

n between the adjustable saw collars *r*, so as to shift the position of the adjustable saw collars *r* on the mandrel B when motion is given to the cross-head, substantially as specified. 3rd. The combination of a press roller attached to a frame which is pivoted to the main frame, and the springs S which are bolted to the top of said main frame, the ends thereof being free, the ends of said roller being adapted to rest on said springs near the free ends, substantially as specified. 4th. The combination of the guard X, pivoted to the main frame, and having curved fingers Y which rest between the wheels on the rear press roller R, substantially as described and for the purpose specified. 5th. In an edger, the frame T cast in one piece, and having the upper portion T' in the form of a circle, at the centre of which the mandrel B has bearings, in combination with the movable bearing-piece N having arms which radiate from the said centre and bolted to the frame, substantially as specified. 6th. In an edger, the extension-piece A, which affords bearings for the friction-drum shaft C, and mandrel B, in combination with the main T of the machine to which said extension-piece is rigidly secured, substantially as described. 7th. The frame T, which affords bearings for shafts which carry the pulleys I, *k*, K, K<sub>1</sub>, in combination with the straight belt *i*, which is driven by motion communicated from the friction-wheel shaft G, substantially as specified. 8th. The frame T, which affords bearings for shafts which carry the pulleys I, *k*, K, K<sub>1</sub> and L, and the roller L, in combination with the straight belt *i* which is driven by friction-wheel shaft G, substantially as described and for the purpose specified. 9th. The combination of the mandrel B, the removable bearing-piece N bolted to the main frame, the fixed saw collars *s* and loose collars *t*, substantially as described and for the purpose specified.

**No. 26,845. Process of Moulding Articles of Fibrous Ware.** (*Procédé de moulage des objets de matières fibreuses.*)

Henry Carmichael, Boston, Mass, U.S., 4th June, 1887 : 5 years.

*Claim.*—1st. The improvement in the art of moulding articles of pulp, which consists in thoroughly drying the same in the press in which they are formed by means of a current of air. 2nd. The process of forming hollow ware from pulp, which consists in first subjecting the pulp to pressure between a flexible diaphragm and a perforated mould, and then forcing hot or cold air through the moulded article while in the press, substantially as described. 3rd. The improved apparatus for moulding articles from pulp, which consists of a compressing chamber provided with a perforated mould, and pulp and air connections, and a perforated diaphragm, as and for the purposes described. 4th. In an apparatus for moulding articles of pulp, the combination, with a pulp chamber provided with a pulp port and perforated cover, and a hood connecting with a source of air supply, of a plunger having a perforated mould plate corresponding to the shape of said cover and means for forcibly raising the plunger and expelling the moisture from the pulp, as described. 5th. In combination with a pulp chamber having a plunger, a pulp port, a perforated cover and a hood having a discharge orifice, and connected with a source of air supply, a plate within the hood mounted upon a suitable stem, substantially as described. 6th. As an article of manufacture, the article made of pulped fibre by the operation of compressing the watery pulp against a perforated mould, and subsequently expelling the moisture from the same while still in the mould by subjecting it to the action of hot or cold compressed air.

**No. 26,846. Ice Creeper.** (*Crampon à glace.*)

John G. Skinner, Oswego, N.Y., U.S., 4th June, 1887 : 5 years.

*Claim.*—1st. In an ice-creeper, a fastening-plate and an upwardly-bent and forwardly extending spring, both formed from a single blank, in combination with a heel-plate, one end of which is journalled in bearings on the fastening plate and rests under the spring, substantially as described. 2nd. In an ice-creeper, a fastening-plate and an upwardly-bent and forwardly extending spring, both formed from a single blank of the shape shown, the ends of the narrow side strips of the blank being bent into ring-shape to form bearings on the fastening-plate, in combination with a spurred heel-plate, one end of which is journalled in said bearings and rests under the spring, substantially as described.

**No. 26,847. Construction of Tunnels, Subways, or Arches.** (*Construction de tunnels, voies souterraines ou arches.*)

Charles C. Gillman, Eldora, Iowa, U.S., 4th June, 1887 : 5 years.

*Claim.*—1st. A subway, arch, tunnel, or similar structure, provided with a layer of porous earthenware, coated or saturated with asphalt, substantially as described. 2nd. A subway, tunnel, arch, or similar structure, the inner surface of which consists of, or is lined with porous earthenware coated or saturated with asphalt, substantially as described. 3rd. A subway, tunnel, arch, or similar structure, having an inner surface or lining formed of blocks of porous earthenware, coated or saturated with asphalt, and bonded together with the same material, substantially as described.

**No. 26,848. Electric Signalling Apparatus.** (*Appareil électrique à signaux.*)

Walter J. Dudley, Everett, Mass., U.S., 4th June, 1887 : 5 years.

