## Scientific American.

## TO CORRESPONDENTS.

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 churn has been examined. We do not diswith number 28, vol. 4-nor send the paper cover any new feature in it. Churns worked from the Boston office, all the papers are mail- by a crank, and having a perforated dasher ed from this office.

"I. H., of Md."-We know of nothing hav- | could be given. ing been arranged like your improvement on sawing, and have no hesitation in stating that business is so extensive. We would say, that the moving of the log, but you will see the use to our knowledge, and we believe it to be gther arrangement illustrated in page 316, vol. patentable, but first of all try it, before going 3. Scientific American.

about the patent leather week.

" M. K., of Mass."-If you are satisfied of the best. 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 years before the birth of Christ, when Thales, is little danger of it crumbling. It is waterthe Milesian, observed that amber, after hav- proof, but the exact expense we cannot tell. ing been rubbed, possessed the power of at. "M.K., of N. Y."-It would seem from tracting light bodies, such as feathers, &c. your description that the principle is the same The person who first contributed essentially to | as the syphon; if so it could not be patented. its promotion was Dr. Wm. Gilbert, who pub- We can tell much better by having an oppor-, they will be executed to conform in style with lished a book of electrical experiments in 1600. tunity of examining a drawing or a model. hundreds that we have bound for ourselves and We are indebted to Dr. Franklin more than \$2 received. any one else for developing this subject.

"G. W., of Pa."-Mr. W. resided in Camconstructed one of his instruments.

"W.F., of N. Scotia."-Such binding as "S. S. G., of Phila."-You will see that you want will cost \$1,50 per volume.

of volume 4 cannot be supplied complete. "G. S., of N. Y."-The model of your have long been in use. Several references

"J. W. S., of Ill."-Excuse the delay, our it is patentable in one of the arrangements, in no such invention for plumbing wheels is in tend to treat the subject fully in our next; us, whom we could not answer, the reason in

to any other expense. The old plan of wedg-"H. S., & R. L., of Md."-We will publish | ing up the wheels and plumbing them by the spirit level alone, has always been held to be

"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 though that has been then lay it on. After it is laid on it should of electricity, artificially excited, of which we be dried in a very hot stove room. If a small have any record, is carried back as far as 600 quantity of alum is used along with it there suggest to those that desire to have their num- our intention, however, to employ a greater

"D. P. C., of N. C."-The price of the book you ordered is \$2,50. It cannot be sent bridgeport, Mass., at the time the communi- by mail unless you authorize us to take the cation was made. We have not heard from covers off. Can it not be forwarded by exhim since-and do not know that he has ever press 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 "A. L., of N. Y."-The first 32 numbers you can without doubt obtain all the information sincere thanks for the valuable information machine.

"G. L. C. D., of Miss."-The invention you refer to is an English invention, and has to diffuse knowlege has been to advance truth, not been introduced into this country. If any and every man who does this, is a benefactor one has a good machine for covering wire and to his fellow-man. will let us know by letter post-paid we will

inform you.

volume.

## Answers to Correspondents.

Owing to the great length of our invaluable index, answers to many correspondents is neeessarily delayed till next week. Our attention to correspondents will receive a still greater share of our labors than heretofore-great

Scientific American for Binding. bers bound to send them to this office and have ; force and to labor more attentively for the them executed in our usual manner, for the benefit of our correspondents, than heretofore. low price of 75 cents.

well bound by sending them to this office, as 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 subjec ted in replying, when the numbers called for cannot be supplied.



Friends, we return to many of you our tion you require in regard to his wood bending 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 all correspondents who have asked for information, we have endeavored to give it to "J. H. C. of Pa."-If you can wait, we in- them in all candor. Many have written unto 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, As this number closes volume 5, we would it is impossible to prevent oversights. It is We hope you will endeavor to extend the cir-

You can depend upon having your volumes culation 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.



