

TO CORRESPONDENTS.

"S. S. G., of Phila."—You will see that we used your favor. Be pleased to accept our thanks.

"J. W. K., of N. H."—Your favor containing \$4 came safe. We cannot furnish you with number 28, vol. 4—nor send the paper from the Boston office, all the papers are mailed from this office.

"I. H., of Md."—We know of nothing having been arranged like your improvement on sawing, and have no hesitation in stating that it is patentable in one of the arrangements, in the moving of the log, but you will see the other arrangement illustrated in page 316, vol. 3, Scientific American.

"H. S., & R. L., of Md."—We will publish about the patent leather next week.

"M. K., of Mass."—If you are satisfied of the practicability and utility of your plan, we should advise you to patent it. It had better be thoroughly tested.

"A. M. T., of Va."—The earliest account of electricity, artificially excited, of which we have any record, is carried back as far as 600 years before the birth of Christ, when Thales, the Milesian, observed that amber, after having been rubbed, possessed the power of attracting light bodies, such as feathers, &c. The person who first contributed essentially to its promotion was Dr. Wm. Gilbert, who published a book of electrical experiments in 1600. We are indebted to Dr. Franklin more than any one else for developing this subject.

"G. W., of Pa."—Mr. W. resided in Cambridgeport, Mass., at the time the communication was made. We have not heard from him since—and do not know that he has ever constructed one of his instruments.

"W. F., of N. Scotia."—Such binding as you want will cost \$1.50 per volume.

"A. L., of N. Y."—The first 32 numbers of volume 4 cannot be supplied complete.

"G. S., of N. Y."—The model of your churn has been examined. We do not discover any new feature in it. Churns worked by a crank, and having a perforated dasher have long been in use. Several references could be given.

"J. W. S., of Ill."—Excuse the delay, our business is so extensive. We would say, that no such invention for plumbing wheels is in use to our knowledge, and we believe it to be patentable, but first of all try it, before going to any other expense. The old plan of wedging up the wheels and plumbing them by the spirit level alone, has always been held to be the best.

"J. C., of N. Y."—The meaning of melting the composition, and working it in cold water, is to grind in cold water after it is melted and then lay it on. After it is laid on it should be dried in a very hot stove room. If a small quantity of alum is used along with it there is little danger of it crumbling. It is waterproof, but the exact expense we cannot tell.

"M. K., of N. Y."—It would seem from your description that the principle is the same as the syphon; if so it could not be patented. We can tell much better by having an opportunity of examining a drawing or a model. \$2 received.

"D. P. C., of N. C."—The price of the book you ordered is \$2.50. It cannot be sent by mail unless you authorize us to take the covers off. Can it not be forwarded by express so as to save the covers. Please answer by return of mail.

"S. N. B., of Ohio."—Thomas Blanchard resides in Boston, Mass., by writing to him you can without doubt obtain all the information you require in regard to his wood bending machine.

"G. L. C. D., of Miss."—The invention you refer to is an English invention, and has not been introduced into this country. If any one has a good machine for covering wire and will let us know by letter post-paid we will inform you.

"J. H. C. of Pa."—If you can wait, we intend to treat the subject fully in our next volume.

Answers to Correspondents.

Owing to the great length of our invaluable index, answers to many correspondents is necessarily delayed till next week. Our attention to correspondents will receive a still greater share of our labors than heretofore—great though that has been.

Scientific American for Binding.

As this number closes volume 5, we would suggest to those that desire to have their numbers bound to send them to this office and have them executed in our usual manner, for the low price of 75 cents.

You can depend upon having your volumes well bound by sending them to this office, as they will be executed to conform in style with hundreds that we have bound for ourselves and the trade.

Important Notice to us!

Whenever any of our friends order numbers they have missed—we shall always send them, if we have them on hand. We make this statement to save much time and trouble, to which we are subjected in replying, when the numbers called for cannot be supplied.

To Correspondents.