*Claim.*—1st. A signal controlling instrument comprising a neutral electro-magnet and actuating armature and retractor therefor, a step by step device actuated by the said armature governing the operation of the signalling instrument, a stop member connected with the said step by step device, and a co-operating stop member, and neutral armature connected therewith, and retractor for the latter armature adjusted to cause the said armature to be attracted by the impulses that move the actuating armature, and to be held by residual magnetism between said impulses in position to engage the stop members, and to be retracted when the magnet is affected by currents of alternating polarity into position to disengage the stop

members, substantially as described. 2nd. The combination of a step by step device, and neutral electromagnet and actuating armature and retractor therefor, with a stop member carried by the said step by step device, a co-operating stop member and controlling armature therefor held by residual magnetism in position to engage the other member and arrest the step by step device at the union point while the actuating armature is being operated, a signalling instrument operated by currents of alternating polarity and shunt therefor, a circuit controlling device in said shunt operated by the step by step device to open the said shunt at one stop in its movement, a telephone and shunt circuit therefor, and a circuit controlling device in said shunt circuit operated by the step by step device being opened when the said device is arrested at the union point, and also when the shunt of the signalling instrument is opened, substantially as described. 3rd. The combination of the step by step device, and electromagnet and actuating armature and retractor therefor, with telephonic instrument connected with the circuit of the said magnet, and a shunt for said instruments and armature operated by said magnet controlling the said shunt, which is closed by the said armature at each impulse that operates the step by step actuating armature, substantially as described. 4th. A step by step device provided with a stop member, and with devices controlling the circuit of a telephone and signalling instrument, combined with the telephone supporting switch, and a stop member controlled thereby being placed by the said supporting switch when the telephone is removed therefrom in position to engage the stop member of the step by step device, and arrest the said device in position to place the telephone in circuit, substantially as described.

**No. 26,849. Window Curtain and Mosquito Bar Combined.** (*Rideau de fenêtre et moustiquaire combinés.*)

Charles Darland, Dryden, Mich., U.S., 4th June, 1887 : 5 years.

*Claim.*—1st. The combination, with double window shades suspended from a common support, of a weighted free mosquito-bar affixed at its upper end to said support and hanging behind curtains, the shades and net forming one device, for the purposes set forth. 2nd. In a curtain-fixture, the weighted mosquito-bar A suspended from slot D, in combination with the window shades B and C, the former attached to said slot D, and the latter to slot E by straps F, each shade being operated independently by cords and pulleys, said cords being secured to the centre screw-ring *f* on the supporting slats, thence passed through the screw-rings *f*, being looped around the roller at the lower end of the shade, and finally secured to the supporting-slat of the shade, as described and shown.

**No. 26,850. Fifth-Wheel.** (*Rond d'avant-train.*)

William W. Grier, Hulton, Penn., U.S., 4th June, 1887 : 5 years.

*Claim.*—1st. In a fifth wheel for vehicles, the combination, with the circle plates, of a brace R R<sub>1</sub>, one arm of which is back of the axle and constitutes the king-bolt, while the other arm extends forward under the axle and is attached to the circle plate, substantially as and for the purposes described. 2nd. In a fifth wheel for vehicles, the combination, with the circle plates, of an U-shaped brace R R<sub>1</sub>, one arm of which is back of the axle and constitutes the king-bolt, and the other arm of which extends to the upper circle plate and nuts T, T<sub>1</sub>, arranged on the upper ends of the arm, substantially as and for the purposes described. 3rd. In a fifth wheel for vehicles, the combination, with the circle plates, of the U-shaped brace R R<sub>1</sub>, and the hanger L arranged on the R back of the axle, substantially as and for the purposes described. 4th. In a fifth wheel for vehicles, the combination, with the circle plates, of the U-shaped brace R R<sub>1</sub>, the hanger L arranged on the arm R back of the axle, and the anti-rattling plug V interposed between the socket of the hanger and the arm, substantially as and for the purposes described. 5th. The combination of a fifth wheel, a king-bolt back of the axle, a reach and a hanger mounted on the king-bolt, said hanger being attached to the reach and forming the sole support for the front end thereof, substantially as and for the purposes described. 6th. The combination, with a fifth wheel, of a king-bolt back of the axle, collars encircling the king-bolt, and a hanger socket L<sub>1</sub> mounted on the king-bolt and fitting around the same inside the said collars, substantially as and for the purposes described. 7th. The combination, with a fifth wheel, of a king-bolt back of the axle, collars encircling the king-bolt, and a hanger socket L<sub>1</sub> mounted on the king-bolt and fitting around the same inside the said collars, and secured to the collar of the upper circle plate so as to be prevented from rotation independently thereof, substantially as and for the purposes described. 8th. The combination, with the king-bolt back of the axle and the circle plates, of a brace extending from the king-bolt to the upper circle plate, and a shoe S fitting around the brace and projecting therefrom under the lower circle plate, substantially as and for the purposes described.

**No. 26,851. Lamp Attachment.**

(*Disposition aux lampes.*)

Charles Long, Toronto, Ont., 4th June, 1887 : 5 years.

*Claim.*—In a lamp attachment for heating purposes composed of wire, the combination of the rim A, arms B, B, the rods C, C, constructed substantially as and for the purposes set forth.

**No. 26,852. Hospital Bedstead Attachment.**

(*Disposition aux lits d'hôpitaux.*)

Caroline Daake, Avon, Ill., U.S., 4th June, 1887 : 5 years.

*Claim.*—1st. The combination, with the frame C, of the head sections Cr, C<sub>2</sub> of the sheet, said sections being detachable from the frame and from each other, and having respectively eyes *p*, *p*, and stiffening rods *p*<sub>1</sub>, *p*<sub>1</sub>, the hooked operating cord M<sub>2</sub>, the turn-shaft and the standards for supporting the turn-shaft, whereby said head-sections may be raised singly or together, independently of the frame, as set forth. 2nd. The combination, with a bed, of a frame