

scribed. 7th. In a closed pulp-beating engine, the water pipe O, provided with a suitable cock and projecting through the shell A at one end, and at the other attached to a water supply pipe M, which latter is connected at both ends with and draws from and empties into a main water supply conduit or holder L, substantially as and for the purpose described. 8th. In a closed pulp beating engine, the combination of the outer conical frustum A and the inner conical frustum F, the opposing frictional surfaces of which are armed with grinding serrations or knives E<sub>1</sub> of the smaller end of the frustum having its knives arranged in close clusters of two or more, with open spaces or pockets G between the clusters wider than the spaces between the knives forming said clusters, substantially as and for the purpose described. 9th. In a closed pulp-beating engine, the combination of the outer conical frustum A, and inner conical frustum F, the opposing frictional surfaces of which are armed with grinding serrations or knives, the section B: at the smaller end of said outer frustum being provided with a space containing the concave plate D, free from knives, immediately surrounding the opening C, to attain a larger feeding surface upon the revolving interior frustum, substantially as described. 10th. In a closed beating engine, where pulp is ground between two grinding surfaces, the process of continuously grinding the same and introducing water at the various stages of the process of grinding to attenuate the mass being treated, substantially as described. 11th. In a closed beating engine, wherein pulp is ground between two grinding surfaces, the process of continuously grinding the same, and introducing water to the mass actually being treated at various stages of the operation of grinding to attenuate the mass being treated, substantially as and for the purpose specified.

### No. 22,331. Telephone. (*Téléphones.*)

Lorenzo S. Fairbanks, Boston, Mass., U. S., 1st September, 1885; 5 years.

*Claim.*—1st. In a transmitting telephone, the combination with a diaphragm of vibrating electrodes, in the electric circuit, one of which consists of two parts or branches between which the other is placed, so as to be in contact with both, to secure great freedom and range of vibration without liability of breaking the contact, substantially as described. 2nd. In a transmitting telephone and in combination with the diaphragm thereof, two electrodes in the electric circuit, one being double and formed to two balls or pieces of carbon or other low conducting material attached to springs or arms which are branches of the conductor, and the other single, adjusted in light contact between them, substantially as and for the purposes specified. 3rd. In a transmitting telephone, the combination with the diaphragm of electrodes secured respectively to spring arms, one arm F being attached to spring P, and having means of adjustment, substantially as described. 4th. In a transmitting telephone, the combination and arrangements of the electrodes in the electric circuit with each other and in contact with the diaphragm, with means for adjusting them in contact, so that they may vibrate under the influence of sound waves upon the diaphragm, and thereby modify or vary the resistance of the circuit by corresponding variations of contact pressure, substantially as and for the purpose described.

### No. 22,332. Folding Paper Boxes.

(*Boîtes de Papier.*)

Charles W. Elliott and George E. Mackintire, Moncton, N. B., 1st September, 1885; 5 years.

*Claim.*—1st. In a folding paper box, the combination, with the body of the box, of inwardly-folding end flaps and pliable false ends external to said flaps, permanently attached to and adapted to fold up with the body of the box, substantially as and for the purposes hereinbefore set forth. 2nd. The body strip A, creased to form the sides 1, 3, and top and bottom 2, 4, in combination with the folding end flaps b and the pliable false ends c, as herein shown and described.

### No. 22,333. Oil Lamp Burner.

(*Becs de Lampes.*)

William Duffield, London, Ont., 1st September, 1885; 5 years.

*Claim.*—1st. The chimney holder A, having an upper rim E projecting internally so as to leave a recess a all around between inner walls of said chimney holder and the chimney, to allow of a current of warm air enveloping base of chimney before passing up to outside of flame, substantially as shown and specified. 2nd. The chimney holder A, provided in its centre with an open tapered wick-holder B and intervening solid plate C, furnished with studs or cleats D for chimney to rest upon, so as to allow of the passage of the warm air up into chimney and feeding the outside of flame thereby, substantially as shown and specified. 3rd. The lever bar J and rods K, L, L, in combination with collar G for regulating height of lamp wicks, substantially as shown and specified. 4th. The outer flat ring H, in combination with lifting ring G, for the purpose of confining and raising a pair of wicks I, I, substantially as shown and specified. 5th. The top flared button N, in combination with the tapered perforated air-distributor M, substantially as shown and specified. 6th. In combination with the heretofore described listing device, consisting of collar G, outer ring H, lever J and tube F, of a pair of broad flat wicks, confined at the point of ignition and open beneath to allow of the free passage of air to the centre of the flame, substantially as shown and specified.

### No. 22,334. Lead Lined Boiler.

(*Chaudière Doublée en Plomb.*)

Eugen Baron Ritter and Charles Kellner, Podgora, Austria, 1st September, 1885; 15 years.

*Claim.*—1st. The combination in a digester for treating fibrous materials, of the circumferential and longitudinal spaces E, E, E, left between the several plates composing the hard metal shell of same, the edges of which are bevelled so as to form a dovetail groove as shown, D, D, the soft metal lining plates, secured to E by autogen-

ous solder and filling strips E<sub>1</sub>, substantially as and for the purpose herein set forth. 2nd. Interposing between the joining flanges of a digester hard lead rings to which the adjoining sheets are secured by autogenous soldering substantially as and for the purpose herein specified.

### No. 22,335. Fire and Water-Proof Paint.

(*Peinture à l'Épreuve du Feu et de l'Eau.*)

Levi G. Allen, Ottawa, Ont., 1st September, 1885; 5 years.

*Claim.*—A fire and water-proof paint composed of coal tar, pulverized asbestos, alum, water cement, slaked lime, and resin compounded in the manner and in about the proportions above set forth.

