

CLASS XXX.—AGRICULTURAL TOOLS AND IMPLEMENTS,
CHIEFLY FOR HAND USE.

- Best machine for making drain tiles, diploma and \$20. Jas. Close, Woodstock.
- Best set draining tools, 1st, Frothingham & Workman, Montreal.
- Best half dozen spades, 1st, Frothingham & Workman, Montreal.
- Best half dozen steel shovels, 1st, Frothingham & Workman, Montreal.
- Best half dozen grain scoops, 1st, Frothingham & Workman, Montreal.
- Best machine for sowing grass seeds, 1st, L. M. Bissell, Addison.
- Best garden, walk, or lawn roller, 1st, Massey Manufacturing Co., Newcastle; 2nd, \$8, Anthony Copp, Hamilton.
- Best fanning mill, diploma and \$10, Thos. J. Birch, Stratford; 2nd, \$8, James Sheridan, Dalhousie.
- Best straw cutter, 1st, John Elliott, London; 2nd, \$3, David Maxwell, Paris; 3rd, \$2, Haggart Bros., Brampton.
- Best Machine for cutting roots for stock, 1st, D. Maxwell, Paris.
- Best cheese press, 1st, Aspley & Hayard, Belleville.
- Best churn, 1st, E. Huntington, Montreal; 2nd, John Campbell, Almonte; 3rd, \$2, Mark Bishoprick, Ottawa.
- Best set horse shoes, John Percy, Bowmanville; 2nd, John Percy, Bowmanville; 3rd, Kehoe and Colligan, Ottawa.
- Best farm gate, C. H. Hodgkin Whitby.
- Best specimens farm fence wood, N. A. Asseltine, Ernestown.

EXTRAS.—Entries commended.

Improved cheese hoops, Aspley and Hayard, Belleville. Grass seeder, attachment to sulky rake, Loverin and Smith, Addison. Root pulper, David Maxwell, Paris. 1st set 3 horse whipple trees, John Bowman, Gloucester. Machine for grinding, reaping and mowing, John G. Bricker, Waterloo. Dog power for churning, Wm. Wilson, Ramsay. Seed sower and cultivator combined, A. Copp, Hamilton. Coal scoops, Frothingham and Workman, Montreal. Grain bag holder, Jos. Jas. Forest.

CLASS XII.—CARRIAGES AND SLEIGHS, AND PARTS THEREOF.

- Axle, wrought iron, 1st, Thos. Smith, Aylmer.
- Buggy, double seated, covered, 1st, A. Titus, Ottawa; H. Gray, Chatham; 3rd, B. Armstrong & Co., Guelph.
- Buggy, double seated, uncovered, 1st, M. C. C. Thompson, London; 2nd, S. H. Turner, London.
- Buggy, single seated, covered, 1st, A. Titus, Ottawa; 2nd, W. Gray, Chatham.
- Buggy, single seated, uncovered, 1st, A. Titus, Ottawa; 2nd, W. Gray, Chatham.
- Buggy, trotting, 1st, M. C. C. Thompson, London; 2nd, H. Byrne, Ottawa.
- Carriage, hack, 1st, A. Titus, Ottawa; 2nd, J. P. Bronguy, Hamilton.
- Carriole, two-horse, pleasure, 1st, A. Titus, Ottawa; 2nd, J. P. Bronguy, Hamilton.
- Carriage, one-horse, pleasure, 1st, M. C. C. Thompson; 2nd, S. H. Turner, London.
- Carriage, child's (perambulator), 1st, A. Tindel, Montreal.
- Carriage and buggy, woodwork, assortment of, 1st, Hunt, James & Co., St. Catharines.
- Dog cart, 1st, A. Titus.
- Express waggon, 1st, A. Titus.
- Pheton, pony, 1st, W. Gray, Chatham; 2nd, J. B. Armstrong and Co., Guelph.
- Rims, or felloes, one dozen, 1st, Hunt, Cairns and Co.
- Sleigh, two horse, pleasure, 1st, M. C. C. Thompson; 2nd, A. Titus.
- Sleigh, one-horse, pleasure, 1st, A. Titus; 2nd, W. Gray.
- Sleigh, hack, 1st, M. C. C. Thompson; 2nd, A. Titus.
- Spokes, carriage, machine-made, 1st, Hunt, Cairns and Co.
- Springs, one set steel carriage, 1st, J. B. Armstrong & Co.
- Sulky, trotting, 1st, Geo. Brown & Son, Kingston; 2nd, M. C. C. Thompson & Co.
- Wheels, one pair of carriage, unpainted, 1st, M. C. C. Thompson & Co.
- There was a large display of extras from Chatham, Guelph, London and Ottawa, which were highly commended. The judges also recommend that Messrs. Titus, M. C. Thompson & Co., and