A bedraminal supporters, Harving 140 Abdraminal supporters, Harving 244 Abdraminal supporters, Harving 244 Badaus, 148, 292 Acception 342 Acception 342 Acception 342 Acception 344 Acception 344								H.
Abdominal supporters 68 Abdominal supporters 68 Abdominal supporters 68 Abdominal supporters 68 Abdominal supporters 81 Accidents, RR. 323 Accidents, RR. 324 Accidents, RR. 324 Accidents, RR. 324 Accidents, RR. 323 Accidents, RR. 324 Accidents, RR. 324 Acciden		A	R	Brinks, hellow 364	Chair, Van Anden's RR. 2	Ceal, Ala. 50		L
Andominants supportersBring at the propertiesBring at the propertiesBring at the propertiesBring at the propertiesBring at the propertiesCall formations 390Cultivator, Kodger's, eng. 340Accidents, RE 323Accidents, RE 323Balvand 2Bridge, Lewiston supportiesCharter, first RL 323Cochants, manufacturesCount, manufacturesCurve, Schiele's anti-friction, 2Accidents, RE 324Balvand 2Bridge, Lewiston supportiesBridge, Lewiston supportiesCurve, Schiele's anti-friction, 2Accidents, RE 324Balvand 2Bridge, Lewiston supportiesCurve, Schiele's anti-friction, 2Accidents, RE 324Balvand 2Bridge, Lewiston supportiesCurve, Schiele's anti-friction, 2Actid in chores, Davis 200Bath, East, ess. 30Bridge, Wheeling supportiesCores, Olio 18Actid in chores, Ponsico 235Bath, East, ess. 30Bearg, artificial 14Actid in chores, Ponsico 236Bearg, artificial 14Actid in chores, Ponsico 230Bearg, artificial 14Aric, descoveries in 3Beatge, artificial 14Aric					engs. 388	Coal, N. Y. 45		li -
Abdomáfal supporters, Henrys 340Bridge, Britannis tubular2, 66 Bagting, cotton 292 Bagting, cotton 292 Bagting, cotton 292 Barvard 3 Backies at 30 Accidents, R. 233 Accidents, R. 234 Accidents, R. 235 Accidents, R. 236 Accidents, R. 236 <br< td=""><th></th><td>Abdominal supporters 68</td><td>Brarness annaratus for drying</td><td>Bridge, RR. 273</td><td>Challenge to the mechanical</td><td>Coal breaker, Battin's 222</td><td></td><td>li -</td></br<>		Abdominal supporters 68	Brarness annaratus for drying	Bridge, RR. 273	Challenge to the mechanical	Coal breaker, Battin's 222		li -
340Charcol melicit, 228, 301Coarting any 200Coarting	Т	Abdomatinal supporters Henry's	384		world 301	Coal forinations 390		Ľ.
Abyesinis, discoveries in 123Ansidus of South Africa, 412Bridge, Levenn's ino 29Charte, trist R13, 329Control of the South Africa, 412Durks, Control of South Africa, 412Accidents, Rt. 323Balvon scension, 2, 395Balvon, 52, 395Balvon, 52, 395Balvon, 54, 395Bridge, Levenn's ino 29Accognics, 124Balvon, 52, 395Balvon, 54, 395Bridge, Levenn's iron 29Bridge, Levenn's iron 29Control, South Africa, 412Control, South Africa, 412Accognics, 124Balvon, 54, 395Balvon, 54, 395Bridge, Wieeling supposension 29Control, South Africa, 412Control, South Africa, 412Action and re-action, 2 enge, 124Balvon, scension, 2, 395Bath, foot operating 340Bearres, 14, 805Control, South Africa, 412Control, South Africa, 412Action and re-action, 2 enge, 386Bearres, 14Bearres, 14, 805Bridge, wire suspension 215Control, South Africa, 412Control, South Africa, 412Action and re-action, 2 enge, 386Bearres, 14, 805Bearres, 14, 805Control, South Africa, 312Control, South Africa, 312Action and re-action, 2 enge, 386Bearres, 14, 805Bearres, 14, 805Control, 146Control, 146Action and re-action, 2 enge, 386Bearres, 14, 805Bearres, 14, 805Control, 146Control, 146Action and and regre 225Control, 146Control, 146Control, 146Control, 146Action and and regre 225Control, 146Control, 146Control, 146Control, 146Action and and regre 225Control, 146Control, 146Control, 146	ľ	340	Bagging, cotton 292	180	Charcoal melted, 268. 301	Coating ships 268	Curiosity, natural 10	1
Accidents, RL 323 Accidents, RL 323 Accidents, RL 323 Accidents, RL 323 Accidents, RL 323 Accidents, Remmetors 244 Accidents, and re-action, 2 engs. Bath, footopersting 349 Acriat in chores, prissic 225 Action and re-action, 2 engs. Bath, footopersting 349 Acriating 144 Bedisead, ot and camp 76 Acriating 144 Bedisead, ot and camp 76 Acriating 144 Bedisead, ot and camp 76 Bedisead, ot and camp 76 Bedisea, foating 40 Chordorm, englownent 0272 Chordorm, englownent 0272 Chordorm, englownent 0272 Chordorm, englownent 0272 Chordorm, englownent 0272 Chordorm, englownent 0272 Chordorm, englownent 0276 Chordorm, englownent 0276 Chor			Bakatlas of South Africa, 412					6
Accigations, steamboat 383 Accountic stills Accountic sti	Ľ				Charts, Maury's 252		engs. 289, 292	Įi –
