No. 4640. ROBERT F. COOKE, New-York, U. S., 16th April, 1875, for 5 years: "Improvements on Horse Shoes." (Perfectionnements aux fers à chevaux.)

Claim.—1st The novel combination of the frames A, A^1, central rib E, sockets B, plate *a*, india-rubber C, with strips of canvas *n*, or their equivalents; 2nd. The skeleton shoe consisting of the frames A, A^1, connected by a plate *a*, and the strengthening rib E, in combination with hubs or sockets B; 3rd. The skeleton horse-shoe, in combination with an india-rubber filling C, mixed with strips of canvas, cloth or hemp *n*; 4th. A skeleton horse-shoe in combination with an india-rubber-lining, when said rubber is cast or pressed into the skeleton frame while in a crude state and then, when in place, vulcanized.

No. 4641. JAMES E. WISNER, Friendship, N. Y., U. S., 16th April, 1875, for 5 years: "Horse hay Rake." (Râteau à cheval.)

Claim.—1st. A horse hay rake, in which the load is dumped by the draft or power of the team, provided with means for connecting the locking and tripping devices to the seat standard, or other part of the rake frame, for the purpose of enabling the driver to set the dumping mechanism with his foot; 2nd. A horse hay rake in which the line of draft is adjustable to hold the teeth into the hay with greater or less force 3rd The axle arms, 4th. The locking and tripping lever H, provided with the spring J, in such a manner as to hold the two parts of the lever in contact with each other and to press the longest part within a recess of the slot N, 5th. The locking and tripping lever connected to the seat standard or other part of the frame by the chain or rope P, 6th The combination of the tripping chain and locking lever with the sliding clutches and wheels of the rake, 7th. The tripping chain or rope combined with the tripping lever H, in such a manner as to set the latter within the path of the cam-guide R, when the chain is pressed by the operator; 8th. The axle arms cast with angular sockets, to receive the front lower corners of the axle; 9th. The axle arms constructed with a base collar *w*, and an enlarged portion X, between said collar and the wheel hub, to receive the sliding clutch; 10th. The coiled or spiral spring Z, combined with the axle arm and its clutch; 11th. The spring of the clutches combined with the tripping lever and axle arms; 12th. The thills of the rake adapted to be hinged at any point upon the front of the axle; 13th. The rake teeth bent over at their upper ends to form the short arms C^1, which are first passed through the metal guide loops and then inserted in recesses of the axle, 14th. The teeth of the rake adapted for independent movement; 15th. The teeth of the rake adapted for independent application and removal.

No. 4642. MICHAEL D. MURRAY and JOHN C. HUTCHINSON, (Assignees of G. P. Cole.) Johnstown, N. Y., U. S., 16th April, 1875, for 5 years: "Improvements in Breast Collars for Harness." (Perfectionnements aux bricoles de harnais.)

Claim.—A neck-strap B, consisting of the olliptical piece H, top-piece I, bottom J, and internal spring F, put together.

No. 4643. AARON L. COREY and EDWARD W. GRANT, Ypsilanti, Mich., U. S., 17th April, 1875, for 5 years: "Cham-Pump Bucket." (Godet de pompe à chapelet.)

Claim.—1st The elastic chain pump bucket A, having the annular groove *a*; 2nd The link B, nut *c*, screw-eye-bolt C, and washer *d*, in combination with an elastic expansible pump-bucket A

No. 4644. WILLIAM H. GIBBS, Oshawa, Ont., 17th April 1875, for 5 years: "Middlings Purifier." (Epurateur de gruaux.)

Claim.—1st. The combination of the fans G, G, with the revolving saucer or silent-feed D, together with the perforated metal bottom F, and regulating slats O, O; 2nd. The combination with the fans G, G, with the blast spout L, together with two or more elbows and spouts P, P.

No. 4645 RICHARD W. JEFFERY, Woodbridge, Ont., 17th April, 1875, for 5 years: "Improvements on Reaping Machines." (Perfectionnements aux moissonneuses.)

Claim.—The combination of the split pin E and E^1, with the bolts A, and A^1, and the swivel D, and D^1.

No. 4646. JAMES CURRIE, Toronto, Ont., 17th April, 1875, for 5 years. "Improvements on Steam Boilers." (Perfectionnements aux chaudières à vapeur.)

Claim.—1st. An interior dome C, placed over the opening in the shell of a steam boiler A, A, leading into the steam dome B; 2nd An interior dome C, perforated with an unlimited number of small holes; 3rd. A plate D, perforated with holes, and covering the opening in the shell of a steam-boiler A leading into the steam-dome B; 4th Two or more perforated plates E, E, placed across the steam dome B, with a porous substance F, between them.

No 4647. JOHN F. WEBSTER, Hamilton, Ont., 17th April, 1875, for 5 years: "Improvements in Screw Machines." (Perfectionnements aux machines à vis.)

Claim.—1st In combination with a screw machine, the grooved sleeve D, hardened bush U, and collet E, operated by the forked lever F, hand lever H, and connecting rod I; 2nd. In combination with a screw machine, the grooved-sleeve D, hardened bush U and collet E, used singly or in combination with the feeding devices; 3rd. In combination with a screw-machine, the arrangement of the feeding device consisting of the sliding stud K, the bar L, cam O, vice jaws P, split taper collar or collet Q, and nut R, slotted lever M, operated by the hand-lever H; 4th. The arrangement of the grooved sleeve D, bush U, collet E, and the stud K bar L, cam O, jaws P, split-collet Q, operated by levers H, F, M, in combination with hand lathes and filing machines.