

J. H. D., of N. Y .-- Finely-powdered plaster-of-paris made into a thin cement with water, we have been told, answers well for uniting broken pieces of meerschaum. Liquid quartz will anpurpos

S. W. T., of N. J.-In a general sense, combustible sub-substances are those which burn freely in the atmosphere, but in a chemical sense, this definition is too restricted. Iron and zinc burn freely in pure oxygen gas.

W. F. W., of Pa.-It depends altogether on the terms of the patent whether the patentee can substitute a different material, and still claim to work under the patent.

P. D. of Vt .- The benefit of a re-issue will extend to past assignees. They can however, if they prefer it, athere to the orig-inal patent. It is not necessary that all should join in the application for re-issue, though it is usually better for them to do so. F. A. M., of N. Y.—The *Monitor* class of vessels were

not designed for speed, but merely for floating batteries. It would be wrong to blame them for want of speed, when they were not de-signed with respect to this quality. We shall give your article on storms attention. The theory appears to be similar to that of Mr. Redfield, who believed that most of our storms were rotary.

Money Received

At the Scientific American Office on account of Patent Office business. from Wednesday, December 10, to Wednesday, December 17, 1862 :-

Unice business. from Wednesday, December 10, 10 Wednesday, December 17, 1862:-W. S. & G., of N. Y., \$20; M. B. D., of Pa., \$20; H. T., of Ind., \$20; H. M., of Mass., \$20; M. H., of England, \$120; F. R., of N.Y., \$25; W. F., of Mich., \$20; L. P. H., of Iowa, \$20; T. N. of C. W., \$10; J. Z., of III., \$45; J. M., of N. Y., \$20; S. B. H. V., of N. Y., \$25; F. F. S., of N. Y., \$15; J. N., of N. Y., \$20; S. B. H. V., of N. Y., \$45; P. & C., of N. Y., \$15; J. N., of N. Y., \$20; S. B. H. V., of N. Y., \$45; F. & C., of N. Y., \$15; J. N., of N. Y., \$15; S. C. H., of Mass., \$30; M. B., of Paris, \$93; J. M. A., of Mass., \$10; H. B. of N. Y., \$15; B. T. S., of III., \$25; J. J., of Mass., \$25; E. L., of Ohio, \$25; L. R., of Ind., \$10; J. D. B., of Vt., \$15; D. M. D., of N. Y., \$15; M. B. S., of N. Y., \$25; R. L., ot N. Y., \$40; F. & K., of Cal., \$25; V. & O., of Pa., \$15; B. & H., of Con., \$40; J. H., of III., \$15; C. Va. D., of Mass., \$15; J. R., of Mass., \$15; N. F. B., of Pa., \$37; S. C. E., of Mass., \$15; J. R., of Mass., \$15; N. F. B., of Pa., \$37; S. C. E., of N. Y., \$25; J. P. M., of N. Y., \$25; J. P. M., of N. Y., \$20; Van H. & K. C., of N. Y., \$25; J. C. A. & Co., of N. Y., \$20; Van H. & R., of Mo., \$10; J. M., of N. Y., \$25; M. H. G., of N. Y., \$20; Van H. & R., of Mo., \$10; J. M., of N. Y., \$25; & R., of Mo., \$10; J. M., of N. Y., \$25.

Persons having remitted money to this office will please to examine the above list to see that their initials appear in it, and if they have not received an acknowledgment by mail, and their initials are not to be found in this list, they will please notify us immediately, and in-form us the amount, and how it was sent, whether by mail or express.

Specifications and drawings and models belonging to

Pa.; R. L., of N. Y.; R. F. C., of N. Y.; J. M., of N. Y.; J. J., of N. Y.; E. L., of Ohio; A. M. S., of N. Y.; D. W. C., of N. Y.; H. & B. of Conn.; F. P. S., of N. Y.; B. T. S., of Ill.; F. & K., of Cal.; B. & M., of N. Y.

TO OUR READERS.

RECEIPTS .- When money is paid at the office for subscriptions, a receipt for it will always be given ; but when subscribers remit their money by mail, they may consider the arrival of the first paper a *bona fide* acknowledgment of our reception of their funds.