Accoustic 312 Accoustic splaratus 230 Acid in chorer, pross 13 Bailoon, frozen 51 Bailoon, frozen 51 Barometer, extraordinary 286 Acid in chorer, pross 130 Barometer, extraordinary 286 Bath, foot operating 340 Bearometer, extraordinary 286 Bearometer,								1' -
Accioustic appleratus 220 Acid, suppleratus 225 Acid, and holera, prasic 225 Action and re-action, 2 122, 140 Aeronautic enterprise 318 Bearing, artificial 164 Bearing, artif				Bridge, Leverson's iron 29				1
Acid a choleica, pursuesBarometer, extraordinary 28641, 39, 393, 395, 350bit 13Coller, dandeino 225Coller, hore y articlar w 124Coller, hore y articlar w 124Acid an cholera, pursuesBath, foot operating 340Acrial navigation 27, 69Aerostation 389Aerostation 389Aerostation 389Aerostation 389Bedstead, out and camp 76Bedstead, out and camp 76Bedstead, out and camp 76Bedstead, out and camp 76Atrice, discoveries in 3Atrice, discoveries in 3Atrice, discoveries in 3Atrice, discoveries in 3Atrice, discoveries of 312Atrice, discoveries of 302Air, densitivot, ot make and lowBe spicementer, to make analy 201Be spicementer, to make analy 201Be spicementer 930Air, densitivot, ot make analy 201Be spicementer 94Alloys, meth 0100Alloys, meth 0100Alloys, meth 0100Alloys, meth 0100Alloys, meth 0100Alloys, meth 0100Alloys, meth 0100Animal, light for the 50Animal, light fo	ŀ							1
Action and re-section, 225Bath, Esser's, eug. 60Bridge, worden suspension 215Collee, Jewa 115Collet, Jewa 125Collet, Jewa 125132, 140Bearing, artificial 164Aerial navigation 27, 69Beater, 34Aerostation, new discovery inBedstead, cot and camp 76Jarce statis, and fasting 300Beater, 125Arrisal navigation 27, 69Beater, 125Arrisal navigation 27, 69Beater, 125Aerostation, new discovery inBedstead fastenings, Taylor'sArrisa, discoveries in 3Beater, 125Arrisa, discoveries in 3Beater, 125Arrisa, discoveries in 3Beater, 125Arrisa, discoveries in 3Beater, 135Arris, atmospheric 320Beater, 136Air, density and elasticity of the BeaseBirdge, woods and 90Boys, cure for 285Birdge, woods and 912Algebrain method, new 365Birdge, woods and 912Algebrain method, new 365Birdge, woods and 912Allords, nationery 84Birdge, woods and 912Allords, mathior 926Birdge, woods and 912Allords, mathior 926Birdge, woods and 912Allords, ather 926<	L	Acid. sulphinic 304						i:
Action and re-extion, 2 engs, 30Bath, foot operating 340Bath, foot operating 340Broze 326Broze 326Chemical philosophy 330Coffee west haids 49Coffee west haids 40Coffee west haids 49Coffee west haids 49 <th< td=""><th>J.</th><td></td><td>Bath. Essex's, eug. 60</td><td></td><td>Chemical discovery, great 13</td><td></td><td></td><td>Ł.</td></th<>	J.		Bath. Essex's, eug. 60		Chemical discovery, great 13			Ł.
122, 140Bearing, arriticial 164Bruizes 236Chimes 236Control 227Control 227Co				Bridge, wooden suspension 52	Chemical philosophy 333			6
Aeronatic enterprise 318 Aeronatic enterprise 318 Accostation 369 Accostation 369 accostation 369 Accostation 369 Astrica, discoveries In 3 Agricultural discovery 195 Behouse, foating 40 Behouse, foating 40 Ale or porter that has turned Belostad, stein 230 Ale or porter that has turned Belostad, stein 240 Ale or porter that has turned Belostad, stein 240 Ale or porter that has turned Belostad, stein 240 Ale or porter that has turned Belostad, stein 240 Belostad, stein 2	Į,	132, 140	Bearing. artificial 164	Bronze 296			engs. 390	1
Aeronautic enterprise 318 Aerostation, new discovery in 315Bedstead, 40 ct and camp 76 Bedstead, cot and camp 76 areostation, new discovery 195 Arir, atmospheric 320 Air, atmospheric 320 Ale or porter that has turned 89Bedstead, 40 ct and camp 76 Bedstead, fastenings, Taylors 3 Bene, S. 200Chinneys, scarlett's, 3 engs. 297 Burnes, 5, 200 Butter, 193Chinneys, cure 107 smooth 121, Burnes, 5, 200 Butter, 193Chinneys, cure 107 smooth 121, Chinneys, method of prevent ingite fracture in glass 12 Choroform, enployment of 72 Choroform, enployment of 72 Compas, variation of the 412 Compas, variation of the 412 Compas, variation of the 412 Consection, world's 166 Choromatype 308 Choromatype 308 <th>11</th> <td>Aerial navigation 27,69</td> <td>Beavers, 14</td> <td></td> <td></td> <td></td> <td>Cylinder, bursting of the Bra-</td> <td>1</td>	11	Aerial navigation 27,69	Beavers, 14				Cylinder, bursting of the Bra-	1
Accosting of general products of the second p	1	Aeronautic enterprise 318	Bedstead 340	Brunel, biography of 139			man 54	
315and classed of 14and classed of 12and classed of 12Colors 400Colors 400Daguerreotype 192Aric a, discovery 195Bees, mathematics of 312Bees, mathematics of 312Butter, 193Butter, 193Butter, 193Butter, 193Butter, 193Air, density and elasticity of the sour or settore 249Beeswax. to purify 57Beeswax. to purify 57Cabbage, to preserve 81Cabbage, to preserve 81Cabore, tabbage, Cabbage, to preserve 81Cabore, tabbage, Cabbage, to preserve 81Cabore, tabbage, Cabbage, Cabb	÷		Bedstead, cot and camp 76					6
