

ber, *f*, neck *b*, tubes *g* and smoke flue *h*; 3rd. The neck *b* (to extend into the furnace), stack of pipes *g*, going through the neck and the main part *a*, into the smoke chambers *f*, *h*, encompassing flue *i* and the two educts *p* and damper *r* arranged in the lower of said educts; 4th. The chambers *f*, *h*, open at top and there provided with covers *k*, *m*, in combination with the stack of pipes *g*, neck *b*, smoke chamber *h* and encompassing flue *i*.

No. 10,326. Improvements on Dredging Machines. (*Perfectionnements aux machines à draguer.*)

Barnabas Hedge, Augusta, Me., and Francis A. Cushman, Lebanon, N. H., U. S., 7th Aug., 1879, for 5 years.

Claim.—1st. The combination of the receiver B and telescopic extension C, provided with suitable operative mechanism; 2nd. The combination of the receiver B, telescopic extension C and discharger I J; 3rd. The combination of the receiver B and discharger I, united by the elbow H and constituting the vacuum chamber, with the extension tube C; 4th. The combination of the receiver B, discharger I J and air supplying tube R; 5th. The combination of the receiver B, telescopic extension C, discharger I J and air tube R; 6th. The combination, with receiver B, of the discharger I having gate at one end, and air, steam and water valves at the other end; 7th. The combination of the receiver B, telescopic extension C and connecting or stiffening bars E.

No. 10,327. Fire Back Wall for Stoves. (*Arrière-mur à feu pour les poêles.*)

John Milne, Hamilton, O., 7th Aug., 1879, for 5 years.

Claim.—1st. In combination with stoves, ranges, &c., a fire back wall A provided with a hollow recess B, ventilating holes C, all constructed in one or more pieces; 2nd. A ventilating fire back wall constructed hollow, so as to allow air to pass up through and out at the ventilating holes at the top, to prevent it from burning out.

No. 10,328. Improvements on Stone Crushers. (*Perfectionnements aux broyeurs de pierre.*)

Theodore A. Blake, New Haven, Conn., U. S., 7th Aug., 1879, for 5 years.

Claim.—1st. The combination of a pair of upright convergent jaws, mechanism for imparting a reciprocating or vibratory movement to one of said jaws, and an elastic or yielding material between said jaws and the point where the power takes its bearing; 2nd. The combination, in a pitman, of the block and head, with rod or rods connecting said head and block, and nuts and springs to adjust the length of the pitman; 3rd. The combination of an adjustable pitman and adjustable toggle block; 4th. The combination, with upright convergent jaws, of the front and rear parts, tension bars, or rods, and toggle joint; 5th. The upright convergent jaws, the clamps C C longitudinally embracing that part of the frame where the jaws are arranged; 6th. The combination of a pair of upright convergent jaws, one of which has a reciprocating motion with respect to the other, a toggle bearing upon said jaw and an adjustable pitman through which said toggle the power is communicated to said jaw, and the movement of said jaw adjusted or varied as may be desired.

No. 10,329. Improvements on Cockle Separators. (*Perfectionnements aux séparateurs de la nioelle.*)

Hermann Kurth, Hamilton, Ont., 7th August, 1879, for 5 years.

Claim.—1st. Two or more revolving cylinders, provided with pockets upon their internal periphery, of different sizes, with the cylinder having the smaller pockets arranged to receive the materials to be separated from the cylinder or cylinders having larger pockets; 2nd. A revolving cylinder, having inner pockets or cavities or an inclined bottom combined with a conveyor and trough arranged to carry the cleaned wheat in opposite directions from the cockle; 3rd. The cylinder A having inner cavities *a* and separate intervening perforations *b*; 4th. In a cockle separator, a cylinder having inner cavities or pockets supported at one end upon and rotated by a central shaft, and supported at its periphery at the other, so as to permit the use of means for delivering the cockle and wheat at opposite ends of the cylinder; 5th. The inclined cylinder A, attached to the central shaft at one end and free from the same at the other, in combination with the trough F projecting outside the cylinder, at its free end, and the shaft D carrying conveyor G, arranged to revolve in the trough F and discharge the cockle at the free end of the cylinder; 6th. The combination, with the revolving cylinder, in a grain separator, of supporting rollers having an elastic periphery, and a bushing of glass or analogous anti-friction material; 7th. The catch board hinged or pivoted to the receiving trough within the cylinder, and self-adjusting with respect to the cylinder by its own weight; 8th. The combination, with the revolving cylinder, of the catch-board, having a detachable and adjustable elastic strip clamped between the edge of catch-board, and a longitudinal plate by means of binding screws; 9th. The cylinder B, having indented cavities, upon the inside, pressed up to form conical projections, upon the outside, with a greater thickness of metal at the apex of said cone or the bottom of the cavity; 10th. The combination, with the cylinder supported at one end upon a central driving axis and free at the other from the same, of the trough F swung upon the shaft D, at one end, and projecting outside of the cylinder, at the other, and connected with a rigid support; 11th. The combination, with the indented cylinder B, of the brush H connected with the shaker C, and both being driven by the eccentric K; 12th. In combination with the lower cylinder B, the sieve C constructed over the top of the said cylinder, for the purpose of separating small wheat and cockle from the large grain, when the top cylinder A is not used; 13th. In combination with the indented cylinder B, an independent catch-board I, held by two arms *p* and adjusted by thumb-screws *g* and springs *r*.