PATENT CLAIMS.—Persons desiring the claim of any inven-tion which has been patented within thirty years, can obtain a copy by addressing a note to this office, stating the name of the patentee and date of patent, when known, and inclosing \$1 as fee for copying. We can also furnish a sketch of any patented machine issued since 1853, to accompany the claim, on receipt of \$2. Address MUNN & CO., Patent Solicitors, No. 37 Park Row, New York.

NEW PAMPELETS IN GERMAN .- We have just issued a revised edition of our pamphlet of Instructions to Inventors, containing a digest of the fees required under the new Patent Law, &c., printed a digest of the rees required under the new rates, Law, ex., p. in the German language, which persons can have gratis upon appli-cation at this office. Address MUNN & CO., No.37 Park-row, New York.



ILLUSTRATIONS.	Pipe, patent tobacco (Andrews) 344 Planer for armor and turret plates, double (Rowland) 264 Planter, seed (VanBrunt) 72 Plate for plano-fortes, hinged (Worcester)	America—the granary of the world 290 Amusements, bome 118 Anvil for a steam hammer, a large 204 Apple-sauce, substitute for 290 Apples for cattle, &c., nutriment of sweet 267	Candles, manufacture of stearine and parafine 354 Cannon at Providence, R. I., casting 101 Cannon by electricity in France, fring 198 Cannon experiments with a submarine 9	Cotton in Virginia 339 Cotton, length of fibers of Sea Islam Cotton manufacture, prosperity of th Cotton manufactures, British 97 Cotton market condition of the 69
A ir-heater (Shotwell) 232 nchor-tripper (Baylies) 49	8 Plates, mode of securing armor (Shaw) 36 Plow and cultivator, double (Owen) 352	267 Arctic expedition, Hall's 154, 195 Argument, a railroad 295 Argument, a railroad 295	Cannon, government contracts for 243 Cannon, government contracts for 243 Cannon of large caliber 199 Capitol at Washington, dome of the 373 Car built in one day, a railroad 20	Cotton manufactures, British 97 Cotton market, condition of the 69 Cotton, Pennsylvania 330 Cotton, Sandwich Island 2 Cotton, Sindwich Island 2 Cotton, Utah 11 Cow-milkers in England, American 2 Crops in America and Europe, the 111 Course inlend a reit to Debingen
alance for safety valves, spring((fraham) -248	Press, baling (Roberts) 96 Preserver, corpse (Bunn) 360 Projectile, non-glancing (Warburton) 136	Argylite-a new mineral 392 Argylite-a new mineral 392 Armory, Colt's 5, 97 Armors manufactory at Richmond, the Robinson 391	Cars for petroleum, Canadian iron-tank 280 Carpets, how to clean solled 370 Cars, ventilated railroad 40	Cow-milkers in England, American 2 Crops in America and Europe, the 11 Crusce's island, a visit to Robinson 2
alance for safety valves, spring (Hughes) 136 attery, double turret steam (Denny) 88 evenet sugad (Ernet) 200	⁸ Plates, mode of securing armor (Shaw) 36 Plow and cultivator, double (Owen) 352 Plow, gang (Black) 56 Preserver, corpse (Bunn) 360 Projectile, non glancing (Warburton) 136 Pulley, patent ciutch (Shinn) 392 Pump, patent steam (Sewell) 337, 338 Pump, removable valve (Hayes) 65 Pump, tartary (Perry & Boley) 512 Pyromster, coal-oil (Tagliabue) 184	Robinson 391 Arms, valuable 188 Arsenicand otherpoisons on plants and animals, effect of 149 Arts, progress of the mechanic 377	Carte-de-visite, the 103 Cartridges, patents for solid water-proof	Crusce's island, a visit to Robinson Crusce's island, a visit to Robinson Cucumbers in San Francisco, pickle Culverin, the range of an ancient 10 Currants, trees and small birds 54 Currants, trees and small birds 54
