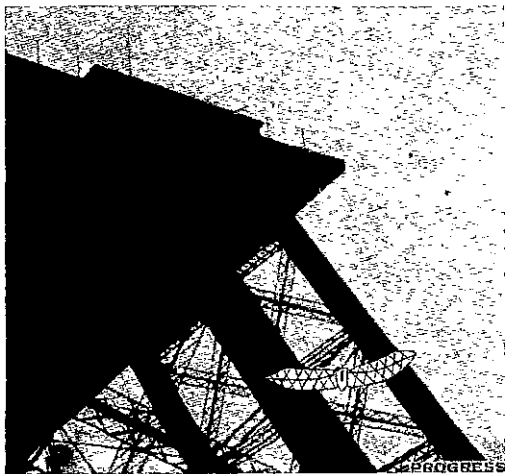


CONCLUSION.

After reading the story of the air-ships and the aeroplanes, one thing strikes one forcibly. It is that no one has yet approached within quite measurable distance of the ability to stand the test proposed by the various prize givers who are encouraging the development of the flying art by that method. There is not in the whole crowd of machines—vast as it is—the English Patent Office alone records 279 in fifty years, of which 106 are of the “lighter” and 83 of the “heavier” than air type—a single one



160 FOOT TOWER FROM WHICH THE PETTIGREW WINGS WERE LAUNCHED.

that can be said to have displayed the remotest chance of being able to fly from London to Manchester. Under three-fourths of the usual prevailing conditions of the atmosphere the dirigible raised by a gas-bag will never do it before the Crack of Doom, so much has been proved by the records of attempt. Until we have more records of achievement it will be impossible to say whether the heavier-than-air type will succeed where the lighter has found its limitation. The Wrights stand best; for their machine has flown round a course, though with the disadvantage of an unexpected compulsory ending. Santos Dumont comes next, who has at the utmost, while sharing with the Wrights the honour of an automatic start, not managed really to do very much more than the flight of the pebble which is thrown in the game of “ducks and drakes,” so well described by Henson in his introduction to the specifications which he sent of his own machine to the Patent Office. Inasmuch, however, as that advance is on the line of continuous power, the little is something, and that little Santos has to share with the Wrights.

We look forward to the convincing day at Manchester with more interest than hope. The time is short, and the list of vast difficulties is enormously long.

Applications for Patents.

THE following list of applications for Patents, filed in New Zealand during the month ending 15th Febr., has been specially prepared for PROGRESS.

- 22312—G. Mackaness and J. Barnes, Sydney, N.S.W.: Screw propeller.
- 22313—F. Bailey and F. H. Jackson, London, Eng.: Clutching-device for communicating rotary motion.
- 22314—H. H. Johnson, Forbes, and E. Mom, Sydney, N.S.W.: Gas-lamp lighter and extinguisher.
- 22315—G. C. de Witt, Melbourne, Vic.: Production of pigment from sulphide ores.
- 22316—G. B. Johnson, Westminster, Eng.: Machinery for corrugating metal sheets.
- 22317—T. O'Neil, Hinde's Ferry: Wire distributor and collector.
- 22318—A. H. Byron and R. R. Richmond, Wellington: Billiard toy.
- 22319—T. Roberts, Wellington: Window.
- 22320—W. C. Bradshaw, Christchurch: Propelling steam vessels.
- 22321—F. J. Arthur, N. Mooroopna, Vic.: Tire-inflation device.
- 22322—J. Smart, Auckland: Ventilating-cover for drains.
- 22323—H. Corbett, South Yarra, Vic.: Food and tonic.

