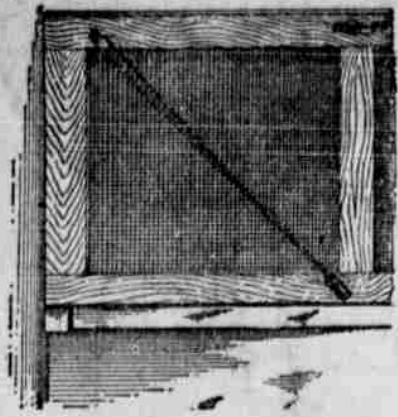


# INDUSTRY AND MECHANICS

## PREVENTS SAGGING OF DOOR

Simple Stay Has Been Devised Consisting of Hook Placed at Lower Corner of Screen.

Screen doors are usually of such a light construction that they are apt to sag after a little use. In order to prevent such sagging, or to correct such a condition in an old door, a simple form of stay has been devised consisting of a hook placed at the lower corner of the door, to which a wire is attached extending to a bolt at the opposite corner of the lower panel of the door. The wire is doubled and the bolt is so arranged that it may be turned to twist the wire, thus shortening it and lifting the sagging side to normal position.



Stay for Sagging Doors.

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## PINE STUMPS FOUND USEFUL

Found Rich in Turpentine and Resin—Several Products Are Secured From Material.

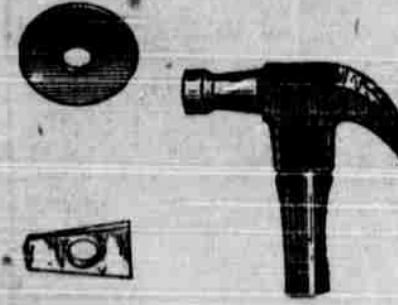
The stumps of the Norway pine left on the fields years ago in the trail of the woodsman are now being turned to account by many establishments in Michigan and Wisconsin. These stumps are rich in turpentine and resin, and the process utilized is what is known as destructive distillation, which is quite simple and interesting owing principally to the great variety of materials which are secured from this refuse of the fields. The stumps are cut into blocks and loaded on iron cars of cage construction and fired in a retort. The heat drives out the moisture and oil and opens up the fiber of the wood. The water comes off first, followed by the resin, then turpentine, succeeded by a mixture of tar and turpentine, and finally the flow consists of pure tar. The average yield is 26 gallons of turpentine and 57 gallons of tar from a cord of wood weighing about 3,333 pounds. The residue consists of 40 bushels of soft charcoal.

From this material there are obtained the following products: Sheep dip, tree spray and disinfectant, shingle stain, wood filler, embalming fluid furniture polish, face lotion, paint and pigments.

## FASTENING A HAMMER HEAD

Average Handy Man Probably Has Not Heard of New Idea Shown in Illustration.

The following method of securing hammer heads to handles may prove useful: It consists in taking an ordinary washer, cutting it away at opposite sides, and then beveling it to form a wedge. When this is driven into the end of the hammer handle it is held firmly in place by the fibers of the wood that are forced into the original washer hole in the center of the wedge. This idea is not offered as something new, but the average handy man has probably not heard of it, and may find it a very serviceable trick.—Scientific American.



Handle Wedge Made of a Washer.

Even the dust of charcoal is saved as fuel in Japan. It is carefully preserved and mixed with chaff and chopped straw. It is then moistened into a paste, rolled into balls about the size of an apple and sold in this shape to consumers.

## Stop Waste of Heat.

In the factories of this country the great problem is to stop the waste of heat. All the heat furnished by the burning coal should be converted into force for mechanical work. At present not one-tenth of it is so converted.

## New Use for Concrete.

When Mr. Edison reaches success with his concrete houses and is able to build them for \$1,000, he expects to be able to furnish such a house completely with concrete beds, tables, etc., at about \$200.

## Concrete Railway Sleepers.

Reinforced concrete railway sleepers with asbestos fibers soaked in water and mixed thoroughly with cement is one of the parts that have been used on Bavarian railways, and in the first five months of service showed no defects.