Friends, we return to many of you our sincere thanks for the valuable information we have received from time to time. You have not only done us but "the State some service." Knowledge is truth, and your labor to diffuse knowledge has been to advance truth, and every man who does this, is a benefactor to his fellow-man.

To all correspondents who have asked for information, we have endeavored to give it to them in all candor. Many have written unto us, whom we could not answer, the reason in every case being good. Some could not get an answer because of the too great length of their letters, and some, we must say, we could not read, not owing to bad composition apparently, but to carelessness in the writers. Many of our correspondents may have been overlooked unintentionally. We endeavor to be careful in this respect, but when we have so many as 50 letters on an average per day, and some of them very long, it is impossible to prevent oversights. It is our intention, however, to employ a greater force and to labor more attentively for the benefit of our correspondents, than heretofore. We hope you will endeavor to extend the circulation of volume 6, and we will endeavor to return you equal favors.

Patent Claims.

Persons desiring the claims of any invention which has been patented within fourteen years can obtain a copy by addressing a letter to this office; stating the name of the patentee, and the year the patent was granted (adding the month of the year when convenient), and enclosing one dollar as fees for copying.

INDEX.

A
Abdominal supporters 68
Abdominal supporters, Henry's 340
Abyssinia, discoveries in 123
Accidents, R.R. 323
Accidents, steamboat 323
Acoustics 312
Acoustic apparatus 220
Acid, sulphuric 304
Acid in cholera, prussic 225
Action and re-action, 2 engs. 132, 140
Aerial navigation 27, 69
Aeronautic enterprise 318
Aerostation 389
Aerostation, new discovery in 315
Africa, discoveries in 3
Ague, cure for 185
Agricultural discovery 195
Air, atmospheric 320
Air, density and elasticity of the 89
Ale or porter that has turned sour, to restore 249
Algebraic method, new 36
Alloys, metal 100
Almonds, milk of 385
American Institute, gold medals awarded at the 50
Ammonia hartshorn, to make water of 49
Animal life in water 274
Animals, fattening 114
Animalculae 74, 91
Annihilator, Phillip's fire 332
Antimony, preparation of 12
Ape, fossil 38
Apple paring machine, Weed's 2 engs. 84
Aqueduct, Croton 146
Arithmetical table, Allen's, 2 engs. 161
Arrowroot culture in Fla. 318
Art, discoveries in 20
Arts, the 365
Ashes, hard coal 400
Association for the advancement of science, American 394, 402
Asphaltum of New Brunswick 314
Asphyxia 328
Associations, mechanics 301
Asthma 209
Astronomy, eng. 176, 376
Atlanta, Ga., 38
Atlantic in five days, how to cross the 83, 275, 283
Atmosphere, the 179
Augur 372
Augur handles, Larkin's, 2 engs. 388
Aurora borealis 91
Autographs 217
Axle, Smith's ball 29
Axle box 220
Axles of carriages, circle bearing for the 4

B
Bagnasse, apparatus for drying 334
Bagging, cotton 292
Bakatas of South Africa, 412
Banvard 2
Bald heads 18
Balloon, frozen 81
Balloon ascension, 2, 396
Barometer, extraordinary 298
Bath, Essex's, eng. 60
Bath, foot operating 340
Bearing, artificial 164
Beavers, 14
Bedstead 340
Bedstead, cot and camp 76
Bedstead fastenings, Taylor's 3 engs. 172
Bee, cultivating the honey 163
Bees, mathematics of 312
Beehive, Wheeler's eclectic, 5 Engs. 236
Beehouse, floating 40
Beeswax, to purify 57
Beer, to make table 249
Birds, value of 14
Bird, honey 395
Biscuit machinery 84
Blind, light for the 50
Blind, machine for the use of the 276
Blowpipe, the 61
Blowpipe, Cook's, 4 engs. 185
Blowing machinery, 2 engs. 92
Boats, life 356
Boilers, copper 212
Boiler, steam 202
Boiler explosion 234
Boiler incrustations, steam 74
Boiler invention, steam 324
Boiler safety apparatus, steam 330
Boat uppers, Sampson's apparatus for shaping, eng. 281
Borax 342
Boring machine, Jones' 29
Boring and morticing machine, Swingle's 29
Boring bedposts, Hall's machinery for 2 engs. 97
Boring and sinking machinery for artesian wells, Gard's 4 engs. 137
Botany of the Platte river II
Brace, sash 364
Brain 373
Brain, phenomena of the 99
Brain injury, case of 339
Brakes for R.R. cars and other machinery, Kimball's & Rice's hanging, eng. 308
Brass 363
Brass castings, 164
Bread, brown 385
Bread, soup 84
Bread, to make good 297
Brick machine, Wagner's 2 engs. 401