### No. 22,336. Adjustable Reaper and Mower Knife Sections. (*Couteaux des Faucheuses-Moisseuses.*)

Thomas W. Van Sickle and John Turnbull, Detroit, Mich., U.S., 1st September, 1885; 5 years.

*Claim.*—1st. A reaper or mower knife section, B, formed with a slot b<sub>1</sub>, substantially as shown and described and for the purpose specified. 2nd. A reaper or mower knife section, B, formed with shoulders b<sub>2</sub>, b<sub>2</sub> substantially as shown and described and for the purpose specified. 3rd. A washer C, formed with a slot c<sub>1</sub> and spring arm c<sub>2</sub> substantially as shown and described and for the purpose specified. 4th. A screw D, formed with an angular projection d<sub>1</sub>, substantially as shown and described and for the purpose specified. 5th. The cap E, formed with flanges e<sub>1</sub> substantially as shown and described and for the purpose specified. 6th. The combination of the cap E, formed with flanges e<sub>1</sub> and knife section B, with the cutter bar, A, substantially as shown and described, and for the purpose specified. 7th. The combination of the cap, E formed with flanges e<sub>1</sub>, and knife section B, formed with shoulders b<sub>1</sub> with the cutter bar, A, substantially as shown and described and for the purpose specified. 8th. The combination of the knife section, B, formed with slot b<sub>1</sub>, with the washer C, formed with the slot c<sub>1</sub> and spring arm c<sub>2</sub> screw, D, formed with angular projection or flange d<sub>1</sub>, and the cutter bar A, substantially as shown and described and for the purpose specified. 9th. The combination of the cap, E, formed with flanges, e<sub>1</sub> knife section B, formed with shoulders b<sub>2</sub>, and slot b<sub>1</sub>, washers C, formed with slot c<sub>1</sub>, and spring arm, c<sub>2</sub>, screw D, formed with angular projection, d<sub>1</sub>, and the cutter-bar A, substantially as shown and described.

### No. 22,337. Dynamo-Electric Machine.

(*Machine Electro-Dynamique.*)

Samuel C. Forsaith and William E. Drew, (Assignees of Edwin R. Whitney.) Manchester, N. H., U. S., 1st September, 1885; 5 years.

*Claim.*—1st. In a dynamo-electric machine, the poles and cores of the field magnets formed from a number of integral plates or sections secured together, with blocks or washers of non conducting material so arranged as to insulate each plate from its neighboring plates and leave air spaces between them, substantially as and for the purpose described. 2nd. An armature for a dynamo-electric machine, made up of an iron cylinder having a number of separate rings arranged on its periphery, with spaces between said rings and bobbins of insulated wire wound lengthwise with said cylinder and across said rings, in combination with a shaft and means for holding said armature thereon, substantially as described. 3rd. An armature for a dynamo electric machine made up of cylinder G, having peripheral rings H, H, arranged thereon with spaces between said rings, bobbins K, K and separating bars L having slots l<sub>2</sub>, in combination with a shaft and means for holding said armature thereon, substantially as and for the purpose specified.

### No. 22,338. Belt Fastening.

(*Joints de Courroies.*)

Eugene C. Smith, New York, N.Y., 1st September, 1885; 5 years.

*Claim.*—A belt hinge composed of two double plates C and C<sub>1</sub>, each turned over, and hinged upon a continuous central rod or pintle D, as described, one or both of said plates being divided into sections and thereby made capable of flexure transversely and longitudinally and said plates provided with rivet holes b<sub>1</sub> b<sub>1</sub> set opposite to each other on opposite plates, as and for the purpose set forth.

### No. 22,339. Machine for Making Crimped Store-Pipes Elbow. (*Machine à Fabriquer les Coudes de Tuyau de Poêle.*)

Thomas S. Evans and Edwin H. Bissett, Winnipeg, Man., 1st September, 1885; 5 years.

*Claim.*—1st. The combination, with the annular rings B B<sub>1</sub>, of the male dies D, D<sub>1</sub>, E, cam plates C<sub>1</sub>, having cam slots D<sub>6</sub>, D<sub>7</sub>, E<sub>2</sub>, and female dies G, G<sub>1</sub>, to swage a rectangular tapering corrugation, as set forth. 2nd. The combination, with the annular rings B B<sub>1</sub>, and cam plates C<sub>1</sub> having slots D<sub>6</sub>, D<sub>7</sub>, E<sub>2</sub>, and lever C, of the male dies D, D<sub>1</sub>, E, female dies G, G<sub>1</sub>, segmental sections 2, 3, 5, 6, 8, spring H, shaft K, having cross heads L, L<sub>1</sub>, and bar F, whereby the blank is corrugated with rectangular tapering crimps, between the male and female dies, and subsequently the outer angles of the corrugations are pinched together in triangular form in cross section, as set forth. 3rd. The combination, with the annular rings B, B<sub>1</sub>, of the female dies G, G<sub>1</sub>, the latter having segmental sections 2, 3, 5, 6, 8, and both respectively provided with cams, M, M<sub>1</sub>, M<sub>2</sub>, and shaft K, provided with cross heads L, L<sub>1</sub>, whereby the dies are brought together to close the rectangular corrugation to a triangular form in cross section, and the outer die contracted to allow the crimped material to pass when feeding the dies, as set forth. 4th. The combination, with the bar F, carrying dies G, G<sub>1</sub>, provided with shaft K, carrying cam disk I, I, and provided with cross head L, L<sub>1</sub>, of the handle K<sub>1</sub>, provided with cam Q, push bar O, having racks O<sub>1</sub>, spring R, and plate P, whereby the