315 Atrica, discoveries in 3 Age, cure for 185 Agricultural discovery 195 Air, density and elasticity of 18 Bee, sultivating the honey 163 Bee, sultivation of the sultivatio		Aerostation, new discovery in		Bang cutting tool 212	Chimneys, method of prevent		D	/: 
Arita, durso view in 3Dees, curit view in 10 and usery 195Buter, American 26Chloroform, employment of 222Combinations, heat of 67Air, density and elasticity of the 39Bees, maximum, to purify 57Beetwax, to purify 57Bees, no make table 249Buter, to preserve 81Chloroform, on plants, effects of 172Combinations, heat of 67Ale er porter that has turned sour, to restore 249Birds, viale of 14Cababage, to preserve 81Chloroform, to make table 249Cababage, to preserve 81Choolera 3Choolera 3Computing machine, Parmelee'sDaguerreotype cases 324Almonds, milk of 385Bind, light for the 50Bind, light for the 50Bind, light for the 50California 374Choolera 3Choolera 3Contentment 202Ammonia hartshorn, to make a warde of 49Biowing machinery, 2 engs. 92Biowing machinery, 2 engs. 92California 274California 631Choolera 3Contentment 202Contentment 202Animal life in water 274 Animals, fattening 114 Apple paring machine, Permation, Need's 12Biowing machinery, 2 engs. 92Canalts, steam 076 Canalts, steam 074 2 engs. 83Bioler incrustations, steam 74 Bioler incrustations, steam 74 Bioler incrustations, steam 74 Bioler incrustations, steam 324Bioler incrustations, steam 74 Bioler incrustations, steam 74 Bioler incrustations, steam 324Bioler incrustations, steam 74 Bioler incrustations, steam 324 Bioler incrustations, steam 74 Bioler incrustations, steam 324Choron the effects of Canalts, steam 076 Canalts, steam 076 Canalts, steam 076 Canalts, steam 076Choron the steap apartus for Churn, Robbin's telegraph, engs.			engs. 172	Burns 8, 200		Coloring matter 329	-	1
Agricultural discovery 195Beese, mathematics of 312 Agricultural discovery 195Beese, mathematics of 312 Beesive, Wheeler's electic, 5 Engs. 236Dutter, therear 24 Beesive, Wheeler's electic, 5 Engs. 236 Beesive, to make table 249 Birds, value of 14 Birds, value of 14 Birds, value of 14 Birds, value of 14 Birds, value of 14 California 374 California 374 Camphere 46, 253 Canals, steam 76 Annimal life in water 274 Animals, fattening 114 Animal, fattening 114 Animal, fattening 114 Animal, repring machiner, Permeles 64 Source 148 Animal, fattening 114 Animal, fattening 114 Animal, fattening 114 Animal, repring machiner, Pharmal and the f180 Biodier, steam 202 Animalutar, Phillip's fire 332 Apple paring machine, Weed's Apple paring machine, Conoral 464 Apple paring machine, Conoral 464 Apple paring machine, Conoral 464 Apple paring machine, Conoral 464 Apple paring machine, Conoral 47 Dolar status, Steam 702 Conoral 484 appartus for Apple paring machine, Conoral 44 Apple paring machine, Conoral 47 Dolar status, Steam 702 Conoral 464 apple paring machine, Weed's Apple paring machine, Conoral 47 Dolar status, Steam 702 Conoral 484 appartus for Conoral 484 appartus for 75 Canales, steam 076<	1		Bee, cultivating the honey 163				Daguerreotype 192	1
Air, atnospheric 320Beenive, Wheeler's celectic, 5Datter, to preserve 115Difference 115Comount, to arise tue 14cmComount, the arise tue 14cmDiaguerreotype cases 324Air, density and elasticity of the 89Enges: 326Eeswax. to purify 57Beer, to make table 249Diaguerreotype cases 324Diaguerreotype cases 324Ale er porter that has turned sour, to restore 249Bird, value of 14California 374California 374Cholera 3Computing machine, Parmelee's eng. 364Diaguerreotype cases 324Alloys, metal 100Bird, nuchine for the use of the awarded at the 50Bind, inchine for the use of the 276California 374Cholera 3Convention 146Ammonia, hartshorn, to make ammola, hartshorn, to make animal life in water 274Bind, machinery, 2 engs. 32California 374Cholera 130Convention 150Animals, fattening 114 Animaltor, Phillip's fre 332Bilowing pipe, Cook's, 4 engs. 185Bilowing pipe, Cook's, 4 engs. 185Boiler incrustations, steam 74 2 orgs. 83Boiler incrustations, steam 324California 324Candles 345Appel paring 2 orgs. 81Boiler incrustations, steam 324Candles 345Candles 345Candles 345Candles 345Aqueduat, Croton 146 4queduat, Croton 146Boiler incrustations, steam 324Candles 345Candles 345Candles 345Antimals, fattering 146 Aqueduat, Croton 146Boiler incrustations, steam 324Candles 345Candles 345Candles 345Antimals, fattering 146 Aqueduat, Croton 146Boiler incrustations, steam 324Candles 345Candles 345 <t< td=""><th>li</th><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	li							