- 22324—J. A. Rollo, Christchurch: Weeding-implementation.
- 22325—J. H. Pollock, Wellington: Racehorse-controller.
- 22326—B. F. H. Dawson, Johannesburg, Transvaal: Candle-protector.
- 22327—B. W. White, Kaitoke: Spoon.
- 22328—A. McCorkindale, Island Block: Water-motor for pipe lines.
- 22329—J. Lowden, jun., Mataura: Preventing punctures in tyres.
- 22330—D. and F. W. Smith, Christchurch: Golosh.
- 22331—E. H. Featon, Gisborne: Vehicle-brake.
- 22332—F. G. Philpott, Lindenow, Vic.: Wash-board.
- 22333—R. B. Topp, St. Omer: Liquid gauge for oil-engine.
- 22334—T. Whitehorn, Coburg, Vic.: Packing predetermined quantities in bags.
- 22335—J. W. Dalton, Sandwich, U.S.A.: Breeches buoys.
- 22336—W. E. Hughes, Wellington: Wave-motor.
- 22337—A. S. Francis, London, Eng.: Gas lamp for inverted incandescent burner.
- 22338—T. Hines, London, Eng., and T. Coleman, Derby, Eng.: Distributing liquids on roads.
- 22339—R. Brown, Westminster, Eng.: Switches for electric traction.
- 22340—W. George, Invercargill: Milking-pail.
- 22341—The Chemical Industrial Syndicate (Limited), London, Eng.: Manufacture of matches and igniting-surface therefor.
- 22342—British-American Tobacco Company, Ltd., London, Eng.: Mouthpiece cigarette machine.
- 22343—H. J. West & Co., Limited, Surrey, Eng.: Chilling and carbonating beer.
- 22344—W. C. Bradshaw, Christchurch: Plaster.
- 22345—G. W. Berry, Moonee Ponds, Vic.: Soldering ends of cans.
- 22346—M. Robertson, Fitzroy, Vic.: Manufacturing coated articles—e.g., chocolate confections.
- 22347—H. R. Lees, Daylesford, Vic.: Potato harvester.
- 22348—F. S. Buckingham, N. Carlton, Vic.: Animal-trap.
- 22349—J. Gascard and R. Shimmern, Ballan, Vic.: Grading and cleaning potatoes, etc.
- 22350—J. Higginson, jun., Greytown N.: Retaining in position teat-cup mouthpieces.
- 22351—F. Raven, Korumburra, Vic.: Milking-machine and connections.
- 22352—W. F. Cropley (of firm of J. Cropley & Sons), Sydney, N.S.W.: Boot or shoe.
- 22353—C. C. Bullock, Sydney, N.S.W.: Capture of rabbits, etc.
- 22354—J. Aivaz, St Petersburg, Russia: Dividing-table for punching-press.
- 22355—J. E. Williams, Greymouth: Game.
- 22356—A. H. Byron and R. R. Richmond, Wellington: Calculating-protractor for scales for setting out drawings.
- 22357—A. H. Byron and R. R. Richmond, Wellington: Shafting of steam-vessel.
- 22358—J. Reid, Hamilton: Binder-apron.
- 22359—A. Ashcroft and C. Richardson, Auckland: Electrically distilling and purifying gum.
- 22360—H. J. Edwards, Dunedin: Revolving-grate.
- 22361—R. S. Shepherd, Auckland: Bedstead-foot.
- 22362—W. Evans and D. Y. Cunningham, Timaru: Weatherboard joint.
- 22363—W. R. Comings, Surrey, Eng.: Box-making machine.
- 22364—T. E. Raleigh, Corop, Vic.: Drafting-gates for animals.
- 22365—W. E. Adams, Sydney, N.S.W.: Construction of walls.
- 22366—W. J. Dibdin and H. C. Woltereck, London, Eng.: Illuminating and heating gas.
- 22367—G. Kelly, Napier: Boot-marker.
- 22368—T. Williams, Elmore, Vic.: Animal-trap.
- 22369—H. Corbett, S. Yarra, Vic.: Siphon.
- 22370—C. Martin, Eltham: Vehicle-seat.
- 22371—F. P. Vize and H. J. Broderick, Echuca, Vic.: Brush.
- 22372—J. Molas and J. A. Smeeton, London, Eng.: Turbine.
- 22373—J. C. Preston, Sydney, N.S.W.: Elastic fluid motor.
- 22374—J. C. Preston, Sydney, N.S.W.: Sheep shears.
- 22375—G. Gibbins, Footscray, Vic.: Plough.
- 22376—T. B. Brock, Kapunda, S. Austr.: Filling bags with grain.
- 22377—J. T. Meredith, Geraldine: Construction of motor or cycle tyre.
- 22378—W. Knowles, Christchurch: Boot or shoe.
- 22379—J. W. Jensen, Palmerston N.: Cow's-tail holder.
- 22380—A. H. Rogers, Wanganui: Cooling beer.
- 22381—J. Graham, Gisborne: Increasing speed of grindstone.
- 22382—R. M. Maunders, Ashhurst: Washing-board.
