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## HINTS TO CORRESPONDENTS.

**Names and Address** must accompany all letters, or no attention will be paid thereto. This is for our information and not for publication.

**References** to former articles or answers should give date of paper and page or number of question.

**Inquiries** not answered in reasonable time should be repeated; correspondents will bear in mind that some answers require not a little research, and, though we endeavor to reply to all either by letter or in this department, each must take his turn.

**Buyers** wishing to purchase any article not advertised in our columns will be furnished with addresses of houses manufacturing or carrying the same.

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**Scientific American Supplements** referred to may be had at the office. Price 10 cents each.

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**Minerals** sent for examination should be distinctly marked or labeled.

(6563) **J. C. B.** says: 1. Will you be kind enough to give formula to make liquid glue similar to the Le Page glue? A. We have not the Le Page formula. A liquid glue possessing great resisting power, recommended for wood and iron, is prepared, according to Heez, as follows: Clear gelatine, 100 parts; cabinet makers' glue, 100 parts; alcohol, 25 parts; alum, 2 parts; the hole mixed with 200 parts of 20 percent acetic acid, and heated on a water bath for six hours. An ordinary liquid glue, also well adapted for wood and iron, is made by boiling together for several hours 100 parts glue, 260 parts water, and 16 parts nitric acid. 2. Also simple and effective way to remove warts on face? A. Castor oil constantly applied from 2 to 4 or 6 weeks, each day, that is, once a day; it has not failed in my hands, says a writer in the Therapeutic Gazette, in any case of any size or long standing. The time it takes may try the patience of the user, but, if faithfully used, they will get their reward in the removal of the wart without leaving any scar.

(6564) **J. S. S.**: It is impossible to obtain Morse signals with a Thomson siphon recorder. Any book on telegraphy will give you a description of the Atlantic cable.

(6565) **G. G. M.** writes: 1. I have made my own zinc sticks, and would like to know the easiest and best way to amalgamate them? A. Dip them in dilute sulphuric acid, then sprinkle on a little mercury and rub it around, or dip the rods in a solution of nitrate of mercury. 2. Would like to know the ratio of the different ingredients for the solution of a bichromate of potash battery? A. To a saturated solution of bichromate of potash, slowly add one-fifth its bulk of sulphuric acid. 3. I have some electric light carbon sticks (without copper)  $\frac{1}{2}$  inch in diameter and 7 inches long. How many carbon sticks to zinc surface is necessary in a bisulphite of mercury battery; and give the solution for this battery. How many carbon sticks in a bichromate of potash battery? A. Six or 8 carbon rods. Make a thick paste of bisulphite of mercury in water. 4. Give the best and easiest way of connecting the carbon sticks without soldering? A. Cast lead caps on the carbons. 5. In the answer to query No. 6203, September 1, 1894, must the solution, when placed in the jar, be a thin paste or have some water added? A. Thin paste. 6. What is the best battery for induction coils? A. Grenet. 7. Does it matter whether or not the secondary is wound in opposite direction to the primary? A. No. 8. Give ratio of quantity of primary to secondary for any number of wires, especially for Nos. 16 and 36? A. It depends on the induced current desired, 500 to 1,000 to 1. 9. What is the best material to use between primary and secondary wire in an induction coil? A. A glass tube, a rubber tube, or writing paper coated with shellac, varnish, or paraffin.

(6566) **H. W. N.** says: Where can I find descriptions of automobile vehicles for use on common roads? A. See the SCIENTIFIC AMERICAN for February 14, 21, 1891; May 21, 1892; February 3, March 31, April 21, June 23, 1894; January 12, February 9, March 23, April 6, May 4, June 8, 1895; and the SCIENTIFIC AMERICAN SUPPLEMENT numbers 993, 979, 912, 857, and 839.

## TO INVENTORS.

An experience of nearly fifty years, and the preparation of more than one hundred thousand applications for patents at home and abroad, enable us to understand the laws and practice on both continents, and to possess unequalled facilities for procuring patents everywhere. A synopsis of the patent laws of the United States and all foreign countries may be had on application, and persons contemplating the securing of patents, either at home or abroad, are invited to write to this office for prices, which are low, in accordance with the times and our extensive facilities for conducting the business. Address MUNN & CO., office SCIENTIFIC AMERICAN, 361 Broadway, New York.

