

POPULAR MECHANICS

Diamonds by Electricity.

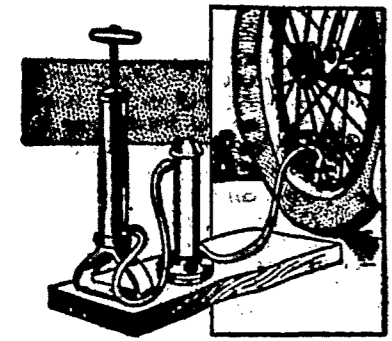
Guyot de Boismeu has produced diamonds by electricity. He discovered first that fused carbide could be decomposed by current. He had carbide fragments slowly into the furnace, gradually withdrawing the electrode. At the end of four hours the crucible held about six pounds of melted carbide. For the next two hours an intense current was maintained. Then the current was broken and the mass allowed to cool. In the center of the mass was found a finely crystallized carbide and near the negative electrode a black friable mass. Thrown into water this last gave off carbide dust and some crystals of pure carbon dust or diamonds. Experiments have shown that the size of the carbons increases with the duration of the current. As yet Boismeu has not been able to keep this up over twelve hours.—Edison Monthly.

Bending Copper Pipe.

Before a gasoline or oil pipe is bent it should be annealed either at the part to be bent or for its whole length. To anneal or soften copper it should be heated to a dull red and then rapidly cooled by being dipped into cold water. If the bend is to be a very sharp one the tube must be filled with some solid substance which melts easily. Rosin is generally used, but lead may be employed, and even if the tube is filled tightly with sand and the ends plugged pinching and kinking of the tube will be prevented to a great extent.—Automobile Dealer.

Tire Mending Device.

The device herewith shown is designed to inject puncture sealing compounds into pneumatic tires. The body of the injector consists of a piece of two inch pipe eight inches long, with a cap screwed on the upper end and a flange on the lower, says Popular Mechanics. A tire valve is soldered into



h a hole drilled in the pipe near the upper end and a piece of one-eighth inch pipe screwed into a tapped hole at the bottom. The cylinder is mounted on a base of hard wood that is large enough for a foot pump also. To fill the cylinder, the upper cap is unscrewed. When the cap is replaced a pressure is put on the fluid, after attaching a hose between the small outlet pipe and the tire valve.

Pumping Tires.

If tires are old judgment must be used in maintaining the normal pressure. If two strands of the fabric are left, however, the pressure of twenty pounds per inch of diameter may be maintained. Every effort should be made to keep moisture from the fabric of the rubber. Tire cement is useful in keeping moisture out of the cracks and is not very expensive. There is little danger of having too high a pressure on a new tire, as every average sized tire is tested to 200 pounds before being sold.

Exhaust Gases Are Poisonous.

That an engine should not be run for any length of time in a small close room is indicated when an examination of the exhaust gases shows that the products of combustion and partial combustion which are thrown off through the muffler are often very poisonous when not freely diluted with air. Mixing with air in proper proportions is not possible in the small closed room, and extra precaution should be taken to have the engine room thoroughly ventilated.

Nonrusting Steel.

According to Consul John M. Savage, who is stationed at Sheffield, England, a firm in that city has introduced a stainless steel, which is claimed to be nonrusting, unshrinkable and unchangeable. This steel is said to be especially adaptable for table cutlery, as the original polish is maintained after use, even when brought in contact with the most acid foods, and it requires only ordinary washing to cleanse.

Extracting Tar From Gas.

Electricity is being employed with success at a Detroit coke oven for the purpose of removing tar from artificial gas in the purifying process. The gas is passed through a highly ionized field, which is produced by a high tension discharge of current ranging as high as 80,000 volts, with the result that the tar forms in large drops, which are then easily separated.

Driving Heavy Cars.

It is well to remember that a car with great weight and long wheel base requires much strength, judgment and carefulness to drive it safely. Its great momentum when in motion calls for foresight; its weight makes it difficult to keep out of soft places and deep ruts.

A Painting Hint.

Never use a turpentine substitute in exterior paints, as it will cause trouble with future painting.

