

Science and Art.

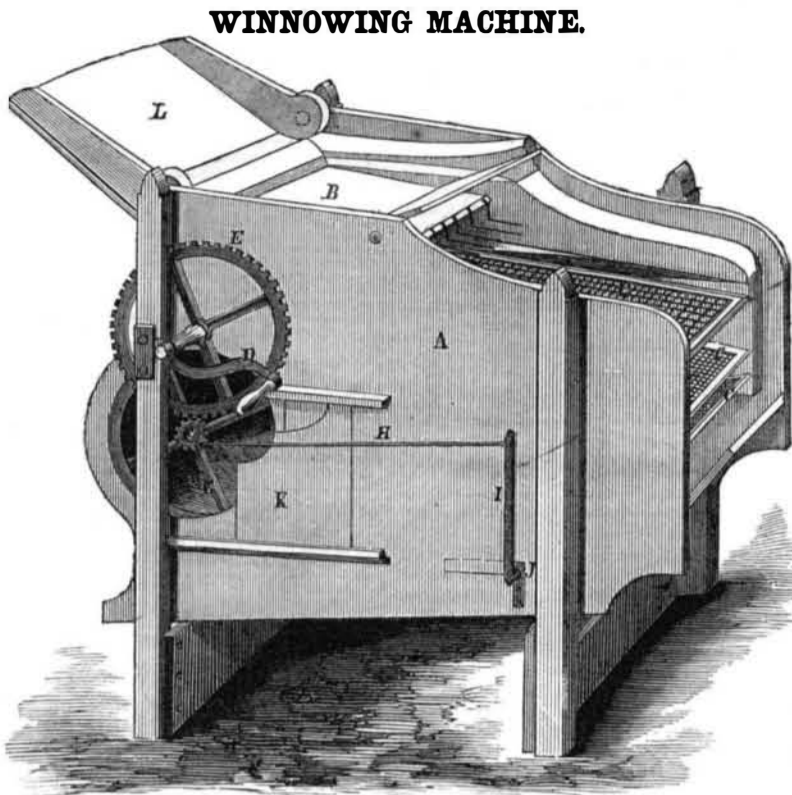
The Woodworth Planing Machine.

We are in pursuit of information concerning a new game, which, we learn, is attempting to be practiced by some of the Woodworth assignees. If the rumor is substantiated by evidence, we shall have another chapter to write, in a week or two, on the planing machine monopoly.

Sheple's Winnowing Machine.

The ancient process of pouring out grain under the influence of wind to separate the heavy grain from the chaff has long been abandoned for a simple machine which allows the grain to fall more evenly and slowly, and subjects it to a more powerful blast artificially generated by a fan. The improvements in the machine are necessarily confined to modifications of the detail so as to ensure greater simplicity and durability, and more rapid or more easy action.

The engraving here presented is a perspective view of a machine on which an application has been made for a patent. A is the frame, B the hopper platform, and C C the sieves. D is the crank by which the machine is operated. E is a large gear wheel on the crank shaft. F is the quick shaft, on which the fan G is mounted. The sieves, C, are connected to a light rock-shaft, J, on which is fixed the shaking lever, I, outside



the frame. H is a rod connecting I with a crank on the fan shaft, as represented. K is a door which may be opened and closed to any desired extent to regulate the supply of air to the fan, and consequently to increase or diminish the blast through between the

sieves. L is a hinged feed apron, a very convenient attachment which may be extended when required for use, and folded up when the machine is to be stowed away or transported.

For further information, address the inventor, C. C. Sheple, Waterbury, Vt., who has applied for Letters Patent.

Sugar Maples.

The New York *Tribune* has published several articles setting forth the importance of the soft maple as an ornamental and valuable tree in other respects, and also as a sugar-producing tree. In a late issue it presents the following, from an experienced sugar maker in Vermont:—

"The flow of sap from this variety of the maple is considerably larger than the variety known as sugar or rock maple—probably double in quantity. But it does not contain more than half the saccharine quantity per gallon contained by the sap of the other variety. Sugar can be made from the soft maple sap, and also from the sap of the yellow birch (which flows in still more plentiful amount); but the difficulty is that so much more fuel is required to reduce the sap to sugar than is required with that syrup derived from the sugar maple, that it will not pay the cost."

In addition to this difficulty, it is understood that soft maple and birch sap will not granulate into sugar, but will, like the juice of the *Sorgho Sucre*, remain a simple cheap syrup or molasses.

INDEX.

