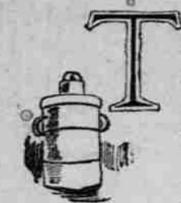


POPULAR SCIENCE.

INTERESTING NOTES OF INVENTION AND DISCOVERY.

Utilizing Waste Products—The Germ Theory—A New Fly-Wheel Trick with Glasses—Humane Nature in Dogs—How Milk is Often Infected.



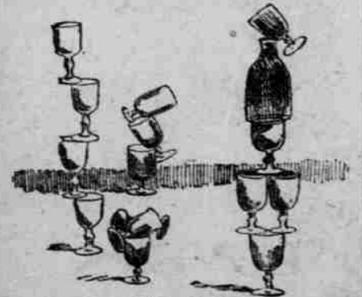
THAT typhoid fever may be spread by milk is proven by an epidemic of that disease that has, during the past year, occurred in Connecticut; 386 cases were reported in a town of 16,000 inhabitants. Children who par-

took largely of milk were usually the victims, as one-third of the whole number were among children under ten years of age. As a point of interest, investigation showed that out of the 386 cases, 350 were in families who took milk of the same dealer. Other patients had milk from the same supply, but through second or third hands. The disease did not break out in the families either of the dealer or the producer, therefore there seemed to be a natural inference that the cows were not in any way diseased, but that the milk was contaminated by having the cans washed in impure water. It is the custom of some milkmen to wash their cans in boiling water in which soda is dissolved, then afterward rinse them in boiling water. If this were done, one source of danger would be removed, as boiling destroys a large proportion of the various disease germs with which water may be infected.

Utilizing Waste Products.
For many years the slag from blast furnaces accumulated in unsightly piles, and no one knew what to do with it. Modern methods and modern machinery have, however, made it possible to work this hitherto useless and cumbersome heap into a substance that is of the highest value in many ways. The slag is melted in a large pot, from which it slowly trickles out through a spout. The instant it reaches the air it meets a high-pressure steam jet which blows it into shreds and carries it into a large storage bin, where it falls a mass of light, soft matter, which is called mineral wool. The force of the jet that carries it into the storage-room grades it by gravitation. The coarser and heavier parts drop near the entrance to the room, and those that are lighter proceed farther on, until at the extreme end a dust-like cloud is formed, which settles in a puff mass like fine down. The product is then gathered up and packed in suitable receptacles for market. It is afterward made into articles of various sorts, and is extensively used for packing. As a material for deadening walls and covering steam pipes and cold-storage walls it is extremely valuable, being one of the best non-conductors, and, of course, strictly fireproof. A variety of sandstone and certain rocks are melted and blown in the same way and for the same purpose. This is unquestionably one of the marvels of modern invention, and is as simple as the product is useful. A thousand pounds of wool per hour is the capacity of an ordinary plant.

Balancing Tricks with Glasses.
The accompanying illustration may lead you, at first, to think that it represents several feats that only a skillful juggler can perform, says a Philadelphia exchange, but when we shall have given you an explanation of the apparently precarious positions in which the glasses are placed, you will see that any one with steady nerves, and a little patience, may readily accomplish everything here pictured.

The first thing to do is to practice standing one glass upon another in such a way that the axis of the upper one shall be a prolongation of the side of its support. Care should be taken that glasses as nearly alike as possible be used, and that the table on which they are placed be perfectly level, for even a slight variation from this rule



may make a failure of your experiment. The second exercise consists in balancing the body and foot of one glass upon the rim of another, as shown in the middle figure of the cut. At the back may be seen a way of doubling this experiment, with hardly any additional risk. Two glasses may also be balanced, side by side, in the mouth of a third. Their feet must not touch the body of the third glass; they are simply bedded

on their support, and it is strange to see how, in consequence of their exact juxtaposition, neither of them show any inclination to swerve or to tumble off.

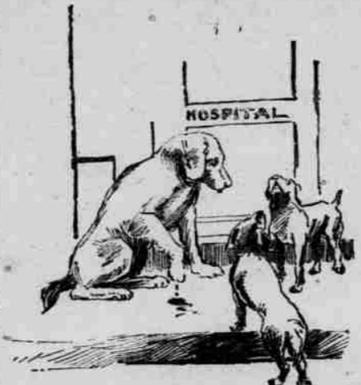
It may be remarked that this latter feat is not so much an experiment in equilibrium as a new and curious arrangement to puzzle a late-comer to the dinner-table.