Wm. Gray, be awarded diplomas. The judges in this department were Henry Jinkle, Newburg; J. Holmes, St. Catharines, and Jas. R. Lake, Napance.

The prizes given in other classes not of a mechanical nature, we do not mention.

MACHINERY EXHIBITED AT THE PROVINCIAL
EXHIBITION, OTTAWA,

BY MESSRS. FROTHINGHAM & WORKMAN, MONTREAL.

ON PAGES 328 and 329, we furnish illustrations of some of the machinery exhibited by MESSRS. FROTHINGHAM & WORKMAN at the PROVINCIAL EXHIBITION, as being worthy of more than ordinary notice. The subjects given consist of a SPECIAL FIRE PUMP, SAFETY VALVES, STOP VALVES, BALANCED FURNACE DOORS and PORTABLE FURNACES.

SPECIAL FIRE PUMPS.

These Pumps are of different dimensions, are heavy, strong, compact and equal to any emergency, however severe. By the use of the Patent Valve Motion, they can be driven to any speed, *without thumping*, having made over 500 feet of piston per minute, with the most brilliant results. The water valves, valve openings and water passages are large, so that friction is reduced to a minimum when running at high speed—an important and necessary feature.

NICKLE-SEATED SAFETY-VALVE.

The Nickel-Seated Safety-Valve, Fig. 1, is perfectly automatic in its action, capable of discharging all the steam generated in a steam boiler, in excess of a given limit; and its bearing surfaces, which are made of nickel, will not corrode, gives absolute immunity against explosion. Such a Valve will secure the boiler from injury, and protect the lives of the people employed about it; and, *if desired, it may be locked up*. A lock-up Safety-Valve, if it is a Safety-Valve in fact, as well as in name, not only gives immunity from explosions, but also adds greatly to the duration of boilers, preventing a dangerous increase of pressure, by venting the steam as fast as generated, obviating the frequent necessity of opening the furnace doors, which is a prolific cause of injury, as it admits to the highly heated metallic surfaces a perfect hurricane of cold air (it may be at a temperature below zero), causing a sudden contraction of the most exposed parts, and a consequent strain upon the flues, which experience has shown to be most destructive.

FLOWER'S STOP VALVE.

All the Valves constructed of brass, for steam and other purposes, are proved on both sides before leaving the factory by hydraulic pressure to (200) two hundred pounds per square inch, and the IRON-BODY Valves to (300) three hundred pounds per square inch. By this means none are sent out that are defective in any way.

All parts of the Valve are made by machinery constructed and patented for that purpose. The "valves" and "faces" are not ground, as in valves of other manufacture, but are perfect fitting, upon leaving the machine. These valves are so simple in construction, and so strongly built, that they cannot fail to give satisfaction. They are packed, ready for use, with a PATENT METALLIC PACKING—the collar on stem being ground to a perfect joint—so that they do not require any re-packing for a period of two years or more, thus saving a great deal of annoyance in this one point alone.—All the Valves now manufactured by us have SQUARE THREADS ON THE STEM which is known will outlast three stems with "V" threads.

They further claim for this Valve the following advantages, viz:

- 1st. A straight, open passage-way the full size of pipe.
- 2nd. The Valve is double-faced, with two loose disc-valves setting loose in a cage, allowing the Valves to adjust themselves to the Valve-seats.
- 3rd. The Valve-seats are not parallel, but divergent, and allow the Valves to form a wedge-shape; and are held to their seats by Equalizing bars in cage, which bear against the backs of the Valves when closed.
- 4th. The Valves do not drag, or rub, on Valve-faces in working.
- 5th. The Valve-seats being divergent, and the Valves loose in the cage, there is no sticking of Valves when opening under pressure.