- 22383—R. M., J. B., and A. Maunders, Ashhurst: Operating window-blinds and curtain-poles.
- 22384—T. Hawes, Wellington: Indicator.
- 22385—T. J. Lovett, Chicago, U.S.A.: Magnetic separator.
- 22386—A. Parsons, Leeds, J. A. Morton, Leicester, and J. C. and B. Wright, Leeds, Eng.: Lasting-machine for boots and shoes.
- 22387—J. H. Smith, Kawana: Non-refillable bottle.
- 22388—A. G. Jackson, Brisbane, Queensland: Electric clock mechanism.
- 22389—A. G. Jackson, Brisbane, Queensland: Mechanism for totalisator, etc.
- 22390—T. R. Christie, Dunedin: Yard-gully and level inlet for drainage purposes.
- 22391—H. Mote, Sydney, N.S.W.: Extension step-ladder.
- 22392—C. G. Lehmann, Lockhart, N.S.W.: Harvesting-machine.
- 22393—W. R. Gover, Burwood, N.S.W.: Spinal corselet.
- 22394—F. W. Hellberg, Sydney, N.S.W.: Hammock and tent.
- 22395—W. H. Waycott and W. Wilson, Moonee Ponds, Vic.: Indicator for screw-cutting lathe.
- 22396—W. McEachern, Rosewood, N.S.W.: Measured-charge-delivery device.
- 22397—H. A. Hudson, Mauriceville: Parlour game.
- 22398—W. Stocks, Vancouver, B.C.: Stave-built pipes.
- 22399—W. Silver, Tamworth, N.S.W.: Sheep-shearing machine.
- 22400—J. E. Henry, Bundarra, N.S.W.: Pneumatic tyre.
- 22401—R. E. G. Borrowings, New Liskeard, Canada: Pipe-cleaner.
- 22402—C. J. Tuck, Makotuku: Spoon.
- 22403—A. R. Dietz, Albert Park, Vic., T. R. Ricketts, Warragul, Vic., and F. H. Cook, Daude-nong, Vic.: Rotary engine.
- 22404—A. and J. Burfoot, Auckland: Drain-pipe socket.
- 22405—A. Schwartz, Christchurch: Feed-bag for horses, etc.
- 22406—R. S. C. Brown, Dunedin: Trolley-pole.
- 22407—E. R. B. Daniel, Masterton: Guard for circular saw.
- 22408—G. F. Hutchinson, Kapuni: Hydraulic vacuum pump.
- 22409—H. Mayr, Auckland: Preventing ring slipping from finger.
- 22410—A. Gray and D. G. Thornton, Wellington: Pocket of wearing-apparel.
- 22411—R. L. H. Murray, Auckland: Acetylene-gas-lamp generator.
- 22412—H. Parsons, Southampton, Eng.: Device for applying to tyre to prevent puncture and skidding.
- 22413—J. Lilley, Christchurch: Fencing wire-twister.
- 22414—A. B. Johnson, Auckland: Curtain or screen elevator.
- 22415—H. Rochfort, Auckland: Extracting metals from slimes ore.
- 22416—W. Wilkins and J. Nobbs, Wellington: Bridge back plates of furnace.
- 22417—W. T. J. Auckram, Otahuhu: Sewing-machine.
- 22418—W. McEachern, Rosewood, N.S.W.: Bottle attachment and aerated-liquid delivering.
- 22419—G. Saur, Esch S/A, Luxembourg: Flushing-cistern.
- 22420—C. J. Walker, Fitzroy, Vic.: Manufacture of boots and shoes.
- 22421—M. D. Wreathall, Christchurch: Ice-making machine.
- 22422—W. F. Dugins and H. Haggarty, jun., Kew, Vic.: Automatically delivering food to horses.
- 22423—J. Montgomery, Dunedin: Cooling-chamber.
- 22424—A. J. Hall, Thornleigh, N.S.W.: Scarifier.
- 22425—G. S. Evans, Corryong, Vic.: Link-lock hook.
- 22426—G. S. Evans, Corryong, Vic.: Safety-clip hook appliance.
- 22427—W. A. Merralls, San Francisco, U.S.A.: Process and apparatus for cyaniding.
- 22428—H. W. E. Josling, London, Eng.: Preventing fraudulent refilling of bottles.
- 22429—A. J. Way, Wellington: Apparatus for producing hydrocarbon.
- 22430—F. Raper, Alexander S and W. J. P. Dixon, Rock and Pillar: Wire-strainer.
- 22431—S. Kendall, Abbotsford, Vic.: Gas-burner.

Full particulars and copies of the drawings and specifications in connection with the above applications, which have been completed and accepted, can be obtained from Baldwin & Rayward, Patent Attorneys, Wellington, Auckland, Christchurch, Dunedin, etc.

To Soften Cast Iron for Drilling.

Heat to a cherry-red, having it lie level in the fire. Then with tongs put on a piece of brimstone, a little less in size than the whole is to be. This softens the iron entirely through. Let it lie in the fire until slightly cooled, when it is ready to drill.