Thanks to the exactitude of the geometrical form of your glass, you may, with a little practice and a little audacity, succeed in making stranger superpositions still, and the pyramid that we show on the right will seem to you after awhile as mere child's play.

A New Fly-Wheel.

The tendency of a fly-wheel to disintegrate from centrifugal force is well understood. This peculiarity has led to the invention of a new fly-wheel that is said to be far superior to anything previously used. To a hub is attached wound wire filling the space between disks about twenty feet in diameter. This wire is number five steel wire and is securely fastened in place. The wheel is driven at a speed of about 240 revolutions per minute, giving a peripheral velocity of 2 8-10 miles per minute. This is equal to about 250 feet per second. It requires about 250 miles of wire to fill the disks of a wheel of this size. Among the experiments under consideration are paper wheels. The tensile strength of paper is greater than that of many metals, and paper rims on wheels are looked upon with favor.

Remarkable Intelligence and Humanity.
The accompanying cut represents an act of intelligence and humanity on the part of two white and tan terriers,



who brought a wounded collie by the shortest cut through various alleys, past the back entrance, to the front door of the hospital, for surgical treatment.

The collie had an artery cut in his right fore leg, and the course taken by the dogs from the place of accident to the front door of the hospital was traced by the blood.

The patient was surgically treated at the hospital and recovered, and no fact can be better substantiated than the one represented by the above picture.

The Germ Theory.

What the world owes to Louis Pasteur the world's great vocabulary is incompetent to express. Through his researches, and those of the students who have come after him, the light has been turned upon what has hitherto been total darkness. Doubt, experiments and uncertainty have given way to precision and accuracy in diagnosis. As the farmer knows that the chinch bug is the cause of his withered crops, so the physician knows that the bacillus of certain diseases brings about certain symptoms. The microscope is the physician's reliance. A few drops of blood, a bit of tissue, a little perspiration brought under the eye of this magic assistant will tell him at once the cause and progress of the disease. And it is not alone the physician who benefits by this knowledge. The farmer, the vinedresser, the dairyman, the stock-raiser, the cultivator of the silk-worm and the enthusiast on bees are alike indebted to the discoverer of the germ-origin of disease for invaluable aids in their business. A necessity for the near future is an improvement in microscopes and their cheapening, so that knowledge of germs may become more widespread. Every township should have its bacteriologist and its microscopic equipment. There is no study more interesting, and none that is so important to humanity.

A New Fire-Proof Safe.

By order of the German government's banking officials, experiments have been made with a safe composed of steel wires and cement. It had been debated whether practical fire-proof vaults could be constructed of this material, and the tests were made to settle this point, with the following result: A safe was placed upon a pyre of bags and drenched with kerosene, which, after being set on fire, kept the safe for half an hour exposed to a heat of 1,800 degrees Fahrenheit—that is, a heat in which iron will melt. Two hours after, the safe was opened and the contents, silk, paper, draft blanks, and a maximum thermometer were found to be absolutely uninjured, and the maximum thermometer showed that within the safe the temperature at no time during the test rose above 85 degrees.

England has 40 miles of trolley.

India has 300,000 acres of tobacco.

Compressed air operates Paris clocks.

London's yarn trade employs 16,000.

We export eggs to Ireland.

A dream that you have been appointed to a position in a bank means that you will lose your present position.

The D. V. Sholes Investment & Mining Co., of Cripple Creek, Col., can furnish you strictly reliable information concerning mining properties in the Cripple Creek district. We always have options on some choice properties that are bargains and handle no others. Local and eastern bank references given on application. Correspondence solicited.

To dream of seeing children is generally favorable, but to see a child die is indicative of some severe misfortune.

A New Postoffice.
The United States government has established a branch office in the great seed establishment of the John A. Salzer Seed Co., La Crosse, Wis. So large and extended is the trade of the Salzer Seed Co., that the government for their own convenience to promptly expedite mail matter, located an office in their mammoth buildings. The editor is told that Salzer's great plant, seed and grain catalogue is mailed to any one upon receipt of 5 cents postage by addressing them at La Crosse, Wis.

A dream that you are drunk means that you will make a friend who will prove valuable in the future.

Notice.
Drs. H. H. Green & Sons of Atlanta, Ga., are the greatest dropsy specialists in the world. Cure more patients than the entire army of physicians scattered over this beautiful land of ours. A valuable discovery outside any medical book or published opinion. A purely vegetable preparation. Removes all dropsical symptoms rapidly. Ten days' treatment mailed to every sufferer. See advertisement in other column.