Air, atmospheric 320Engs. 236CallsDiaguerrecty is improvement 276Air, atmospheric 320Engs. 236Diaguerrecty is improvement 276Air, density and elasticity of theBeehouse, floating 4089Beehouse, floating 40sour, to restore 249Bird, sour, to restore 249Alleoys, metal 100Bird, honey 395Alloys, metal 100Bind, under, for 45Ammonia, hartshorn, to makeBiind, machiner of the 50Ammonia, hartshorn, to makeBind, machiner of the 61Ammonia, hartshorn, to makeBiowing pipe, Cook's, 4 engs. 185Animales, fattening 114Biowing machinery, 2 engs. 92Animales, fattening 114Bioleir incrustations, steam 74Apple paring machine, Paratito, Steam 74Apple paring machine, Rafey apparatus, steamApple paring machiner, Rafey apparatus, steam 74Aqueduat, Croton 146 (from aster astery apparatus, steam 74Aqueduat, Croton 146 (from aster astery apparatus, steam 74Animales, fattening 114Animales, fattening 114Animales, fattening 114Animales, fattening 114Animales, fattening 114 <t< td=""><th></th><td></td><td>Beehive, Wheeler's eclectic, 5</td><td>Dutter, to preserve 115</td><td></td><td>Compussion, spontaneous 240</td><td>Daguerreotype cases 324</td><td></td></t<>			Beehive, Wheeler's eclectic, 5	Dutter, to preserve 115		Compussion, spontaneous 240	Daguerreotype cases 324	
Ar, density and elasticity of the 89Bechouse, finding 40CDamaseus blades, manufacture 2289Beeswax. to purify 57Beeswax. to purify 57Cabbage, to preserve 81172Computing machine, Parmelee's eng. 364Computing machine, Parmelee's eng. 364Damaseus blades, manufacture of the 137Algebraic method, new 36Bird, value of 14Bird, honey 355Cabbage, to preserve 81Calculating machine 92Calculating machine 92Calculat	Ŀ	Air, atmospheric 320	Engs. 236					łi –
89Beeswax. to purify 57Ale or porter that has turned sour, to restore 249Beeswax. to purify 57Ale or porter that has turned sour, to restore 249Beeswax. to purify 57Algebraic method, new 36Bird, honey 395Allogs, metal 100Bird, honey 395Almonds, milk of 385Bind, light for the 50American Institute, gold medals a warded at the 50Bind, machine for the use of the 276Animals, fattening 114Biowing machinery, 2 engs. 92Animal life in water 274 Animalculae 74, 91Animalculae 74, 91Animony, preparation of 12Ape. fossil 38Apple paring machine, Weed's 2 engs. 84Apule raser water in vention, steam 324Autiour, Croton 146Apple paring machine, Weed's 2 engs. 84Apple paring machine, Weed's 2 engs. 84Apple paring machine, Weed's 2 engs. 84Appl	E			С			Damascus blades, manufacture	ŧ.
Indext prestor 14Body, solar of 138Cholera 3Cholera 3 <th< td=""><th></th><td></td><td></td><td></td><td></td><td>Computing machine Parmalae's</td><td></td><td>1</td></th<>						Computing machine Parmalae's		1
Algebraic method, new 36 Algebraic method, new 365 Algebraic method, new 365 Biscuit method, new 365 California gold region 139 California gold region 139 Cample new 66, 253 Canalis, steam 324 Animals, fattening 114 Animals, fattening 114 Anima	I.					eng 364	Dam at Hadley Falls 58	11
Alloys, metal 100Biscuit machinery 84California gold region 139Choleretic discovery 48Convention, World's 196Almonds, milk of 385Blind, light for the 50Blind, light for the 50Blind, light for the se of theCalifornia gold region 139Choleretic discovery 48Convention, World's 196American Institute, gold medalsawarded at the 50Blind, machine for the use of theCamphene 46, 253Chromo thermal medicine 153Choron the treat medicine 153Cooking, errors in 376Depurating machinery, Broom-Animal life in water 274I 88Blowing machinery, 2 engs. 92Canal ton 10Chrono thermal medicine 153Choron the treat he 99Cooker, bed 44Detector, alarn and thief 180Animalculae 74, 91Blowing machinery, 2 engs. 92Canal ton 10Canal ton 10Churn, 76, 348Cooper hlancked 49Copper hlancked 49Animalculae 74, 91Biolers, scoper 212Boiler, steam 202Cancer, cure of 81, 153, 226, 305Churn, Robbin's telegraph, 2Convention, World's 196Diamonds, artificial 325Apple paring machine, Weed'sBoiler incrustations, steam 74Boiler incrustations, steam 74Canales, Brown's apparatus forChurns, labor saving 140Cisterns, charcoal for 306Corrosive sublimate, counterac-Aqueduat, Croton 146Builer safety apparatus, steamCanales, Brown's apparatus 62Canales, Brown's apparatus 62Canales, Brown's apparatus 62Canales, Brown's apparatus 62Animal ife in water 274Boiler incrustations, steam 74Cancer, cure of 81, 153, 226, 305Canales, Brown's apparatus 62Canales, Brown's appara	J.			Calculating machine 92				Ľ.
