upon each other into a compact space when out of use; 3rd. In combination with the diaphragm of an auditory apparatus, an adjustable spring arranged to press upon and regulate its tension; 4th. A diaphragm for an auditory apparatus consisting of a series of segmental plates pivoted together at their common centre, arranged to slide upon each other to be expanded into a substantial unit for use, or closed together compactly when out of use, and provided with suitable guides and stops to regulate and limit the sliding movements of the segments; 5th. In combination with the diaphragm B and handle A of an auditory apparatus, the extension bar *a*, spring S and set screw *g*; 6th. In combination with the diaphragm B and handle A of an auditory apparatus, the adjustable spring S provided with fingers S_1; 7th. In combination with the diaphragm B and handle A, the extension bar *w*, toggle *l* and distributing bar *m*; 8th. An auditory apparatus consisting essentially of a vibrating diaphragm suitably mounted, in combination with a transmitting cord *h* and mouth-piece *i*; 9th. The auditory apparatus composed of a diaphragm B_1, mounted in supports d_1 attached to a frame D provided with a handle A, spring S and set screw *g*; 10th. In combination with the diaphragm B_1 and tension spring S of an auditory apparatus, the fingers S_1 and distributing ring S_2.

No. 11,042. Improvements in Cattle Cars.

(*Perfectionnements aux chars à bestiaux.*)

William S. Hunter and William P. Niles, Belleville, Ont., 19th March, 1880; for 5 years.

Claim.—The trough C, rack J and the form and arrangement of the stalls H.

No. 11,043. Composition for Painting Roofs.

(*Composé pour peinturer les toitures.*)

Patrick Butler, Aylmer, Ont., 19th March, 1880; for 5 years.

Claim.—1st. A compound of coal tar, gum asphaltum, brimstone, ground slate, ground iron, common salt, rubber and venetian red; 2nd. The process (but only as to this particular compound, and not any other), of putting on the paint so formed while hot.

No. 11,044. Improvements in Printing Machines. (*Perfectionnement aux machines à imprimer.*)

Richard M. Hoe, Robert Hoe, Peter S. Hoe, Stephen S. Hoe, Stephen D. Tucker, Robert Hoe, jr., Theodore H. Mead, New York, (Assignees of Luther C. Crowell, Boston, Mass.), U. S., 19th March, 1880; for 5 years.

Claim.—1st. The combination of a rotary mechanism for printing a web of paper, a web severing mechanism, for dividing into sheets, and a rotating sheet folding mechanism; 2nd. The combination of a mechanism for printing a web of paper, a mechanism for severing said web into sheets, a mechanism for controlling the severed end of the web and delivering it to the folding mechanism, and a rotating sheet folding mechanism; 3rd. A folding blade mounted in a revolving carrier, in combination with folding rollers into whose nip or bite it doubles and delivers the sheet.

No. 11,045. Improvements on Milk Cans.

(*Perfectionnements aux bidons à lait.*)

John G. Cherry, Cedar Rapids, Iowa, U. S., 19th March, 1880; for 5 years.

Claim.—1st. The body B having raised cover provided with central opening E, and float A having concave top provided with handles D and central opening C; 2nd. The combination of the float A having concave top, provided with handles D and central opening C, with the can B and raised cover having central opening E.

No. 11,046. Pistol Clamp. (*Crampon de pistolet.*)

Israel Kinney, Windsor, Ont., 19th March, 1880; for 5 years.

Claim.—The combination with the revolver A and walking stick B, of the curved plates C C and screw *a*.

No. 11,047. Improvements on Gang Ploughs.

(*Perfectionnements aux charrues-cultivateurs.*)

Jeremiah Chapman, Virginia, Nev., U.S., 19th March, 1880; for 5 years.

Claim.—The combination of the central beam C and double cross slats *h m r*, with the reversible beams A B and parallel to the beam C.

No. 11,048. Improvements in Reed Organs.

(*Perfectionnements aux orgues à anches.*)

William Bell, Robert W. Bell, Henry W. Metcalf, Guelph, and William James, Chinguacousy (Assignees of George W. Scribner, Chatham), Ont., 19th March, 1880; (Extension of Patent No. 323), for 5 years.

No. 11,049. Improvements on Explosive Compounds. (*Perfectionnements aux composés explosibles.*)

William H. Stanley, Montreal, Que., (Assignee of Carl W. Volney's estate) 19th March, 1880; (Extension of Patent No. 4,524), for 5 years.

No. 11,050. Improvements on Hubs. (*Perfectionnements aux moyeux des roues.*)

Alosh A. Philbrick, Coldwater, Mich., U. S., 20th March, 1880; for 5 years.

Claim—1st. The combination of the shell or band F with the flanged collar I; 2nd. The flange G having its face inclined and made longer than the flange L to form a dovetail for holding the spokes; 3rd. The combination of the flanged collar I with the shell or band F, having an enlarged screw-threaded end G with an annular space K between the flanges of the collar, and the screw threaded part of the band; 4th. The combination of the hub A having stop O and band B with flanges C D, the band or shell F screw threaded upon its end and the flanged collar I.

No. 11,051. Improvements on Means for Transmitting Rotary Motion.

(*Perfectionnements aux appareils de transmission du mouvement rotatoire.*)

Charles L. French, Brooklyn, N. Y., U. S., 20th March, 1880; for 5 years.