## INDEX OF INVENTIONS

## For which Letters Patent of the United States were Granted

June 25, 1895,

## AND EACH BEARING THAT DATE.

[See note at end of list about copies of these patents.]

Acid and by-products, method of and apparatus for manufacturing sulphuric. J. D. Darline. . . . .	541,597
Acidyl compound of para-oxyphenylurethan ethers. J. F. Von Mering. . . . .	541,489
Adjustable bit. A. T. Pearson. . . . .	541,674
Advertising device. J. W. Snoddy. . . . .	541,578
Alarm. See Bucular alarm.	
Annealing apparatus. W. D. Porter. . . . .	541,501
Arithmetical apparatus for object lessons in Hegewald & Rodelsperger. . . . .	541,787
Armor plate and making same, steel. W. E. Corey. . . . .	541,800
Auger. O. E. Wallner. . . . .	541,780
Ban fastener. J. P. Dillin. . . . .	541,729
Basket, L. Bennett. . . . .	541,805
Basket, fruit, Elliott & Saunders. . . . .	541,476
Bath tub, Clifford & Gavin. . . . .	541,499
Bearing, anti-friction. W. E. Shoemaker. . . . .	541,574
Bed bracket. G. Harris. . . . .	541,819
Bedstead, adjustable. L. W. Bickle. . . . .	541,546
Beer cooler trough. J. F. Duffy. . . . .	541,600
Bevel, mitre, and square, combined. A. J. Walker. . . . .	541,762
Bevel, mitre, and square, combined. A. J. Walker. . . . .	541,762
Bicycle seat, A. M. Southard. . . . .	541,817
Bicycle seat, A. M. Southard. . . . .	541,818
Bicycle frame. E. M. Stephenson. . . . .	541,498
Bicycle lamp bracket. W. N. Beardsley. . . . .	541,804
Bicycle support and mud guard, combined. E. J. Klinck. . . . .	541,762
Bit. See Adjustable bit.	
Blast furnace. C. Johnson. . . . .	541,759
Block. See Building block. Fuse block.	
Boat. See Folding boat.	
Boiler. See Hot water boiler. Steam boiler.	
Boiler cleaning device. D. O. Smith. . . . .	541,461
Boiler heater, kitchen. A. Heller. . . . .	541,634
Bookcase, W. M. Poindexter. . . . .	541,678
Bookcase, folding. J. L. Roberts. . . . .	541,504
Book clasp. F. H. Smith. . . . .	541,576
Book support, R. H. Arnold. . . . .	541,584
Boot or shoe. J. D. W. King. . . . .	541,814
Bottle, A. A. Freeman. . . . .	541,734
Boote stopper. F. A. Maquet. . . . .	541,623
Box. See Match box.	
Box lid and support therefor. C. G. Bennett. . . . .	541,395
Brake. See Bicycle brake.	
Brake controller, electric. F. E. Herdman. . . . .	541,545
Brake drum. C. Bottomly & Shaw. . . . .	541,734
Brick glaze. B. Frey. . . . .	541,535
Brick machine. W. E. Damon. . . . .	541,725
Brick machine, re-press. J. A. Frey. . . . .	541,528
Brush for applying sensitizing solutions. E. A. Osse. . . . .	541,670
Brush, metallic. A. Hankey. . . . .	541,537
Brush, tooth. J. W. Dennis. . . . .	541,727
Buckle, W. Looney. . . . .	541,488
Buckle, back band, F. C. Ruffhead. . . . .	541,487
Buffing pad adjuster. A. E. Perry. . . . .	541,675
Building block. J. Lee, Sr. . . . .	541,815
Bung and bushing. J. P. Baumgartner. . . . .	541,651
Burglar alarm. C. M. Clark. . . . .	541,719
Burner. See Vapor burner.	
Burner. C. Hafcke. . . . .	541,533
Button shield, collar. J. A. Dunning. . . . .	541,819
Calipers. G. Harris. . . . .	541,719
Can filling machine. J. W. Kales. . . . .	541,788
Can opener. G. D. Munson. . . . .	541,566
Car buffer. W. F. Richards. . . . .	541,623
Car coupling. J. Harper. . . . .	541,744
Car coupling. J. C. Pierott. . . . .	541,696
Car fender. H. Beston. . . . .	541,726
Car fender. F. W. Darling. . . . .	541,770
