the posts *D, D*, the blocks *t*, inserted in the grooves in the posts of the cutter frame under opposite ends of each alternate knife, giving an angular set to the knives, the journal box bearing inserted in the groove in the posts of the cutter plate at any point desired with reference to the shaving knives, the movable journal box inserted in the recess in the journal box bearing *A*, and the roller slitter journaled in the journal boxes, all substantially as set forth and for the purposes described. 7th. In an excelsior cutting machine, the combination of the standards *B, B*, carrying the cutter plate *S*, the table *B¹*, carrying the feed mechanism, the bracket *5*, arising from the table, and carrying the hub *7*, the arm *6*, extending from the bracket, slotted to receive the guide pin *9*, at the outer end of the screw threaded feed shaft *C*, the hub *7*, on the bracket, perforated for the passage of the feed shaft, the screw feed shaft passing through the hub *7*, having at its outer end a guide pin which runs in the slot in the arm *6*, the feed plate *F*, attached to the inner end of the screw feed shaft, supported by brackets *10*, which reciprocates in the groove in the table *B¹*, the beveled spur wheel *Q¹*, cored out at its center, internally screw threaded to receive the screw threaded feed shaft, the arm *12* extending horizontally from the bracket *5*, and supporting at its outer end in a proper journal, the shaft *13*, the shaft *13*, bearing on its inner end the spur wheel *V*,