Alloys, metal 100Biscut machinery 84California gold region 139Convention, sold region 139Convention, sold region 139Convention, sold region 139Deafness, remedy for 185Ammonia, mitk of 385Blind, light for the 50Blind, machine for the use of the 276Califor, solvent properties of 310Chroma 216Convention, world's 196Convention, world's 196Ammonia hartshorn, to make water of 49Blowingpipe, Cook's, 4 engs. 185Califor, solvent properties of 310Chroma 196Chroma 216Cooking, by gas 389Deafness, remedy for 185Animal life in water 274 Animals, fattening 114 Animalculae 74, 91 Annihilator, Phillip's for 332 Apple paring machine, Weed's a lifer, steam 202 Boiler, iscama 219Boiler, steam 202 Boiler, steam 202 Boiler incrustations, steam 74 2 engs. 84 Aqueduat, Croton 146'California gold region 139 Clain of the toestory 40Chroma tipo 216 Chroma 196Cook without fire, to 14 Cooking by gas 389 Chromo thermal medicine 153 Chromograph, electro 84 Chromo thermal medicine 153 Chroma graph, electro 84 Chromos thermal medicine 153 Chroma spert and thief 180Deafness, remedy for 185 Depurtaing machinery, Broom- and thief 180Animal life in water 274 Annimals fattening, the effects of 400Blowing machinery, 2 engs. 92 Charn, 76, 348Chroma tipo 206 Charn, Robbin's telegraph, engs. 156Chroma tipo 206 Churn, Robbin's telegraph, engs. 156Deafness, remedy for 185 Cooking by gas 389Apple paring machine, Weed's 2 engs. 84 Aqueduat, Croton 146'Bieler incrustations, steam 74 Boiler incrustations, steam 74 Boiler incrustations, steam 74 Boiler incrustations, ste						Contentment 202	Dead Sea, the 283	μ.
Americal institute, gold medals awarded at the 50 Ammonia hartshorn, to make water of 49 Animal life in water 274 Animal life in water 274 Animal life in water 274, Animal life, is water 274, Animal life, steam 202 Boilers, steam 324 Apple paring machine, Weed's Boiler incrustations, steam 74 Aqueduat, Croton 146, Aqueduat, Croton 146, Aqueduat, Croton 146, Aqueduat, Croton 146,Dimin, in the 100 machinery, Broom- Campher 46, 253 Camphor on the teeth, effects of 186 Canal across the Isthmus of Pa- Istem and 219 Canals, steam on 76 Canals, steam on 76 Canals, steam 74 Selfer aver 308 Canals, steam 76 Canales, Steam 324 Aqueduat, Croton 146, Aqueduat, Croton 146, Coton 146, Coto	I.							Ľ.
awarded at the 50276Instance of mathematical and the formation of the form	ł			Caloric, solvent properties of 310			Depurating machinery, Broom-	H.
Ammonia hartheorDisplay the fillDisplay the fillDispl						Cooking, errors in 5/0	an's, 2 engs. 321	ť –
water of 49Biowingpipe, Cook's, 4 engs.185136Chronometers aretried, how 189Cop spinner. Dodge's 29Diamonds 30Animal life in water 274Biowingpipe, Cook's, 4 engs.185136Canalton 10Chronometers aretried, how 189Cop spinner. Dodge's 29Diamonds 30Animals, fattening 114Biowing machinery, 2 engs.92Canalt across the Isthmus of Pa- nama 219Churn, 76, 348Copper Manced 49D'amonds, artificial 325Annibilator, Phillip's for 332Boiler, steam 202Canals, steam on 76 Cancer, cure of 81, 153, 226, 305Churn, Robbin's telegraph, 2 engs. 84Churns, Robbin's telegraph, 2 engs. 84Copper Manced 49Diamonds 370Aqueduat, Croton 146Bioler incrustations, steam 324Concer-cured 338Charles, steam 202Charles, Brown's apparatusCharles, Brown's apparatusCopper Manced 49Diamonds 370Aqueduat, Croton 146Builer safety apparatus, steamBuiler incrustations, steam 324Builer incrustations, steam 324Copper Manced 49Diamonds 370Aqueduat, Croton 146Builer safety apparatus, steamBuiler incrustations, steam 324Conserver 338Conserver 338Conserver 338Aqueduat, Croton 146Builer safety apparatus, steamBailer incrustations, steam 324Conserver 34Corrices, wooden 372Discovery, poetry of 77Biscovery, poetry of 13				Camphene 46, 253				
Animal life in water 274 Animals, fattening 114 Animals, fattening 114 Boiler invention, steam 324 Boiler invention, steam 324 Boiler invention, steam 324 Aqueduat, Croton 146' Aqueduat, Croton 146'Distant across the Isthmus of Pa Canals, steam on 76 Canals, steam on 76 Canals, steam 324 Canales 345 Canales Brown's apparatus for making mould, 3 engs. 164Chrysanthemum, the 99 Churn, Robbin's telegraph, 2 Corrosive sublimate, countraction, steam 324 Carriers, wooden 372 Clauros 206 </td <th></th> <td></td> <td></td> <td>Campnor on the teeth, enects of</td> <td></td> <td>Con spinner Dodge's 90</td> <td>Diamond, wonderful 368</td> <td>il –</td>				Campnor on the teeth, enects of		Con spinner Dodge's 90	Diamond, wonderful 368	il –