C
Bricks, hollow 364
Bridle, safety 92
Bridge, R.R. 273
Bridge, Britannia tubular 2, 68, 180
Bridge, Lewiston suspension 242
Bridge, Remington's 84, 148, 212, 322, 348
Bridge, Levenson's iron 29
Bridge, Wheelers suspension 29, 41, 53, 348, 356
Bridge, wire suspension 218
Bridge, wooden suspension 52
Bronze 296
Bruises and sprains 8
Brunel, biography of 139
Buckle, Scarlett's, 3 engs. 297
Bang cutting tool 212
Burns 8, 200
Butter, 193
Butter, American 26
Butter, to preserve 113
C
Cabbage, to preserve 81
Calculating machine 92
California 374
California gold region 139
Caloric, solvent properties of 310
Camomile 57
Camphene 46, 253
Camphor on the teeth, effects of 186
Canalton 10
Canal across the Isthmus of Panama 219
Canals, steam on 76
Cancer, cure of 81, 153, 226, 305
Cancer-cured 338
Candles 345
Candles, Brown's apparatus for making mould, 3 engs. 164
Candles made by railway process 140
Candles manufacture of 68
Cautchoucine 72
Car, R.R. hand 97
Car hoister, Prime's, 2 engs. 241
Car wheels 52
Carbon 372
Carbon, properties of 104
Carbon as food for plants 194
Carding wool 316
Camelia, yellow 256
Carmine 12
Carding 412
Carpets 412
Carpets, weaving tapestry 44
Carriage making in N. J. 386
Casks, purification of 109
Casting, gun 28
Catsup, butternut 113
Cattle, feeding 43
Caustic, lunar 233
Caveat, a 157
Cement for mastic work 10
Cement for mending steam boilers 1
Chair, R.R. 100

Chair, Van Anden's R.R., 2 engs. 388
Challenge to the mechanical world 301
Charcoal melted, 268, 301
Charter, first R.R. 329
Charts, Maury's 252
Cheese, Ohio 18
Chemistry, agricultural 69
Chemistry, animal and vegetable 113
Chemical discovery, great 13
Chemical philosophy 333
Chestnuts, planting 42
Chimneys, construction of 227
Chimneys, cure for smoky 121, 260
Chimneys, method of preventing the fracture in glass 12
Chloroform, effects of 66
Chloroform, employment of 272
Chloroform, to arrest the fatal effects of 172
Chloroform on plants, effects of 172
Chocolate 114
Cholera 3
Cholera, theory of 138
Choleric discovery 48
Chrome 316
Chromatype 308
Chrono-thermal medicine 153
Chronograph, electro 84
Chronometers arried, how 189
Chrysanthemum, the 99
Churn 76, 348
Churn, Davis' self-adjusting, eng. 308
Churn, Robbin's telegraph, 2 engs. 156
Churns, labor saving 140
Cisterns, charcoal for 306
Clairvoyants 82
Claret, Texas 226
Clasp, Rockwell's bedclothes, 2 engs. 220
Cleaner, buckwheat 68
Cleaner, rice 372
Cleanliness, Parisian 3
Cleaning machine, Harris and Son's grain, 2 engs. 385
Climate 376
Clock, alarm 156, 188
Clock, astronomical 108
Clock, Lock's magnetic 44
Clock, novel 300
Clock, singular 260
Clock faces, to silver 153
Cloth, incombustible 124
Cloth, stereolaic 348
Cloth, vulcanized india rubber 147
Cloth, waterproof 105
Cloth folding machine, Carey and Bagley's, 2 engs. 41
Clothes, washing 121
Clothes without seams 172
Clutch for machinery, Barlow's, eng. 273
Coal 130

