justable clamping box C composed of two V shaped halves 1 2 one of which is provided with a spring 13; 15th. The conductor *q* provided with the step 10 in combination with the plunger rod, moving upon said step; 16th. The vertically sliding tool carriage R supported by a bed having a curved slot through which an adjusting screw passes for setting the smoothing tool at different tapers; 17th. The combination of the head I carrying spindles *n* with the stop 12, dropping carriage bed Q and its operating mechanism.

No. 7085. Appliance for the Extraction of Solid Alimentary Preparations from their Packages.

(Appareil a tirer les preparations alimentaires solides de leurs enveloppes.)

John L. Johnston, Sherbrooke, Que., 10th February, 1877, for 5 years.

Claim.—The use of wire or wires, or tinned iron and wire, or other suitable material or materials placed around or through or attached otherwise to the contents of air tight cans or packages, as an appliance for the purpose of removing or drawing out said contents from said cans.

No. 7086. Improvements on Lubricators.

(Perfectionnements aux graisseurs.)

Francis W Carpenter Harrison N Y U S, 16th February, 1877 for 5 years.

Claim. — 1st. The piston G with stem H, head J and point I, in combination with the tube A having enlarged chamber *b* at its lower end, 2nd. The tube A containing a piston G having the point I and a device for retaining the said piston within the tube 3rd The cover L having a suitable fastener, and the plate K in combination with a lubricator placed in the wheel hub.

No. 7087. Improvement in Envelopes.

(Perfectionnement dans les enveloppes.)

Joseph H. Valpey, St. John, N. B., 16th February, 1877, for 5 years.

Claim.—An envelope provided with a tongue *a*, slot B and inner fold *c*; piece C in such a manner that it will be sealed inside.

No. 7088. Oven for Tempering and Forming Articles of Steel.

(Fourneau pour recuire et former les objets en acier.)

George I. Simonds, Fitchburg, Mass., U. S. 16th February, 1877, for 5 years.

Claim.—1st The process of adjusting the fast and the loose in a saw by throwing the heat in the centre or the outer edge, or on any desired part of the saw *the same being held to the* required *position*. 2nd. Formers for tempering and forming articles of steel, in combination with a fan or blower to equalize the heat, 3rd. Formers for tempering and forming articles of steel enclosed in a heating oven, in combination with a fanor blower. 4th The distributor *a* in combination with a tempering oven 5th. The distributor *a* provided with the flues *a* and dampers, 6th The perforated formers *c c* 7th Saws tempered and left by the tempering heat in their ultimate form and in a condition free from the irregular strain or buckle of hammered saws

No. 7089. Improvements on Pulverizing Machines. *(Perfectionnements aux machines à pulveriser.)*

Andrew B. Lipsey, West Hoboken, N. Y., U. S., 16th February, 1877, for 5 years.

Claim.—1st. The combination of a series of chambers of successively larger diameters arranged *one outside or beyond the periphery of another*, and series of beaters for revolving therein, whereby a very simple, exceedingly compact and serviceable pulverizing or disintegrating machine is produced; 2nd. The combination with a chamber provided with a series of beaters for revolving therein of a chamber of larger diameter communicating with the former and provided with a series of beaters for revolving in the same length of time as those in the smaller chamber, and consequently moving at a greater speed and producing a partial vacuum of the exit of such smaller chamber; *3rd. The combination with a chamber provided with a series of* beaters for revolving therein, of a chamber of larger diameter communicating directly with the smaller chamber and provided with a series of beaters supported on the same shaft as those of said smaller chamber and revolving in the same length of time as the latter, 4th. The combination of two or more chambers communicating one with another and provided each with a series of beaters for revolving therein, and with lips overlapping the beaters of each chamber which communicates with another chamber whereby the material to be pulverized or disintegrated *therein* is prevented *from passing* out except at the proper place, 5th. The combination of a series of chambers successively of larger diameters provided with beaters for revolving therein, with lips overlapping the beaters of each chamber which communicates with another and with offsets arranged at the inner ends of the beaters for deflecting material escaping from one chamber into the middle of the next 6th The combination with a chamber and beaters or their equivalents for effecting the pulverization or disintegration of material therein, of a long hub for supporting such beaters or *their equivalents* extending out beyond the chamber: 7th. The combination with a pulverizing or disintegrating machine and an inlet for supplying material to be pulverized or disintegrated, and air or its equivalent thereto, of a throttle for the inlet providing for simultaneously regulating or entirely shutting off by the same means both the supply of the material to be pulverized or disintegrated and air or its equivalent 8th. The combination with a pulverizing or disintegrating machine, of a laterally oscillable feed shoe or trough preferably capable of adjustment at *different angles to the horizontal*, and deriving motion from the driving or other shaft of the machine whereby the feed of material to be pulverized or disintegrated may be automatically regulated to suit the speed at which the machine may be working 9th. The combination with the supply passage of a pulverizing or disintegrating machine, of means for feeding or supplying the same, and a governor or its equivalent for actuating the feeding or supplying device, so that the feed of the material to be pulverized or disintegrated will always be commensurate to the speed at which the machine works and will be automatically stopped when the machine is running so slowly as to be incapable of working effectively; 10th. The combination with a pulverizing or disintegrating machine, of an outlet provided preferably at the lower part with an opening or openings and capable of being adjusted axially by swinging at different angles, 11th. The combination with a pulverizing or disintegrating machine and an outlet capable of being adjusted at different angles, of an adjustable top portion, 12th. The combination with a pulverizing or disintegrating machine and an outlet therefor capable of being adjusted axially by swinging at different angles, of a clamping device for securing it in different positions; 13th The combination with a beater extending longitudinally outward from the side of a disk or spider of a removable shoe lapping over the face inner edge and outer end of such beater, a dowel or projection on the outer end of said beater fitting a cavity in the shoe and a rivet or bolt at inner end of the shoe securing it to the said disk, 14th. The beater or equivalent part of a pulverizing or disintegrating machine provided with knives or cutters; 15th. A beater or equivalent part of a pulverizing or disintegrating machine provided with knives or cutters formed in pairs extending from single shanks, 16th. The combination of a beater, an independent face therefor, knives or cutters having shanks provided with collars fitting between such face and the beater, and other knives or cutters provided with collars adapted to fit against the front of such face and having long shanks which extend through such face and beater 17th The combination of the series of chambers A A_1 A_2, series of beaters B B_1 B_2, spiders S S_1 S_2, supporting the latter shaft K, an inlet and an outlet whereby an improved pulverizing or disintegrating machine is produced.