- A**
Acid from Saw Dust, 1 fig. 172
Air Bath, (Taylor) 1 fig. 384
Alarm, Burglar's 46
Candle Mold 5
Candle Machine (Humlston) 1 fig. 313, 321
Cannon, Breech-loading 13
Capsans 61
Capstans (Holmes) 3 figs. 273
Cars, uncoupling 1 fig. 112
Cars, Wrought Iron 316
Car Wheels 261
Cart, self-weighting (Martin) 4 figs. 129
Carriages, (Kenny) 4 figs. 4
Carriages, (Warwick) 2 figs. 164
Carriage Gear (Atkinson and Manning) 2 figs. 400
Carpet Sweeping Machine 62
Castings, German Silver 57
Castings, to make fine 275
Cast Steel 84
Casters, Furniture (Bird and Rose) 8 figs. 140
Cement 43, 257
Char R. R. (Morley) 8 figs. 257
Chargers for Shot Pouches (Hathaway) 3 figs. 116
Chemical Patents, index of 158, 251, 395
Chimney Register 29
Chimneys, Construction of 180
China and Glass, care of 350
Chloroform in Sea Sickness 163
Chronological Record of means to prevent corrosion in Steam Boilers 14
Chromotype Copies of Plants, etc. 371
Chuck for making Bed Pins, (Gross) 2 figs. 128
Churn (Shaw) 1 fig. 316
Churn (Thorpe) 3 figs. 372
Churn (Cowles) 2 figs. 381
Clamp Adjustable (Gibbs) 1 fig. 344
Clock, Calendar 6
Cloth, Woolen 53
Clothes Ironer, (Storrs) 1 fig. 312
Coal Fields, American 1 fig. 392
Cock, Basin (Leitch) 2 figs. 284
Cock, Basin (Marshall & Smith) 3 figs. 376
Coffee, Beet Root 9
Collodion, to make 129
Collar, anti-Garotte, 2 figs. 228
Combustion, Spontaneous 3
Comets appearance and movements of (8 figs.) 280, 283
Copper 342
Corn Planter 14, 46
Corn Planter (Meacham) 3 figs. 161
Corn Planter (Goodwin) 2 figs. 220
Corn Mills, Trial of 75
Corns, Remedy for 120
Cork Cutter, (Conroy) 3 figs. 364
Cotton, Bleaching 30
Crane 46
Crimp, Boot 46
Crickets, to destroy 46
Coupling Car (Ryan) 2 figs. 28
Coupling Pipe 2 figs. 46
Cut-off (Sickles) 75
Cutting down Trees, (Ehram) 1 fig. 20
Cutting down Trees, (Ingersoll) 1 fig. 20
Cutting down Trees, 46, (2)
Cutting down Trees, (Mather) 1 fig. 84
- D**
Dammer 25
Dampers, Grate 29, 1 fig. 53
Dividing Machine 164
- C**
Calomel 236
Cameo enclosed in Glass 85
- B**
Bacon, Saving 67
Back Band Hook for Harness (1 fig.) 193
Bank Notes, to detect Photographic 16
Barrel Hoops, Notching 29
Barrel Head Machine (Robinson) 2 figs. 50
Barometer, Simple 224
Battery, Centrifugal, (Potts) 3 figs. 361
Bed Rail Machine (Bailey) 1 fig. 52
Beds, Spring 53
Belts, Hoies, Cutting in Floors, 1 fig. 294
Belting, Vulcanized India Rubber, 1 fig. 357
Benzole Light 33
Bit, Adjustable, (Logan) 6 figs. 209
Bit Stock, (Lettington) 3 figs. 93
Bitumen, its uses 53
Blacking Box Holder, (Cairns) 2 figs. 172
Blacking for Harness 288
Bleaching Machine, (Wallace), 1 fig. 121
Bleaching Linen and Cotton 136
Blister Flies 19
Blow Pipe 30
Blowing Apparatus 62
Boats, Lowering, (Clifford), 4 figs. 240
Boiler Explosion 179
Boiler, Steam 206
Boiler, Tubular (Dimpfel), 3 figs. 332
Boiler Guard, (Day), 3 figs. 348
Bolt Heading Machine 22
Bomb Shell 29
Book Folding Machine 70
Boring Machines 45, 62
Boring Machine, (Klahr), 1 fig. 281
Boring Instruments, Ratchet Handles for 62
Bread, Fermented 355
Brick Machine (Ustick) 3 figs. 9
Brick Machine (Salomon) 5 figs. 68
Brick Machine 4 figs. 148
Brick Press 29, 38
Brick Press (Lillie) 2 figs. 324
Bridge, Segmental (Guion) 2 figs. 72
Bronze for small casting 86
Bronzes 149
Buckle 5
Bullet, Explosive (Norton) 2 figs. 366
Bullet Machine 36
Burns, Remedy for 20
Butter Cooler 283
- E**
Elevators, Steamboat 276