When the Kaiser Was a Boy.
The marriage of Queen Alexandra was the first ceremonial function which the Kaiser was allowed to attend. He was then a small and shy boy of five, and during the ceremony his uncle, the Duke of Connaught and Edinburgh, was told off to sit on either side of him and keep him in order. Presently he began to wiggle his feet, and a warning nudge admonished him, whereupon, according to Bishop Wilberforce, who witnessed the incident, the future war lord knelt down and bit both uncles in the calves of their legs so savagely that they had much ado to keep from crying out—London Mail.

Lively Dwarfs.

During the seventeenth century the Emperor of Austria gathered together at Vienna all the giants and dwarfs to be found in the kingdom. They were housed in one building and there was some apprehension that the dwarfs might be terrified at the sight of the giants. Instead of this, however, the dwarfs teased the giants—just as Jack and Hop-o-my-Thumb teased in the children's story books today—until the monsters begged for protection from their lively little companions.

Dramatic Personae.

The stages and theaters of the ancient Greeks and Romans were so immensely large that the actors to be heard were obliged to have recourse to metallic masks conjoined with tremendous mouths in order to augment the natural sound of the voice. This mask was called by the Latins "personae," from personae (to sound through), and delineations of such masks used in each piece were generally prefixed to it as we now prefix the names of the characters in our modern plays; hence "dramatis personae" (masks of the drama), which words, after masks ceased to be used, were understood to mean persons of the drama.

Many Sultans.

We shall, no doubt, go on speaking of the head of the Ottoman empire as "the sultan," just as though there were only one. We have always said "the sultan," ignoring Morocco, Zanzibar and various minor potentates in Arabia and the Persian gulf who call themselves sultans. The "sultan" understood to carry a wider territorial significance than "emir." It is much like "emperor" in relation to "king." But it may be noted that the Turkish emperor's own subjects do not call him the sultan, but the padishah (father of monarchs). Our forefathers used to speak of him as the grand seignior.—London Opinion.

The Eskimos.

Eskimos hate summer and love winter, for in summer they must work, whereas in winter they keep holiday for months at a stretch, visiting one another in their warm and comfortable snow houses and swapping yarns. Owing to the darkness, which makes deer hunting practically impossible, the entire population is out of a job. It reveals in merry idleness.

Olympian Stowaway Turns Baser.

Harry Norton, the schoolboy whose propensity for traveling led him to become a stowaway on the ship that carried the American athletes to Stockholm on the occasion of the last Olympiad, has turned a boxer. Norton made his professional debut a few weeks ago in a four round preliminary and made such a showing that three fight managers have offered to look after his business affairs. Norton stopped Kid Boustain in three rounds. His work showed class throughout. Norton stripped to 115 pounds. He declares he is cured of the wanderlust.

Amateur Baseball League.

E. C. Patterson of New York was re-elected president of the National Amateur Baseball association at a meeting at Cleveland. C. C. Townes of Cleveland and George Bruechel of Louisville were elected vice presidents and E. C. Seaton, Chicago, secretary and treasurer. Pittsburgh and Detroit were admitted to membership in the league. Applications from about forty other cities were received. Reports were made showing the healthy growth of amateur baseball and plans discussed for the 1915 amateur world's championship series.

Nickalls Coming Back.

Guy Nickalls, the English oarsman, sailed from London on Feb. 20 to take charge of coaching the Yale university crews, according to a statement by Captain Denegre at a mass meeting of crew candidates. More than 200 students presented themselves as candidates for positions in the varsity and freshman boats. Practice on the machines will begin soon in the gymnasium.

English Horse Wins King's Cup.

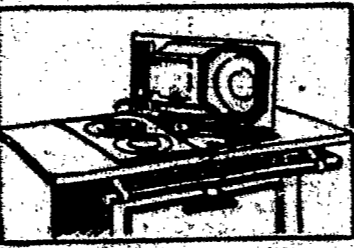
The winner of the King-emperor's cup at Calcutta on Christmas was the English bred Arthur B., by Athl, and on the following day he ran second to Bachelor's Wedding in the Viceroy's cup. This makes six consecutive victories for British bred stock in the Viceroy's cup, which was formerly monopolized by Australian bred.

Peterson Heads Oarsmen.