Car fender. L. Macoski. . . . .	541,771
Car fender. G. W. Mahan. . . . .	541,771
Car fender and snow cleaner. C. A. Smith. . . . .	541,577
Car postal. H. Sessions. . . . .	541,635
Car stop. G. H. Dippo. . . . .	541,784
Cars, automatic life-guard for. C. M. Beebe. . . . .	541,446
Carpet sweeper. T. H. Paris. . . . .	541,495
Carriage, folding baby. E. H. Kellar. . . . .	541,760
Case. See Bookcase. Show case. Spectacle case.	
Castings, manufacturing steel. S. P. Hutchison. . . . .	541,812
Chair. See Dental chair.	
Check hook. A. W. Lauglin. . . . .	541,764
Cheese, macbine for manufacturing. P. Traiser. . . . .	541,642
Chopper. See Cotton chopper.	
Cistern forming device. J. A. Hartzell. . . . .	541,538
Clamp. See Cloth clamp. Rope clamp.	
Clearing and purifying apparatus. H. Peschges. . . . .	541,576
Clip. For attaching and holding in book covers count, checks, manifold copybooks, etc. E. H. Huborn. . . . .	541,517
Clothes line clamp. J. H. Stryder. . . . .	541,509
Clutch, speed regulator fluid controlled. J. Hartness. . . . .	541,483
Clutch, friction. M. O. Reeves. . . . .	541,571
Coin controlled apparatus. W. E. Antes. . . . .	541,715
Collar, horse. E. C. Phillips. . . . .	541,427
Collar stuffing apparatus, horse. F. C. Phillips. . . . .	541,426
Combination lock. C. F. Raymond. . . . .	541,781
Condenser, F. M. Wheeler. . . . .	541,542
Conveyer buckets, apparatus for filling endless Hunt & King. . . . .	541,614
Cooker, food, Apple & Breitwiser. . . . .	541,706
Cooking, broiling, etc., apparatus for. C. Hafcke. . . . .	541,534
Cooking utensil. R. Gibbons. . . . .	541,734
Copying manifold sheet or book, carbon. E. J. Ferry. . . . .	541,498
Cotton chopper. Bledsoe & Watson. . . . .	541,587
Cotton gin or wool burrier. G. E. U. Huckaby. . . . .	541,734
Cotton press. G. Taylor. . . . .	541,735
Coupling. See Brass pipe coupling. Car coupling. Hose coupling.	
Crusher. See Ore crusher.	
Current motor, alternating. R. Eickemeyer. . . . .	541,604
Curtain pole. C. Zuckmeyer. . . . .	541,732
Damper regulator. S. Coats. . . . .	541,721
Damper, stovepipe. Farnell & Hoefer. . . . .	541,733
Daylight in dark rooms, stores, etc., device for furnishing and distributing. E. Westermayr. . . . .	541,582
Defecator. L. A. Roussel. . . . .	541,583
Dental chair. A. W. Browne. . . . .	541,589
Desks, adjustable supports for school. G. A. Bobrick. . . . .	541,805
Digger. See Potato digger.	
Dish cleaner. W. O. Merrill. . . . .	541,490
Disintegrating fibrous substances, machine for. M. Youn. . . . .	541,648
Display stand. J. R. Roscoe. . . . .	541,537
Door check. V. C. Dillmann. . . . .	541,783
Door, flexible. H. N. G. Luerin. . . . .	541,768
Door, flexible. A. S. Spaulding. . . . .	541,686
Door lock. Tower & Cole. . . . .	541,797
Double-faced fabric. W. Weaver. . . . .	541,645
Doubling machine stop motion. silk. H. O. Klots. . . . .	541,765
Drainage system for stables. W. F. Downey. . . . .	541,600
Dredging, excavating, and elevating apparatus. O. Van Wagener. . . . .	541,513
Drier. See Fruit drier.	
Drill, grain drill.	
Drill, milling machine, twist. M. C. Johnson. . . . .	541,550
Drill operating device. A. M. Zimmerman. . . . .	541,583
Drum, radiator, or evaporator, combined heating. M. R. Peters. . . . .	541,499
Dye, black. Herzberg & Weber. . . . .	541,750
Dye, blue green. F. Runkel. . . . .	541,572
Electric arc light. E. A. Edwards. . . . .	541,60