No. 7090. Improvements on Horse Powers.

(Perfectionnements aux manèges.)

Frederick Truiender, Harmersville, and John Warburton, Jr., Gloucester City, N. J., U. S. 16th February, 1877, for 5 years.

Claim.—1st. The combination of the platform planks Q, slotted links N two sets of cross rods O I, connecting bars P, toothed links H and wheels or rollers J *with the inclined and curved tracks* D E F G *and gear wheels* K attached to the driving shaft L, 2nd The combination of the second shaft R and its gear wheels S with shaft and gear wheels L K connected with toothed links H.

No. 7091. Improvements on Nut Locks.

(Perfectionnements aux noix de sûreté.)

Francis W. Carpenter, Harrison, N. Y., U. S., 16th February, 1877 for 5 years.

Claim.—1st In combination with a bolt and nut a removable cap arranged to close over but disconnected from the nut and end of the bolt, 2nd The combination with a bolt B and nut C of the washer D, tapering cap G and holding device J.

No. 7092. Improvement on a Gauge Cock.

(Perfectionnement d'un robinet-jauge.)

William Andrews, Lisbon, and Henry J. Hutchinson, Fayette, Me., U. S., 16th February, 1877, for 5 years.

Claim.—1st. The combination of the parts *a b*, the vertically moving piston C having the apertures *d* and the tubular parts *e*, the screw caps *f*, packings *n* and the levers *g h*, 2nd The combination of the parts *a b* the part *b* having the chamber *k*, *the vertically moving piston C having the apertures d* and the tubular part *e*, the screw caps *f* and levers *g* and H, 3rd The screw cap *o*, the projecting part *p* and the bore of the part *p*.

No. 7093. Improvements in Skates.

(Perfectionnements aux patins.)

Henry Grist, Ottawa, Ont., (Assignee of "The Starr Manufacturing Company"), 16th February, 1877, (Extension of Patent No. 1344), for 5 years

Claim.—1st. Forming the drops *a* and *f* on the toe and heel plates respectively by punching and bending so that they are parts of the said plates 2nd. The manner of securing the heel and toe plates to the posts on the runner by means of slot headed buttons *e* and *g* fitting into T shaped slots in the said posts; 3rd. The arrangement and combination of a lever plate G, slotted fixed heel plate F and foot plate E for clamping the skate to the heel of the boot simultaneously with the jaws D clamping the sides of the *sole of the boot.*

No. 7094. A Skate. *(Un patin.)*

Henry Grist, Ottawa, Ont., (Assignee of "The Starr Manufacturing Company"), 16th February, 1877, (Extension of Patent No 1348) for 5 years 3 months and 25 days.

Claim.—1st. The main lever I or its equivalent working upon a centre in sole or heel rest of skate and communicating a parallel motion to a heel clipping device by means of a shorter or toggle lever, and also provided with diverging or eccentric slotted holes for drawing together lugs upon the sides of sole of the boot, 2nd. The means of adjusting the skate to suit boots of different sizes by means of screw bolts or their equivalent working in slots in the side lugs and in the centre of main lever and also thus allowing the skate to be secured either in the centre or a little on one side to suit the taste 3rd The punching of the body or foot rest skate of sheet or plate steel for avoiding weight and securing the necessary stiffness of the several parts

No. 7095. Mode of Attaching Skates.

(Mode d'agrafage des patins.)

Henry Grist, Ottawa, Ont., (Assignee of "The Starr Manufacturing Company"), 16th February, 1877, (Extension of Patent No. 1423), for 6 months and 5 days

Claim.—The mode of securing the runner to the body or foot rest viz. by a hinge either at the heel or toe or under the ball of the foot, and also the use of a link or toggle connecting the runner with a sliding plate for communicating motion to the clips before mentioned, the runner acting as a lever for moving the said sliding plate through the medium of the toggle or link before mentioned, the whole constituting a simple, efficient and extremely convenient arrangement for securing the skates to the feet without the use of straps or screws to be manipulated when on the ice also being so arranged as to admit of adjusting to various sizes of boots and requiring no previous preparation of the boots with plates or other fittings.