Emery Paper 65
Engines, Rotary 5, 6, 70
Engines, Steam 22, 1 fig. 100
Engines, Horizontal 29
Engines, Steam Fire 37, 2 figs. 73
Engine Blower (Ross) 2 figs. 44
Engines, Trials of 55
Engines, Electro Magnetic 69, 334
Engines, Oscillating 69, 4 fig. 81
Engines, Carbonic Acid Gas 1 fig. 64
Engines, Camel 174
Engines, Horse Power of 235
Engines of the "Great Eastern" 2 figs. 264
Evaporator and Condenser (McCracken) 1 fig. 113
Excavating and Ditching Mach. (Provine's) 2 figs. 260
Exhauster, Air (Turnell) 3 fig. 178
- F**
Fabrics, Lustering Colored 6
Fair, American Institute 29, 37, 45, 53, 61
Fan, Automatic (Rebstock & Reimold) 2 figs. 388
Farming, Scientific 269
Faucet (Bartholomew) 2 fig. 400
Fence, Iron (Wickersham) 2 figs. 59
Fence, Field (Reyman) 4 figs. 336
Fence Posts (Johnson) 6 figs. 232
Fences, Live 333, 363
Filter, Water 69
Fire Arms 70, 4 fig. 92
File Cutter 2 figs. 97
Fire Hook (Ernst) 3 fig. 169
Flax, Sowing 243
Flour Packer (Taggart) 3 figs. 336
Flowers for Window Sills 2 figs. 328
Fluids, Evaporation of 2 figs. 156
Fly Trap 29
Franklin Institute Exhibition 93
ruit, Grinding and Pressing 54
urs, Renovating 104
urnace, Soldering Iron 29
urnace, Smoke Burning 2 figs. 248
urnace, Reverberatory 366
usable Plugs for Boilers 117
- G**
Gage Cock 1 fig. 162
Gage, Steam (Brown) 2 figs. 316
Gage, Steam (Miller & Kailey) 2 figs. 389
Galvanic Battery 51, 376
Gas Regulator 62
Gas Retort (Hoek) 2 figs. 92
Gas from Wood 147, 302
Gas Light for Villages 3 figs. 201, 208
Gas Igniter, Galvanic (Gardner) 1 fig. 320
Gas, Manufacture of 363
Gate, Self-Acting (Ayers) 2 figs. 84
Gate, Farm (Lolland) 2 figs. 256
Gear Cutter 38
Generator, Steam (Armstrong) 4 figs. 224
- H**
Hammer, Forge and Trip 69
Harvesters 5, 14
Harvesters (Haggard Bull's) 4 figs. 17
Harvesters (Stoddard) 2 figs. 80
Harvesters (Manny) 1 fig. 104
Harvesters, Trial of 309
Harvesters, Self Lifting 2 figs. 388
Harvesters (Gumear) 1 fig. 406
Hay and Stalk Cutter (Cussing) 2 figs. 353
Hinge, Door (Bullard) 2 figs. 360
Hitch for Horses 62
Hoop Machine (Sawyer) 3 figs. 124
Hoop Machine (Brown) 2 figs. 177
Hops, Substitute for 43
Hose Coupling (Falconer) 2 figs. 408
Hubs and Axles 38
Hub Mortising Machine (Bailey) 1 fig. 44
Hungary Water 342
Husking Machine (Taggart & Grover) 1 fig. 137
Husking Machine (Bryson) 2 figs. 317
Husking Machine (Levis) 1 fig. 244
- I**
Ice by Machinery 4, 80, 110
Ice House 27, 120, 139
Ice Creepers (Towers) 2 figs. 76
Incrustations in Steam Boilers 28, 45
India Rubber, Liquid 15
India Rubbers 55
Indigo, American 8
Ink Receipt 179
Ink, Yellow 272
Inkstand (Satterlee) 1 fig. 116
Iron, Malleable 6, 13, 31, 32, (4 figs.) 34, 43
Iron Pipes, Galvanized 14, 269, 277
Iron Zincing 16
Iron, Restoring Burnt 40
Iron Making from the Ore (Salter) 1 fig. 76
Iron Architecture 237
Iron, Improvements in 341
Irons, Smoothing (Bishop) 2 figs. 1
Irons, Heating by G 62
Ivory, to Dye Red 94
- K**
Knife Cleaner (Wilcox) 1 fig. 312
Knitting Machine (Patent Case) 102
- L**
Lamp, Lard (Davis) 1 fig. 256
Lathe, Turning (Cambridge) 2 figs. 60
Lathe, Hatter's 62
Lathe, Jeweller's (Stephens) 3 figs. 340
Lathe Chuck 45
Lathe (Walton & Edgerton), 2 493
Lead, Lead Pipe, and Shot 245
Leveling Scraper (Blakeslee) 1 fig. 349
Liquids, Condensing Gas Pi 1 fig. 414
Liquor Preserver (Boyd) 1 fig. 36
Liquor, Lock for R. R. Cars 30
Lock Window and Door 62
Lock Joint for R. R. Rails 2 figs. 38