135 attery, double turret steam (Denny) 88 sayonet-guard (Ernst) 200 leit, polishing (Van denbilt) 8 oilers, exploded locomotive 241, 353 ridge, stron truss (Heath) 129 ridge, seif-closing (Selser) 257 urner, lamp (Rebbeck & Davies) 232		Arts, progress of the mechanic 377 Asteroid, another 231 Astronomer, an able 161 Atom, the story of an 304	Castings, Berlin 92 Castings, Krupp's steel 168 Castings, the tax upon 281, 326 Cattle by measure ment, weight of 231 Cattle-feeding, systematized 202 Central Park, visitors at the 270 One 316	Currency, the postage-stamp 112 Cyclopedia, Appleton'sn ew America Cyclopedia for 1861, American annus Cylinders, steam 294
	Rake for reaping machines, automatic (Twining) 1	Axies, setting carriage 358*	Cattle by measurement, weight of 231 Cattle-feeding, systematized 202 Central Park, visitors at the 220 Cents 306	D
ap, chimney (Elberg) 384 ap, ventilating (Blythe) 192 arder-feeder, self-acting (Apperly) 273 himney-fastener and holder (Hodgson) 268	Rake, patent horse (Brown) 321 Register, bar (MoNamee) 24 Rille, patent (General Burnside) 385 Roof metallic (Reed) 113 Rudder, jury (Raymond) 168	Bakery, fall of a 326 Balloon ascension, an extraordinary 353 Ballooning, scientific 113, 170, 267 Barley in Washington Territory, great growth of 117	Cents 306 Cents selling at a premium, nickel 36 Cents † what becomes of all the 278 Cement, asphaltum water-proof 74 Cement for joints of petroleum stills 310 Chairs, shorten the back legs of your 372 Chambers, temperature of 83 Change, the true remedy for the scarcity Cha ⁰ burgent 215	"Dander up " 219 Debt, public 308 Department, Agricultural 50 Diamond, a large American 369 Difference, a 386 Digestion assisted 368
himney, lamp (Brown) 240 lothes-dryer (McNeil) 52 loth; machine for drying and dressing (Henderson) 104	Salt, apparatus for making (Chapin) 97 Salt block (Garrison) 193	growth of 117 Barn in the country, the largest 211 Barometer, how to use a 176 Batteries, to amalgamate the zinc of elec-	Chambers, temperature of 83 Change, the true remedy for the scarcity of 57	Digestion, the chemistry of 83 Dinners for rich and poor men 101
Cal-sifter (Austin) 152 Coal-sifter (Prati) 112 Coupling for carriages shaft (Rice) 168	 Bail 10002 (Garrisol) 155 Sawing, boring, molding and planing machine, combined (Poss) 177 Sawing machine (Muzzy)81 Saw, scroll (Richards) 144 Scales, index (Platt & Rosecrans) 152 Sieve, coal (Wadman) 16 	tric 165 Batteries, turret 246	Cheese, to make Stilton 19 Chlorate of potash, the way to make 182 Chronometers 279	Discovery, an opening for a great 89 Discovery near Corinth, Miss., a 55 Disgrace, a national 218 Dish, how to make a boiled 2
ultivator, patent (Cornick) 305 ulveri, suspension (McIntyre) 280 up attachment for hydrants (Inglis) 32	Scales, index (Platt & Rosecrans) 152 Sieve, coal (Wadman) 16 Silver from waste solutions, apparatus for saving (Shaw) 112	Battery, a land 39 Battery, an ancient iron-clad 326 Battery, railroad iron-clad 235 Battery, the Stevens 67, 90 Battle, how they fire in 279 Bee pasturage 55 Bedroom ? what is in the 355 Beils, cast-steel 193 Balle, homeing 170	Cider and blackerry wine, crabapple 310 Cider mill, wanted—a domestic 323 Cinnabar in Nerada Territory 11 Cisterns for houses in cities, constructing water 228	Dispatch, a wonderful telegraphic 3 Distress, the Lancashire 408 Docks, what may be seen at the At 324
Distilling, improvement in (Howlett) 289, 290	Silver from waste solutions, apparatus for saving (Shaw) 112 Siphon, steam (Marsh) 304 Skate, ankle-supporting (Jebb & Cutter) 24	Bedroom? what is in the 355 Bells, cast-steel 193 Bells, hanging 179	water 228 Cisterns, Venetian water 43 Claims, patent 11, 27, 44,60, 76, 92, 108, 124, 140, 156, 172, 188, 204, 220, 236, 253, 269, 284, 300, 316, 332, 348, 364, 380, 396, 409, 410	Doctrine, sound 214 Dollar, queerchange for a 376 Draining in England, land 114