The Pacific Association of Amateur Oarsmen elected Henry C. Peterson president. The San Francisco rowing organization endorsed the application of San Diego for this year's annual championship of the National Association of Amateur Oarsmen. This regatta will be awarded next March.

HELPFUL HINTS FOR HOUSEWIVES

New Gas Range Designed to Economize Fuel.



Making two gas burners do the work of five, with a resulting saving in fuel, is the feature of a new gas range that has just been brought out. The top of the range consists of two detachable sections, each heated independently by one burner, and each section has two stove holes, with lids like those of an ordinary stove. Each burner is at the front of the stove and heats the lid over it by the direct action of the flame. The hot gases, instead of escaping in an ordinary stove, then pass through a shallow flue to an outlet at the rear, heating the remainder of the section.—Popular Mechanic.

Salad Sauce With Dressing.

For this do not use very fat sausage. Make a dressing with three cups of dry bread soaked in cold water. Press out the water and season highly with pepper, salt and sage or grated onion. Some housekeepers like both sage and onion. File up the dressing in the middle of the frying pan and curl the sausage around it. Cook without a cover, basting often. Take out the meat and dressing on a platter and pour off some of the surplus fat. Add one pint of hot water and a thickening made of two tablespoonsful of four rubbed smooth in a little cold milk. Have the gravy thick, smooth and a rich brown. Pour the gravy over the meat and dressing on the platter or serve separately.

Fried Chicken, Southern Style.

Fry a dozen slices, sliced thin, of fat salted pork. Add thereto a medium sized onion, also cut in slices, which remove when cooked a delicate brown. Cut into six or seven pieces a young chicken, which season with a hint of pepper and salt and dredge with flour. Fry them in the hot fat until they attain a rich brown tint. Then, if done, take them up, drain and place them on a dish that can be kept hot. Add to the pork fat, if any remains, a cupful of rich milk thickened with flour, a piece of butter the size of an egg, and the fried onions. Let it come to a boil, and when done pour over the chicken.

Stewed Carrots.

Scrape and wash young carrots, then boil quite rapidly in enough water to cover, with cover partially or entirely off. When nearly done add salt. When tender drain, cut into strips, return to stewpan with a generous amount of butter, seasoning and cream. Let come to a boil and serve hot. For a change in place of the cream use some meat or chicken broth. For variety use three parts carrots to one part sliced onions, cook and serve as above.

Pea Soup.

Split dried peas, one-half pound; water, three pints; onion, one; carrot, one; turnip, one small slice; four, one tablespoonful; butter, one ounce; herbs, one small bunch; salt and pepper to taste. Boil peas, vegetables and herbs in the water until the peas are quite soft, then rub through the sieve. Mix the flour and butter smoothly together and add the soup gradually, so as not to lump; boil for three minutes, season and serve.

Banana Fritters.

Beat three or four bananas to a cream. Add one egg, one cupful of flour, one teaspoonful of baking powder, a little salt, one-fourth cupful of milk or one teaspoonful of sugar and one tablespoonful of lemon juice. Beat until thoroughly mixed. Have the fat heated as for doughnuts. Dip a spoon in the fat and use it to shape the fritters. Fry until brown. Sprinkle with powdered sugar or serve with lemon juice.

Breadcrumbs Omelet.

A pleasing variation of a plain omelet may be made as follows: First take a cup of breadcrumbs and pour over them three-fourths of a cup of hot milk and set this aside to cool. When this is cold add it to the beaten yolks of three eggs. After these are thoroughly blended fold in the well beaten whites and cook in the usual manner.

Airing the Sickroom.

Cover the patient over while airing the sickroom. Let down the window at the top and swing door rapidly, but quickly, for a few minutes backward and forward. This will pump the bad air out and draw in the fresh air from the window.

Baking Powder.

Pass a half pound of bicarbonate of soda and six ounces of tartaric acid through a sieve, mix with a quarter of a pound of rice flour and sift all together two or three times. Store in tin and keep in a dry place.

Washing Silk Stockings.

Silk stockings should never be ironed. Wash them in soapuds (made with good white soap and lukewarm water) and rinse in clear water of the same temperature, rough dry.