Animals, fattening 114Bowing machinery, 2 engs. 92Canal across the Isthmus of Pa- nama 219Churn 76, 348Copper, Lake Superior 390Diamonde, manufacture of 3021Animalculae74, 91Boats, life 356Boats, life 356Boats, life 356Canal across the Isthmus of Pa- nama 219Churn 76, 348Copper, Lake Superior 390Diamonde, manufacture of 3021Animalculae74, 91Boats, life 356Boats, life 356Canal, steam on 76 Canals, steam of 81, 153, 226, 305Churn, Robbin's telegraph, 2 engs. 156Cons sheller, 4 engs. 156Copper, Lake Superior 390Diamonde, manufacture of 3021Apple paring machine, Weed's 2 engs. 84Boiler incrustations, steam 74 Boiler incrustations, steam 74 2 engs. 84Canales, Brown's apparatus canales, Brown's apparatus making mould, 3 engs. 164Churn 76, 348 canal, steam on 76 Canals, steam on 76 Canales, Steam on 76 Canales, Steam on 76 Canales, Steam 774 Discovery, important 67, 75, 83, 123			198			Conner blancked 49		
Animalculae 74, 91 Animalculae 74, 91 Bolter statem 202 Bolter sublishing of 12 Churn, Robbin's telegraph, 2 Constaller, Harris and Car- ter's, 2 eng. 121 Conrises, Ukate Superior 30 Diamonds, value of 363 Diet 354 Diet 354 Diet value 285 Candles, Brown's apparatus tr's, 2 eng. 121 Corrices, wooden 372 Discovery, potry of 77 Discovery, simplicity of 13					Churn 76, 348	Conner, Lake Superior 390		
Annihilator, Phillip's fire 332 Boilers. copper 212 Canals, steam on 76 Boilers. copper 212 Con sheller 76 Diet 354   Antimony, preparation of 12 Boiler, steam 202 Cancer, cure of 81, 153, 226, 305 Churn, Robbin's telegraph 2 Con sheller, Harris and Carbin's telegraph 2 Diet 354 Diet 354   Apple paring machine, Weed's Boiler incrustations, steam 74 Candles, Brown's apparatus for anking mould, 3 engs. 164 Carrices, wooden 372 Discovery, important 67, 75, 83, 123   Aqueduct, Croton 146 Builer safety apparatus, steam making mould, 3 engs. 164 Claure 76 Discovery of 77		Animalculae 74 91	Boata life 356		Churn, Davis's self adjusting.	Conner mines Lake Superior 30		ı F
Antimony, preparation of 12 Ape. fossil 38 Apple paring machine, Weed's biler invention, steam 324 Aqueduat, Croton 146 Aqueduat, Croton 146 Boiler safety apparatus, steam 324 Apple paring machine, Weed's biler invention, steam 324 Apple paring machine, Weed's biler invention, steam 324 Candles, Brown's apparatus for making mould, 3 engs. 164 Candles, Brown's apparatus for making mould, 3 e	į.				eng. 500	Corn sheller 76	Diamonds, value of 363	
Ape. fossil 38Bo ler explosion 234Cancer-cured 338engs. 156ter's, 2 eng. 121Discovery, important 67, 75, 83,Apple paring machine, Weed'sBoiler incrustations, steam 74Cancles 345Cancles 345Churns, labor saving 140Aqueduat, Croton 146Builer safety apparatus, steamCancer-cured 338Cancles, Brown's apparatus for making mould, 3 engs. 164Cancles 345Cancer-cured 338Cancer-cured 338Cancer-cured 338Cancer-cured 338Churns, labor saving 140Cernices, wooden 372Discovery, important 67, 75, 83, 123Aqueduat, Croton 146Builer safety apparatus, steammaking mould, 3 engs. 164Claurer 206Claurer 206Discovery, optry of 77Discovery, simplicity of 13				Cancer, cure of 81, 153, 226, 305	Churn, Robbin's telegraph, 2			!
Apple paring machine, Weed's Boiler incrustations, steam 74 2 engs. 84 Aqueduct, Croton 146 Aqueduct, Croton 146 Boiler instructions, steam 324 Aqueduct, Croton 146 Boiler instructions, steam 324 Candles 345 Candles, Brown's apparatus for making mould, 3 engs. 164 Condles 345 Candles 345 Candles 345 Candles 345 Candles 345 Condles 345 Condles 345 Condles 345 Condles 36 Condles 36 Churns, labor saving 140 Candles 36 Churns, labor saving 140 Condles 36 Churns, labor saving 140 Condles 36 Condles 36 Condl					engs. 156	4. 2. 0. 101		
2'enges. 84 Aqueduct, Croton 146' Boiler invention, steam 324 Candles, Brown's apparatus for making mould, 3 enges. 164 Clairtoyants 82 Clairtoyants 82 Clairt	ŀ	Apple paring machine, Weed's	Boiler incrustations, steam 74		Churns, labor saving 140		199 Important 07, 73, 83,	i i
Aquedica, Croton 146 divider safety apparatus, steam making mould, 3 engs. 164 Clairvoyants 82 ting the effects of 400 Discovery, simplicity of 13								
		2 engs. 84	Boiler invention, steam 324	Candles. Brown's apparatus for		Corrosive sublimate, counterac-	Discovery postry of 77	
Arithmetical table, Allen's, 20 80 Candles made by railway pro- Claret, Texas 226 Cotton, nan keen 66 Discoveries, Lavari's 283		2 engs. 84		making mould, 3 engs, 164	Clairvoyants 82	ting the effects of 400	Discovery, poetry of 77 Discovery, simplicity of 13	