Coal, Ala. 50
Coal, N. Y. 45
Coal breaker, Battin's 222
Coal formations 390
Coating ships 268
Cochineal to dye silk 32
Cocoanut, manufactures from the 292
Cocoanut, the Jamaica 330
Coffee, benefits of 331
Coffee, dandelion 225
Coffee, Java 115
Coffee, substitute for 281
Coffee West India 49
Coffee extracts, method of making, eng. 140
Coffee for weak stomachs 321
Colds, cure for 208
Coloring matter 329
Colors 400
Combinations, heat of 67
Combustion, spontaneous 243
Comet, the 346, 387
Compass, variation of the 412
Compound, disinfecting 332
Computing machine, Parmelee's eng. 364
Contentment 202
Convention, World's 196
Cook without fire, to 14
Cooking, errors in 376
Cooking by gas 389
Cooler, bed 44
Cop spinner, Dodge's 29
Copper blanched 49
Copper, Lake Superior 390
Copper mines, Lake Superior 30
Corn sheller 76
Corn sheller, Harris and Carter's, 2 eng. 121
Cernices, wooden 372
Corrosive sublimate, counteracting the effects of 400
Cotton, nan keen 66
Cotton, cultivating 386
Cotton batting machinery, Essex's, Eng. 244
Cotton crop, the 410
Cotton drying machine 4
Cotton, experiment in Australia 35
Cotton factory, first 42
Cotton gin, Dubois' 21
Cotton gin, experiments with the 6
Cotton gin, Parkhurst's 130
Cotton machinery 100
Cotton manufacture in the U. S. the 355, 363, 371
Coupling, self-acting 252
Coupling, Brown's, 2 engs. 332
Cracker baking 68
Cracker machinery, Nevin's, 2 engs. 305
Crank and pulley, the 412
Crank, against the 6, 115
Crank, for the 14
Crank, on the 96
Crank, properties of the 125, 141

Cream, shaving 140
Croup, cure for 193
Crystals, sulphurous acid 146
Cultivator, Rodgers', eng. 340
Curiosity, natural 10
Curve, Schiele's anti-friction, 2 engs. 289, 292
Custards without eggs 225
Cutlery, to glaze 8
Cutter, straw 4
Cutter, Bertholf's straw, eng. 52
Cutter, Hovey's straw 124
Cutter, Macomber's straw, 2 engs. 386
Cylinder, bursting of the Brahmah 54
D
Daguerreotype 192
Daguerreotype, oil painting 20
Daguerreotype cases 324
Daguerreotype improvement 276
Damasus blades, manufacture of the 137
Dam at Hadley Falls 58
Damp, fire 381
Dead Sea, the 283
Deafness, remedy for 185
Depurating machinery, Brooman's, 2 engs. 321
Detector, alarm and thief 180
Diamond, wonderful 368
Diamonds 370
Diamonds, artificial 325
Diamonds, manufacture of 302
Diamonds, value of 363
Diet 354
Diet, vegetable 285
Discovery, important 67, 75, 83, 123
Discovery, poetry of 77
Discovery, simplicity of 13
Discoveries, Layard's 283
Dishes, washing 164
Distributor, Morse's air, eng. 268
Docks, foundation of 188
Dog bites 2
Down of the Eider duck 138
Dragon blood plant, the 364
Drawing pencil 190
Drawing made easy, eng. 5
Dressing machine, Wilson's stone, 2 engs. 284
Drill, Ide's grain, 3 engs. 372
Dropsy, cure for 338
Drowning, to treat cases of 12
Dryer, grain 244
Dryer, Snead's grain, 2 engs. 257, 260
Dyeing 180
Dyeing blue, yellow and black, 48
E
Eggs, clarification of 89
Eggs in China, hatching 338
Electric batteries 54