Claim.—1st. The combination with a hub or shaft and a drum mounted loosely thereon and provided with openings or recesses having inclined or curved surfaces between it and the hub or shaft, of rollers loosely arranged in said recesses, or openings, and an oscillating disc or carrier provided with forks or pairs of projecting fingers which embrace said rollers and by which they may be moved or adjusted in the said recesses, or openings for the purpose of transmitting rotary motion in either direction or rendering them inoperative; 2nd. The combination with a hub or shaft provided with a peripherical groove, and a drum mounted loosely upon said hub or shaft, opposite to said groove, and provided with recesses or openings having surfaces inclined in opposite directions of spherical rollers loosely arranged in said recesses or openings resting in said groove between fingers; 3rd. The combination of the hub A provided with the groove D_1 and the groove *e* at the bottom thereof, the drum B fitting loosely around said hub and provided with recesses or openings C and the spherical rollers D loosely arranged in said recesses or openings; 4th. The combination of the hub A provided in its end with the groove *a*, the drum B provided with the rib or flange *b* and with the recesses or openings C, and the rollers D loosely arranged between said hub and drum in said recesses or openings; 5th. The combination with the hub A, the drum B fitting loosely around the same and provided with recesses or openings C, and the rollers D, of the oscillating disc or carrier E provided with forks or pairs of fingers *e* which embrace said rollers, the lever or arm F extending from said disc or carrier and engaging with catches *g* in said drum.

No. 11,052. Improvements on Steam Engines and Boilers. (*Perfectionnements aux machines et aux chaudières à vapeur.*)

George B. Dixwell, Boston, Mass., U. S., 20th March, 1880; (Extension of Patent No. 4,548), for 5 years.

No. 11,053. Improvements on Dash (splash) Boards. (*Perfectionnements aux garde-crottes.*)

John B. Armstrong, Guelph, Ont., (Assignee of William C. Peel and Justus V. Elster, Springfield, Ohio, U. S.), 20th March, 1880; (Extension of Patent No. 5,301), for 5 years.

No. 11,054. Machine for Grooving Sheet Metal Pipes. (*Machine à canneler les tuyaux de tôle.*)

Charles S. Trowbridge and Garret P. Roseboom, Auburn, (Assignees of C. Letterman, Syracuse), N. Y., U. S., 20th March, 1880; for 5 years.

Claim.—1st. The combination of a rotating cylindrical die provided with exterior screw threads, and a roller placed on a rod or shaft parallel with the axis of the die; 2nd. The slide H, carrying the rod or shaft *i* with loose roller *m* thereon and adjusted by means of a screw I, in combination with the rotating die G.

No. 11,055. Improvements on Pumps. (*Perfectionnements aux pompes.*)

Martin W. McCortney, Morley, Mich., U. S., 20th March, 1880; for 10 years.

Claim.—1st. The rocking *h* h_1, the cap e_1 together with the water chamber *g*; 2nd. The head plate *l* having inlet openings, the valve *m*, with the sustaining bar *o* combined together and with the barrel or cylinder A; 3rd. The inlet valve *m*, the sustaining bar *v* and spring *n*, in combination with the pump cylinder A formed with lugs for retaining the cap *b*; 4th. A piece of cast metal D with the rod *e* passing through it and secured to the end of the handle *f*, thus making it easy to remove the handle from the rod *e*.

No. 11,056. Improvements on Lawn Mowers.

(*Perfectionnements aux faucheuses à bras.*)

Aaron Jones, Montreal, Que., 20th March, 1880; for 5 years.

Claim.—1st. The combination of the revolving cutter, the knife bar H_1 fixed such as it stands placed and fixed in the recess *h*, of the frame F of the machine or otherwise; 2nd. In combination with the revolving cutter, the journals of the revolving cutter shaft consisting in two eccentric M, and hexagonal head M_1, or a head of any other shape, is movable by means of a wrench *ad hoc*, the nick *m* and bore m_1 for lubrication, all furnished complete and placed in the frame F of said machine; 3rd. In combination with the drawing wheels, the internal ratchet cast C_1 placed over a hole inside the driving wheels, the finger I and spring J, as they stand in the hole K of the shaft D; 4th. In combination with a lawn mowing machine, the movable handle N_1 pivoted on axis O, the bolt o_1, the centrifugal slot P and steadiment Q.

No. 11,057. Mechanical Movement for Bellows, Forges, &c. (*Mouvement mécanique pour les soufflets, forges, &c.*)

Charles Hammelmann, Buffalo, N. Y., U. S., 22nd March, 1880; for 5 years.

Claim.—1st. The combination with the standards A, of the shaft H, carrying band wheel G having the ratchet wheel J, plate X with the pinion L, and the plate Q having the pawls P engaging said ratchet wheel, and the shaft O provided with the segment wheel N and operating lever U; 2nd. The clutch mechanism for converting the alternately changing motion of the segment wheel into an intermittently operating motion, in one direction only, consisting, in combination with the shaft H, of the ratchet wheel J fixed to the driving pulley G, the plate with its attached pinion plate L and the plate Q with its pawl, said plate Q being operated by the pinion and its retainer; 3rd. The combination with the shaft H, of the ratchet wheel and casting J fixed to the driving pulley G, the plate X with its attached pinion