To dream that you are kissing somebody means that an unknown friend will shortly confer upon you a great benefit.

How's This!
We offer One Hundred Dollars reward for any case of Catarrh that cannot be cured by Hall's Catarrh Cure.
F. J. CHENEY & CO., Toledo, O.
We, the undersigned, have known F. J. Cheney for the last 15 years, and believe him perfectly honorable in all business transactions, and financially able to carry out any obligations made by their firm.
WALDING, KINNAN & MARVIN, Wholesale Druggists, Toledo, Ohio.
Hall's Catarrh Cure is taken internally, acting directly upon the blood and mucous surfaces of the system. Testimonials sent free. Price, 75c per bottle. Sold by all druggists.
Hall's Family Pills, 50c.

To dream of cats is always unlucky, and some unexpected misfortune is sure to follow in a few days.

The Modern Way
Commends itself to the well-informed, to do pleasantly and effectually what was formerly done in the crudest manner and disagreeable as well. To cleanse the system and break up colds, headaches, and fevers without unpleasant after effects, use the delightful liquid laxative remedy, Syrup of Figs. Manufactured by California Fig Syrup Company.

A Powerful Sermon.
Patrick—Phy didn't ye go to church, sure?
Bridget—O! had other things to do.
Patrick—If yez had gone and heard that sermon on "Absenteeism" ye would have been ashamed of y'self fur not bein' there.

The Time for Romance.
Groom—Well, that umbrella is gone, and I'll have to get another one. We'll stop into Biggs, Store & Co's.
Bride—Horrors! no. Go to some little shop on a side street.
"Dear me! Why?"
"My darling, let's not spend our honeymoon waiting for change."

The Brier in Kitty's Foot.
One day Merlin ran away barefooted to the huckleberry bushes at the foot of the garden. He came back crying, with an ugly brier in one of his little fat feet. He was a brave little hero and allowed his mamma to pick it out with a needle. A half-hour later he was found examining the claws in his kitty's feet; a sad expression rested on the thoughtful little face as he carried his pet to his mamma, saying:
"Poor kitty—bier—feet; mamma, fix it!"—New Orleans Picayune.

Cigar Box Cedar Scares.
There is said to be a scarcity of Cuban cedar for cigar boxes since the outbreak of the revolution in that country. A good substitute, and one often used, however, is lumber wood, which is dyed to the proper color.

Small Pensions.
A late decree of the queen regent of Holland awards to the widow of a prison-keeper a pension of nineteen florins (not quite \$8) annually, while another widow has thirteen florins showered upon her every twelve-month.

Mothers who have used Parker's Ginger Tonic for years insist that it benefits more than other medicines; every form of distress and weakness yield to it.

A clerical error: A prolonged, prosy sermon.

Hindercorns is a simple remedy, but it takes out the corn, and what a consolation it is! Makes walking a pleasure. 15c at druggists.

To dream that you are driving cattle means that you will become rich through your own exertions.

Piso's Cure for Consumption has been a God-send to me.—Wm. B. McClellan, Chester, Florida, Sept. 17, 1895.

Two special train loads of 1040 white people have gone from Wayne, Duplin and Pender counties, N. C., to work in the cotton mills at Pelzer, S. C.

One large paper mill in Berlin, N. H. makes 80,900 feet of lumber into paper daily, or 25,000,000 feet every year.

THE KING CURE OVER ALL FOR Rheumatism, Neuralgia, Sciatica,
IS **ST. JACOBS OIL.**

Battle Ax
PLUG
As good as can be made regardless of price
5 1/3 Ounces
for **10 cents**
other Brands Only
3 1/5 Ounces
for **10 cents**
Don't take our word for it, but buy a piece, and see for yourself.

CLAIRETTE
Above All Others
There is no soap in the world that stands so high in the opinion of thoughtful women as
CLAIRETTE SOAP.
For washing clothes or doing housework, it can't be equalled. Try it. Sold everywhere. Made only by The N. K. Fairbank Company, - St. Louis.

A Perfect Food
That is what Baron von Liebig said of good chocolate. All of Walter Baker & Co.'s Cocos and Chocolates are good;— the best, in fact.
Walter Baker & Co., Ltd., Dorchester, Mass.

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