DIED TO SAVE HIS COMRADES

Heroic Act of a Soldier to Retrieve a Failure.

When the Spanish-American war came on I hadn't seen any fighting since the big scuffle that ended in 1898. I raised a company to go to Cuba, and fortunately my regiment wasn't left behind when the fighting forces went to Santiago.

At our first fight in Cuba nearly all the enlisted men in my company were raw recruits. There was a good deal of wavering, and some of the boys—they were mostly nothing more than boys—got away to the rear in spite of my efforts to hold them. Knowing that I was watching them, but all tried to stand up to the racket, but it was pretty hard for some of them, and they dropped out one by one. There was one young fellow, Raymond—he couldn't have been more than nineteen—a refined, delicately made chap, more like a musician, an artist or a poet than a soldier—who, it was plain, had more trouble to keep his legs from carrying him away than the rest. He stood his ground till after the skulking had been wooded out, when a volley fired directly in our faces was too much for him, and he fell ingloriously.

After awhile most of those who had dropped out returned to the ranks, among the first Raymond. But by this time the fighting was about over and they had no opportunity to retrieve themselves. I was easy with them, knowing that they had been taking their initiation and would do better next time. I noticed that Raymond was very badly cut up at his failure and, talking occasion to speak to him about something, spoke with special kindness. But as time passed, while the others did not seem to feel their disgrace very keenly, Raymond grew more morbid over his. I was sure at the next fight he would redeem himself and feel better about it.

We were to miss the fighting for some time, being held in reserve, but the next time we were called in we got into a terrible hole. My company was sent one night to reposition, and the first thing we knew we found ourselves cut off. I called for volunteers to go in different directions and find from which direction the enemy were coming to attack us, at the same time looking out for an avenue of escape. Among the first to step to the front was Raymond. I sent him out with five others, all in different directions. We were lying low in some bushes, and I whispered their instructions. They were expected to crawl on their hands and knees and if they met an enemy were to give us warning if possible.

I waited ten or fifteen minutes—it seemed two hours—and not hearing anything from my scouts, started out myself to investigate. Feeling solicitude in the matter of the direction Raymond had gone, distracting his courage and regarding his route the most probable of which to find the enemy, I went after him. I half expected to find him hiding within a short distance from us, but I crawled a hundred yards without seeing or hearing anything of him or anybody else. There was a dead silence, a silence that made me creep. I would much rather have heard the tramp of men coming for us, for I knew they were around us and that they expected to buy us. Were they waiting to fill some gap or did they not know exactly where we were?

Give me plenty of noise and I am in my element. But I never liked silence, especially in the dark, and silence in the dark, with an enemy feeling for you, is hard on most men. But I was in command of a company of men, and the responsibility of getting them out of a trap saved me. I dreaded every moment to hear a turmoil behind me and know that my men were being butchered. Nevertheless I felt more interest in the boy I was following than the company. I was afraid he would get hurt. Singular, isn't it, that I should have had my sympathies concentrated on one instead of nearly a hundred? Perhaps if he had been a braver fellow I wouldn't have thought anything about him.

Well, I kept on, pausing now and again to listen, straining my ears to catch the slightest sound, but everything was still. Once I fancied I heard the click of a rifle, but it was only an insect. I did hear the rumble of a saloon, but it was in the distance. Then there was a faint indication as if some animal was passing through a bit of long grass a short distance ahead of me. I heard a click—it was a sure enough click this time—followed by a scuffle, at the end of which came the words in Spanish. "Make the slightest noise and you are a dead man!"

A moment—rather an eternity—passed; then I heard Raymond's voice ring out, "They're coming!"

A shot a groan, then the Spaniards dashed forward. I had a matter of eighty yards the start of them, and when I reached my men found them in retreat. One of the scouts had come in, having found a path the Spaniards had neglected to close, and we got safely into our lines.

Do you call that the courage of a brute? I call it the courage of a divine instinct. It was the triumph of the spiritual over the animal. I don't consider it a sacrifice. It wasn't that; it was pride—the pride of a soldier. The man who possessed it was of that fine type which cannot brook disgrace. He was his own critic, his own judge, and he condemned himself to expiate his failure with death.

