

(b) Reducing the thickness of the plates in the mills too quickly, thus reducing the cohesion of the plates in the plate, and thus reducing its toughness.

(c) Buckling of the plates, which produces intense local and internal strains.

(d) Rolling large plates at too low a heat, which permits the edges to cool before the middle and causes internal strains.

Some of the defects in working are:

(a) Working at a blue heat, which is the worst form of bad working.

(b) Local heating and working, which is almost as bad as working at a blue heat, unless the plate is afterward annealed.

(c) Bad annealing due to ill-constructed furnaces, which unevenly heat and unevenly cool the plates.

(d) Punching holes in an improper manner; that is, with improper punches and dies. This is not intended to apply to all punching, and is not intended to mean that drilling is necessary in place of punching. It only calls the attention to the fact that a good plate may be badly damaged by the use of improper dies.

An order has been issued by the British Admiralty for a battle ship 390 feet long and 75 feet extreme breadth, the largest vessel of her kind in the world.

In Thuringia, Germany, there is a whole district which is dependent for its support on the manufacture of artificial eyes; husbands, wives and children all working together at this same means of livelihood. And yet, though these simple German village people turn out their produce by the dozen, no two eyes are ever the same. No artificial eye has its exact fellow either in color or in size in the whole world. The method of the manufacture is not a very complicated art. There are firstly glass plates, which are blown by gas jets, then molded by hand in the form of an oval-shaped cup. Then there is the coloring of the eyes, which is effected by the means of tracing with fine needles, the tints being left to the taste of the individual worker, though the scope of their taste is necessarily limited to grays and blues, and browns and blacks, which colors are assorted together before being eventually despatched to their various destinations.

The Patent Review.

- 44.485 Arthur W. M. Keen, Montreal, Que., connection for belting
- 44.488 Josiah M. Richmond, Raymond, Nebraska, steam motor machine.
- 44.493 James Charles Orr, Winnipeg, Man., boiler.
- 44.500 James Omir Oakley, Montreal, Que., extensible structure adapted for use as a bridge, scaffold, tower, or ladder and the like.
- 44.502 Hzekiah Casey, Birmingham, Ill., disk sharpener.
- 44.505 James H. Fitzgerald, Winston, N. Carolina, railroad gate
- 44.506 Joseph R. Stanffer, Scottdale, Penn., car coupling.
- 44.507 Alfred Holingren, Brooklyn, N.Y., cylinder and valve of steam, compressed air, and other reciprocating motors.
- 44.516 Wm. H. Howell, Thorold, Ont., journal lubricator.
- 44.519 George H. Ricke, Cincinnati, Ohio, hanger for trolley wire.
- 44.521 Longley L. Sagedorph, Philadelphia, Penn., metallic facing for buildings.
- 44.522 Robert W. Wyatt, Garram, Victoria, Australia, fire guard.
- 44.524 Webster L. Mills, Condit, Ohio, axle box.
- 44.526 David A. Sprinkle, Pennsboro, West Virginia, wood split pulley.
- 44.528 Thomas George Laney, Lima, Ohio, steam valve.
- 44.530 Samuel David Stephens, West Shoals, Indiana, cable arch support.
- 44.534 G. W. Roberson, Shushan, N.Y., car coupling.
- 44.535 Charles W. Reichert, Kennan, Wis., log dray.
- 44.539 Robert A. Brooks, Cheyenne, Wyoming, hydrant.
- 44.541 Martin Davies, Jersey, New Jersey, propeller
- 44.542 Phillip Williams, Huntsville, Ont., rafter bevel and scale.
- 44.543 M. T. Buchanan, Ingersoll, Ont., adjustable support for carrier rod or cable.
- 44.550 J. W. Whitfield, Ocala, Florida, railroad track lifting machine.
- 44.553 N. F. H. Bolte, Milwaukee, Wis., workman's time recorder.
- 44.555 Wm. F. Bradbury, Kansas, Miss., tube cleaner.
- 44.557 Charles William Rencam, Meridian, Mississippi, furnace door.
- 44.558 Benjamin F. Moss, Reading, Mich., cross-cut saw.

- 44.559 Wolney W. Masson, Hyde Park, Mass., vises for milling machines, planers, etc.
- 44.560 D. F. McCarthy, St. Paul, Minn., seal lock.
- 44.567 Joseph J. B. Genez, Lavallois Perret, France, machine for forging and shaping small metal articles.
- 44.572 Eleazer Kempshall, Brooklyn, N.Y., sheet metal hook.
- 44.573 J. B. Webber, Toledo, Ohio, steam shovel and excavator.
- 44.574 Wm. McShane, St. John, N.B., automatic apparatus for water closets.
- 44.577 Thomas Critchley, London, Eng., process or method of producing metal barrel bodies or other article of bent form, and the machinery for carrying the same into effect.
- 44.578 John A. Markley, Clifton Forge, Virginia, car couplings.
- 44.582 Earle W. Seitz, Kansas, Miss., car coupler.
- 44.583 Harry A. Houseman, Philadelphia, Penn., circular knitting machine.
- 44.585 N. A. Week, Stevens Point, Wis., hand truck.
- 44.588 John B. Riddle, Morganfield, Kentucky, car coupling.
- 44.589 Henry H. Welker, Attica, N.Y., radiator case.
- 44.591 James A. Smith, Clearville, Miss., pipe wrench.
- 44.592 Seldon S. Casey, London, Ont., metal fabric tools.

GERMAN PATENTS.

List of patents compiled for THE CANADIAN ENGINEER at the patent and technical office of Brockhues & Co., Cologne. Information on all questions referring to this list is given GRATIS to our subscribers.

Chimney-top or air-sucker; C. W. J. Martens, Hamburg.

Draught-regulator with discharging pipe; Otto Horenz, Dresden.

Steam-water outlet pipe with floating-vessel and cylinder-slide; G. Reuter, Mannheim.

Charging apparatus for generators; R. Nyblad, Papenburg.

Movable grate cooled by water; E. W. Orth, Hamburg.

Lubricating vessel for consistent fat worked by a spring; H. Ketel, Treves.

Adjustable crank-pin, J. Quirin, Cologne.

Means for simultaneously lubricating the step and neck-bearing of an upright shaft from one oil can; W. Lsfeldt & Lentsch, Schoningen.

Machine for manufacturing hexagonal nuts by forging; A. Urban & Sons, Florisdorf, near Vienna.

Safety-valve for steam-boilers; G. Moorman, Gestemunde.

PATENTS procured for Canada, United States, Great Britain, etc.
Fetherstonhaugh & Co., Patent Barristers, Solicitors and Experts, Bank of Commerce Building, King Street West, Toronto.

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