Locomotive, Farm 38
Locomotive, Constructive and Working of 134, 139, 147
Locomotive, Electric 323
Locomotive Boiler, Coal Burning 3 figs. 160
Looms, Power 37, 54
Lubricator (Henwood) 1 fig. 257
- M**
Magnesium 294
Malachite 16
Manure, Mineral 6
Map Adjuster 223
Marble Sawing Machine (Ashenfelder) 1 fig. 48
Marble Sawing Machine (Schultz) 2 figs. 52
Marble, to Clean 148
Marble, Etching 245
Matches, Friction 99
Meats, Preserved 70
Meat and Fish, Preserving Fresh 339
Metals Silvering 16, 27, 59
Metals, Molding and Shaping, 8 figs. 132, 136, 165
Metallic Ores, Treating 163
Microscope 19
Milk, Artificial 172
Milking Apparatus 54, 2 figs. 65
Mill, Grinding (Stout) 1 fig. 77
Mill, Grinding (Coleman) 3 figs. 369
Mill Picks, Tempering 211
Mortar Mixer, (Hunt & Sands) 1 fig. 288
Mortising Machine 70
Mortising Machine (Perry) 2 figs. 188
Mosquitoes, Antidote for 338
Motive Agent, New 339
Mouse Trap 115, 1 fig. 153
Mowing Machine (Manny) 1 fig. 48
Muslin, Printed 53
- N**
Nautical Instrument 4
- O**
Oil Cup 70
Oil, Drying 180
Oil, Rosin 182
Oil, Coal 286
Ointment for Piles 200
Ore Washer (Carter) 2 figs. 252
- P**
Paddle Wheel (Housworth) 2 figs. 56
Paddle Wheel (Glover) 120
Paging Machine (Degener) 1 fig. 276
Paintings, Restoring Oil 179
Paper Feeder 6
Paper Cutter 21
Paper Test 321
- Q**
Quartz, Solid and Liquid 162
- R**
Radiator (Chester) 1 fig. 372
Railroads, Expenses of 5
Rakes for Harvesters 6
Raking Attachment for Reapers (Thompson) 2 figs. 180
Rats, to Destroy 27
Reaping Machine Trials 1
Reaping and Mowing Machine (Watson) 1 fig. 300
Register for Vessels 1 fig. 86
- P**
Puritan Ornaments 14
Parchment, Paper 207
Pastilles (Piasse) 158
Patent Bill 133, 166
Patent Office Report 109
Patent, Woodworth 101, 115, 125, 133, 134, 138
Patents, Sale of 61
Patents Issued in 1855, 75
Patents Extended in 1855, 75
Patents Extended in 1856, 403
Patented Articles, Stamping 206
Pen and Pencil Case 5
Pens, Steel 53
Petroleum, Distilling 4 figs. 368
Photographing on Wood 390
Pianofortes (Wild) 2 figs. 40
Piano Fortes and Melodeons 54
Pictures, Relief 213
Pile Driver (Sampson) 2 figs. 25
Plane, Grooving (Robinson) 2 figs. 53
Plane (Nichols) 3 figs. 260
Plane (Palmer) 4 figs. 392
Planner (Plass) 1 fig. 384
Planing Machine (Denison) 1 fig. 57
Planing Machine 62
Plating Solutions, 187
Plating Iron with Copper 374
Plover, Seed Planting 38
Plow, Subsoil (Manny) 1 fig. 72
Ploving by Steam 341
Portfolio (Shaw) 1 fig. 21
Portemonnaies (Mason) 3 figs. 304
Potato Digger (Baker) 2 figs. 12
Press, Printing 22, 37, 70, 210
Press, Cotton (Ruggles) 2 figs. 33
Press, Hay and Cotton 54
Press, Hay (Disbrow) 1 fig. 56
Press, Lithographic 70
Press, Shearing and Punching 70
Press, Cotton (Provost) 2 figs. 292
Press, Oscillating 2 figs. 401
Press, Printing (Uttor) 2 figs. 345
Printing in Steam Boilers 243
Printing Machine (Cooper) 1 fig. 100
Printing, New Method 304
Pi inting on Glass 246
Propellers in Vessels 6
Propeller (Griffith) 4 figs. 352
Protector for Firemen (Nelson) 2 figs. 348
Pulley Blocks 38
Pump 70
Pump (Hewitt), 1 fig. 412
Pump (Lewis), 1 fig. 412
Pumps, Air Vessels on 1 fig. 88
Pumps, Steam (Guild & Garrison) 2 figs. 105
Pumps, Air Chambers of 195
Pumps (Underwood) 2 figs. 189
Pumps (Burnham) 1 fig. 228
Pumps, Chain (Morris) 3 figs. 220
Pumps (Burnap) 2 figs. 268
Pumps (Holly) 3 figs. 381
Pump Boring Machine (Wyckoff) figs. 196