Candles made by railway pro cess 140 Candles manufacture of 68

Caoutchoucine 72

Find uppers, Sampson's appa-ratus for shaping, eng. 281

Borax 342

engs. 161

Arrowroot culture in Fla. 378

Art. disceveries in 20

Clairvoyants oz Claret, Texas 226 Clasp, Rockwell's bedclothes, 2 Cotton, an keen 66 Cotton, cultivating 386 Cotton batting machinery, Esengs. 220 Cleaner, buckwheat 68

Cotton batting n sex's, Eng. 244

Discoveries, Layard's 283 Dishes, washing 164 Distributor, Morse's air, eng. 268 Docks. foundation of 188

	Association for the advancement of science, American 394, 402 Asphaltum of New Brunswick 314 Associations, mechanics 301 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 Autoraphs 217 Axle, Smith's ball 29 Axle box 220 Axles of carriages, circle bear-	Boring aad 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 11 Brace, sash 364 Brain 373 Brain, phenomena of the 99 Brain injury, case of 339 Brakes for RR, cars and other machinery, Kimball's & Rice's hanging, eng. 308 Brass 363 Brass castings, 164 Bread, brown 385 Bread, to make good 297 Brick machine, Wagner's 2 engs	Car wheels 52 Carbon 372 Carbon 372 Carbon, properties of 104 Carding wool 316 Carding wool 316 Carmine 12 Carding 413 Carpets 412 Carpets 412 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 boil- ers 1	Cleaniag machine, Harris and Son's grain, 2 engs. 385 Clock, alarm 156, 188 Clock, astronomical 108 Clock, astronomical 108 Clock, novel 300 Clock, singular 260 Clock, singular 260 Clock, singular 260 Clock, singular 260 Clock, singular 260 Clock, singular 260 Cloth, stereolaic 348 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	Cotton crop, the 410 Cotton drying machine 4 Cotton, experiment in Austra- lia 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, Brown's, 2 engs. 332 Cracker baking 68 Cracker machinery, Nevin's, 2 engs. 305 Crank and pulley, the 412 Crank, for the 14 Crank, properties of the 125, 141	Drill, 1de's grain, 3 engs. 372 Dropsy, cure for 333 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 <b>E</b> Eggs, clarification of 89 Eggs in China, hatching 338	
별			Cement for mending steam boil- ers 1	eng 973	Crank. on the 96	Eggs, clarification of 89	Ļ
	ing for the 4	401	Chair, RR. 100	Coal 130	Crank, properties of the 125, 141	Electric batteries 54	
Ę							þ