L nvelope, postmark-preserving (Morri- son) 32 vaporator, cane-juice (Cory) 80	Skate, patent (Brady) 320 Skates, shell-groove (Duttan) 406 Sod-cutter, seeding machine and harrow, combined (Steller) 209	Bells, hanging 179 Bells, hanging 179 Bells, setting a quarter twist 7 Bell works fromoff its pulleys, why a 132* Benzole 149	269, 284, 300, 316, 332, 348, 364, 380, 396, 409, 410 Cloaks for Pennsylvania troops, Spanish water.proof 342	Drawings, varnish 3 Drowning, to prevent accidental 32 Duck, cotton 331.
xaporator, cane-juice (Low) 120 xtractor, patent stump (Godfrey) 368 F	T Tap guide, patent (Hadley) 392 Tombstones, mode of setting (Smith) 192 Truck, store (Douglas) 161	Bins, preservation of grain in air-tight 5 Black Prince, trial trip of the 203 Blockade, results of running the 195	Cloaks for reinsylvana troops, opanian water-proof 342 Cloth, extensive manufacture of army 405 Cloth, porous water-proof 153 Coal and burning of fuel, the price of 266 Coal and burning of fuel, the price of 266	E Eagle, new steamship 247 Economy, domestic 373
ence, patent farm (Hibson) 288 ire-engines with locomotives, combina- tion of (Williams) 33 ourdrinier machine, modification of the	Truck, store (Douglas) 161 V Valve for canal locks, patent (Heath) 296	Boats at Pittsburgh, iron clad river 215 Boats, destruction of oil 405 Bobbins, chalk your 348	Coal and burning of fuel, the price of 266 Coal, how to burn 282 Coal—its cost and supply 153 Coal on the Reading Railroad 358 Coal i, the color products of 180, 196, 212 Coffee and pepper, Java 181 Coffee, Illinois 365 Coal of the none in Albang a grift of 323	Editor made ten dollars, how a we 363 Eggs, how to detect bad 256 Eggs in Paris, Easter 50
(Harper) 145 (Harper, 1ce-cream (Hamilton & Ashton) 384	Well-curb and bucket (McGregor) 160	Boilers, incrustations on 371 Boilers on the lakes, the largest 71 Boilers, steam 295, 342	Coal, the color products of 180, 196, 212 Coffee and pepper, Java 181 Coffee, Illinois 363 Core for the proor in Albany, a gift of 323	Elephant found in Pennsylvania, re of an 54 Ellet. Jr. death of Charles 2
G rain-binder (Powers & Lancaster) 256 reat Eastern, mode of repairing the 403 utter, patent (Yapp) 400	Wheel, iron-bub cartiage (Leavit) 5 Wheel, iron-bub cartiage (Leavit) 5 Windlasses, capstan and anchor-gearing, ship's (Brown & Harfield) 225, 226 Wood-working machine, universal (Whit- tlesey) 344	Bolling in liquids, cause of 92 Bolts, new method of drawing taper 376* Bone, a Parisian prize for the regenera- tion of 230	Comet, the new 122	Emigration movement, Nicaragua 2 Emigration to America 267 Engine, a large Turkish rotary ste. Engines, in Nebraska, the first lo tive 81
H ammer, trip (Kinsley) 376 arrow, self-cleaning (Cook) 56	MISCELLANY.	Books and publications received 29, 110, 126, 190, 238, 381 Boulder, discovery of a great copper 327 Bread, fresh 121	Comet, the Tultle 1/3 Commission, the santtary 98 Complimentary, quite 347 Compliment, left-handed 295 Conductors, lightning 406 Congressmen, tax on salaries of 317 Constellation, the ship 74 Contest in California, a washing machine 330	Engine, l'aine's spray superheated 185 Engine-room, order in the 394 Engines, confusion about horse-po
oisting machine, patent (Ous) 369 J	to illustrated articles.	Bread in California, aërated 186 Breath, a remedy for feted 231 Breech loaders aresus muzzle-loaders 355 Bricks, all in silver 355	Compound, a new explosive 1/6 Conductors, lightning 406 Congressmen, tax on salaries of 317 Constellation, the ship 74	183 Engines, duties of Cornish and lo tive 345 Engines for canal boats, locomotive