No. 10,330. Improvement on Hydraulic Motors. (*Perfectionnement aux moteurs hydrauliques.*)

Kirke D. Bishop (Assignee of William F. Class and John C. Briegleb), Cleveland, Ohio, U. S., 7th August, 1879, for 5 years.

Claim.—1st. In motors for producing currents of air and pressure of air, a hollow head or shaft A, journalled in a frame and provided with tubular arms projecting therefrom, from either side, and having a tubular connection with said head below the axial line thereof, in combination with a tubular stationary key on which the said head and tubular arms vibrate; 2nd. A stationary tubular key D, having side openings therein above the axial line of said key and holding such relation to the head or shell A, in which it is fitted, that the openings in the said head and the openings in the key are not in open relation to each other, when the arms C, projecting from the said head, are in a horizontal position, but become openly related, alternately, on vibrating the said arms; 3rd. In combination with the tubular arms, the cylinders G H respectively attached or connected to said arms in an openly related manner, and provided with air pipes, whereby air is conveyed from the said cylinders to the air vessel N; 4th. In combination with the vibratory cylinders, the two way cocks J and K, connected to each other by a pipe and operated conjointly with and by the vibratory cylinders, arm P and link; 5th. The stop-cock F, arranged in relation to, and in combination with the key and head of the vibratory arms and air vessel N; 6th. In combination with the cylinders, waste valves I, arranged in the bottom thereof, respectively, and opening inwardly therein by means of a stem depending from said valves to a discharger; 7th. The air vessel N, having a flexible top and provided with a weighted lever D, connected by a link to a stop-cock F, and said air vessel having therein a ball valve with appropriate seats above and below said valve, for closing the inlets and outlets of the vessel, all adapted to operate in relation to each other; 8th. The vibratory cylinders G H, with their respective valves, air pipes and arms, stationary key provided with openings above the axial line thereof, shell or head A provided with openings below the axial line and corresponding to the openings in said key, and arranged in relation therewith, two way-cocks J K, stop-cock F and air vessel having therein a valve for closing the inlet and outlet thereof, and having a flexible top attached thereto and weighted lever connected to the said cock F by a link for operating the same.

No. 10,331. Improvements on Stop and Waste Cocks. (*Perfectionnements aux robinets de retenue et de dégorgeement.*)

William Porteous, Montreal, Que., 7th August, 1879, for 5 years.

Claim.—1st. The combination of the body A, the reciprocating stem B, having the threaded enlargement *c* slotted, grooved or channelled above the enlargement to furnish outlet from body A to chamber D; 2nd. The combination of body A, stem B, the movable waste chamber D recessed and having a flange projecting between the body and its cap, and the packing *a*; 3rd. In that class of stop-cocks in which the valve is lowered to its seat, by a threaded enlargement, on its stem engaging with the threaded body of the cock, a waste passage constructed in the stem or its enlargement, leaving a permanent passage way for the waste water from the water-way of the valve shank to that portion of the body above said enlargement; 4th. The combination of main stem *b* with stem *a*, pin *i* and spring *s*, the stem *a* having a circumferential groove wider than the head of pin *i*.

No. 10,332. Improvements on Plough Gauges. (*Perfectionnements aux jauges des charrues.*)

Rodney Sornberger, Stanbridge, and Peter H. Bedard, Bedford, Que., 7th August, 1879, for 5 years.

Claim.—1st. The combination of the standards A and the surface shoe; 2nd. The combination of the horizontal bars B and farrow shoe or gauge.

No. 10,333. Improvements in Submerged Pumps. (*Perfectionnements aux pompes submergées.*)

Benjamin J. C. Howe, Syracuse, N. Y., U. S., 7th August, 1879, for 5 years.

Claim.—1st. The yoke having, at its upper end, the socket to which the plunger-rod is attached, and at its lower end, the plunger-carrying standard, all made in one piece; 2nd. The non-corrodible cylinder A, having the interior flange *a* forming the valve seat, in combination with the cap B and the valve *b* clamped between the two.

No. 10,334. Improvements in Wire Coiling Machines. (*Perfectionnements aux machines à enrouler le fil de fer.*)

John Tye and Harry C. Lindsay, St. Paul, Minn. (Assignees of William F. Moody, Chicago, Ill.) U. S., 7th August, 1879, for 5 years.

Claim.—1st. A wire guide, one end of which is straight and receives the wire from the rollers, and the other end bent into a helical form, for bending and delivering the wire in a spiral form; 2nd. The wire guide or former, composed of a tube bent into a helical form, in combination with the stud S and rollers D D.

No. 10,335. Improvement on Animal Fibre. (*Perfectionnement à la fibre animale.*)

William S. Archer, Yonkers, N. Y. (Assignee of John A. Southmayd, Elizabeth, N. J.) U. S., 7th August, 1879, for 5 years.

Claim.—A fibre produced from the fur of the bison.

No. 10,336. Improvements on Clasps. (*Perfectionnements aux agrafes.*)

Bennett Greig, New-York, U. S., 7th August, 1879, for 5 years.

Claim.—1st. The combination of two jaws, flexible ears projecting from the edges of the shanks of said jaws and a spring which is placed between the jaws, and the ends of which are fastened to the shanks of said jaws by