NOTABLES IN THE LIMELIGHT

General Moritz von Bissing, Governor of Belgium.



When General Moritz von Bissing, German governor general of the occupied territory in Belgium, assumed the duties of his office he did not wish the Belgians to know that he was a just enemy; that his aim was to maintain peace and order in the land that had become the base of the operations of the German army in the western theater of war. He added that he hoped to succeed with a policy of kindness, but that he would apply stern measures if they should become necessary. He contemplated no change in the policy of his predecessor, but as he always had been interested in economic problems he hoped in co-operation with the civil administration to do everything possible to get the work on their feet again in Belgium.

General von Bissing succeeded General Colmar von der Goltz, who was first appointed military governor, but later went back to Turkey to assist in the mobilization of the Sultan's army and in the planning of the campaign against the Russian forces. General von Bissing is now seventy-one years old and is a veteran of the war of 1896 against Austria, and he also served in the Franco-Prussian war. From 1901 to 1908 he was commanding general of the Bavaria army corps. In 1908 he was promoted to the rank of general of cavalry and later received the nobility and made a member of the Herrenhaus, the upper house of the German parliament. During the early period of the present war General von Bissing was engaged in staff duties at headquarters and took little part in the actual fighting. Although highly regarded as a soldier, his profession as an organizer and his skill as a campaigner made him a very valuable figure at headquarters.

Wyoming's New Governor.

The new governor of Wyoming, John B. Kendrick, succeeds Joseph M. Carey, who the past four years has presided over the commonwealth. Mr. Carey was a Progressive in politics, and his successor is a Democrat, who was endorsed in the recent campaign by the Progressives as "the individual through whom the greatest measure of fulfillment of Progressive principles in Wyoming can be secured."



Mr. Kendrick was elected by a plurality of 3,213 votes in a total vote of 43,377, and a majority of the whole number of votes cast of 1,897. He also polled a larger vote than the Democratic presidential candidate in 1912. Governor Kendrick is a successful stockman and farmer, with large holdings of land in the northern part of the state. Until recently he had taken no part in political affairs. But about six years ago he was elected to the state senate. Since that time he has been coming to the front as a public man and has rapidly gained in popularity. In 1913 he was nominated by the Democrats for a seat in the United States senate, but was beaten by the Republican incumbent, Francis Newberry.

YOUNG FOLKS' CORNER

Constance.
I have a lot of things to write to you, but I can't find time. I have a lot of letters to write, but I can't find time. I have a lot of things to write to you, but I can't find time. I have a lot of letters to write, but I can't find time.

Lillian.
I have a lot of things to write to you, but I can't find time. I have a lot of letters to write, but I can't find time. I have a lot of things to write to you, but I can't find time. I have a lot of letters to write, but I can't find time.

Frances.
I have a lot of things to write to you, but I can't find time. I have a lot of letters to write, but I can't find time. I have a lot of things to write to you, but I can't find time. I have a lot of letters to write, but I can't find time.

Gemma.
I have a lot of things to write to you, but I can't find time. I have a lot of letters to write, but I can't find time. I have a lot of things to write to you, but I can't find time. I have a lot of letters to write, but I can't find time.

A. M. D.
I have a lot of things to write to you, but I can't find time. I have a lot of letters to write, but I can't find time. I have a lot of things to write to you, but I can't find time. I have a lot of letters to write, but I can't find time.

Why Eyes Sparkle.
I have a lot of things to write to you, but I can't find time. I have a lot of letters to write, but I can't find time. I have a lot of things to write to you, but I can't find time. I have a lot of letters to write, but I can't find time.

Numerical Nigrici.
I have a lot of things to write to you, but I can't find time. I have a lot of letters to write, but I can't find time. I have a lot of things to write to you, but I can't find time. I have a lot of letters to write, but I can't find time.

School Athletics.
I have a lot of things to write to you, but I can't find time. I have a lot of letters to write, but I can't find time. I have a lot of things to write to you, but I can't find time. I have a lot of letters to write, but I can't find time.

See Winnie.
I have a lot of things to write to you, but I can't find time. I have a lot of letters to write, but I can't find time. I have a lot of things to write to you, but I can't find time. I have a lot of letters to write, but I can't find time.