ack, lifting (Fasig) 176 L amp and lantern ((rwin) 40	A Absinthe in France, a heavy tax on 310	Bricks, all in silver 355 Brickwork, exclusion of damp from 310 Brickwork, the salting of 65 Bridge, a steel suspension 296	Contest in California, a washing machine 339 Contribution from San Francisco, mu-	Engines, information wanted resp hydraulic 230 Engines, the merits of various ki
amp and lantern (frwin) 40 amp-heating attachment (Fish) 64 amp, kerosene (Meucei) 184 amp, rock-oil (Vidal) 248 athe for turning projectiles (Whitworth) 328	Absinthe in France, a heavy tax on 310 Acid, a new use for carbolic 103 Acid by electricity, re-discovery of the arbornation of nincie 6 Acid statiss, nitrice 184 Acid statiss, nitrice 184 Action sub dreaction 182	Brickwork, exclusion of damp from 310 Brickwork, exclusion of damp from 310 Brickwork, the salting of 65 Bridge as sieel suspension 296 Bridge in Portugal, new iron 68 Bridge in Switzerland, a new large tubu- iar 154 tenzione iron ?	Contribution from San Francisco, mu- nificent 219 Cork, production of 163 Corn for England, Indian 137 Corporation, a poor 389 Correspondence, our special 37, 404	407 Engineer gone, distinguished 165 Engineer, heroism of an 250 Engineering examples—the Brunels
328 eg, artificial (Jewett) 224 eg, artificial (White) 120 etter-box, patent automatic (Brown) 336	Adviatic steamer 170	Bridge, an American non 2 British Association for the Advancement of Science, the 311, 338 Broom husiness the 321	Copper and niter in California, discover-	Engineering, the science of steam 3 Engineers are educated in France way military 183 Engineers, attention 1 355
M attress, endless revolving (Bassett) 16 ill, cider and wine (Gates) 48	Advertisements 15, 31, 47, 63, 79, 95, 111, 127, 143, 159, 175, 191, 207, 223, 238, 255, 271, 287, 303, 319, 335, 351, 367, 382, 398 Agassiz, extracts from 26	Brooms, California 352 Brounel's mishaps 119 Buildings, warming and ventilation of 372 Bullet. explosive 151, 247	Copper, tunning metallic 360 Cotton and its substitutes, more about 265	way military too Engineers, attention 1 355 Engineers, Egyptian 278 Engineers in the navy are appointed 187 Engineers, licensing 385
ill, family cider (Hutchinson) 360 ill, gig (Gessner) 17 illing machine, universal (Browne &	Age, the innovations of the 378 Agriculture in aid of war, new helps of 274	Bullion per month, three millions of 331 Bushes, raspberry 177 Business in Lynn 24	Cotton and other crops in Algeria, the cultivation of 193 Cotton and tobacco in Southern Illineis, cultivation of 141	Engineers, where and how Austria her military 214 Engraving by electricity 242 Engraving, mezzotimio 167
Sharpe) 401 N eedle, patent (Cooper) 406	Ague, brass-founders' 118 Alabama, the 401 Albuminate of iron and soda as a thera- peutic agent 231	Business in war times 277 Butter, testing 203 C	Cotton and wool 278 Cotton by the Mormons, cultivation of 385 Cotton crop in India, the 262 Cotton famine, the 233	Envelope, a novel 371 Eraser, postage-stamp 374, 406 Esquimaux, appetite and food of 199 Essay, the gunboat 51
P acking, piston (Smith) 72	Alcohol, cheap 176 Alcohol from coal gas, manufacture of 200 Alembic or still, the 87	Cable between England and Holland, a new submarine telegraph 135 California, a new line to 129	Cotton for Europe, shipment of Ameri- can 144 Cotton-growing at the South, suspension	Essar, the gunboat 51 Evergreens, pruning 147 Example, a noble 315 Exhibition and what may be there
encil sharpener (Funston) 296 ile for rolling T-rails (Price & Lewis) 230 in, ladies sewing (McNampe) 176	Almanac forthcoming, a great national 286 American, foreign honors to an 330	Camera, a kaleidoscopic 262 Canada, our disposition toward 122 Canals in India, gigantic 33	of 8 Cotton in Algeria 247 Cotton in Brooklyn, ginning Sea Island 26	the great 166 Exhibition as seen by a votary of so the great 163