## Valuable Collection.

A collection of buttons dating from the ninth century, left by a man who recently died at Ghent, in France, is valued at \$40,000. It began with a button taken from the robe of Charlemagne.

## Production of Copper.

The United States now produces more copper than all the rest of the world together.

## METALS IN FOOD SUPPLIES

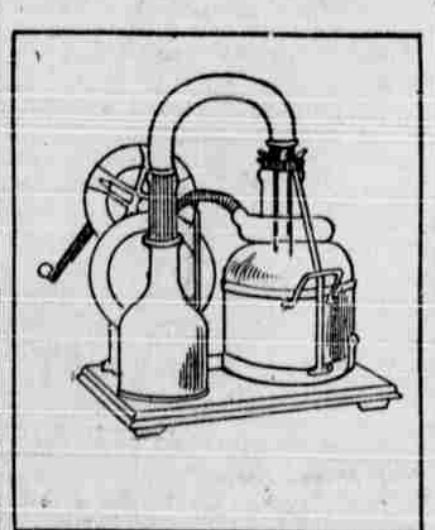
Lemonade, One of Most Popular American Drinks, Said to Contain Poisonous Lead.

A pure food investigation by Dr. Carlo Formenti, of Milan, has dealt with poisonous metals in food supplies. Most metal salts are poisonous, and are liable to occur in acid foods and drinks from chemical action on containing vessels. Lemonades and other acid drinks so popular in America, and even carbonated waters, often contain lead. This comes not only from metal utensils used in preparing the drinks, but also as impurities in tartaric acid and in carbon dioxide gas; and even in minute quantity taken often may be a real danger, as lead tends to accumulate in the tissues of the body until it causes illness or even death. Copper was found in nearly all canned green vegetables, its use for tinning such products being emphatically condemned. The finding of much manganese in certain vinegars was a surprise, but special inquiry showed that potassium permanganate is used to correct the taste of cheap vinegars made from refuse and rotting fruit. Though the manganese is probably not harmful, vinegar from such materials should be prohibited. Arsenic in wines sometimes comes from insecticides used on vines, and the use of arsenical insecticides was lately forbidden in France. The investigator recommends aluminum cooking and containing vessels as quite harmless.

## ICE MACHINE FOR THE HOME

Water Is Frozen by Vacuum Apparatus Which Also Freezes Ice Cream—Idea From Denmark.

All the way from Denmark comes the idea of the vacuum ice machine for the home. The various uses of this apparatus makes it very convenient to have about the house. It works on the principle that water freezes when quickly evaporated, and is so simple that even the stupidest domestic can operate it, which is saying a great deal. A jar to hold water is connected with a vacuum bell by means of a hose, and the vacuum is



Turn Crank and Water Freezes.

created by turning a crank. As the air passes from the jar the water freezes. This same process can be used in making ice cream or iced tea and coffee, and in the first mentioned case, in particular, is a big improvement over the method that requires turning a crank for twenty minutes. The only chemical used in the apparatus is sulphuric acid, and the acid does not come in contact with the water or other liquids to be cooled.

## Dangers of Mine Gases.

For testing the dangers of mine gases a delicate machine has been invented in England which photographically measures the duration of the flash of an explosion.

## Gathering Old Corks.

After ten years' controversy, it has been decided in France that the industry of gathering old corks and making use of them a second time is not detrimental to public health.

## Use of Petroleum.

Petroleum gives us asphalt paving, permanent ink for printing, dyes of brilliant hue, and all kinds of rubber articles which without the oil could not be manufactured.

# INDUSTRIAL MECHANICAL NOTES

## Chicago Is the World's Greatest Lumber Market.

Many shoes sold abroad as "American made" are not such in any particular.

## The Coal Consumption per Capita in England Is Three Times that of France.

There are twenty-five types of American automobiles on the market in England.

## The German Industries employ 9,000,000 Women, of which 20,000 are employed in mining.

Gas furnaces alone are now used at the royal mint for the melting down of precious metal.

## A single needle manufacturing machine will produce one and a half million needles per week.

Germany has 435 plants for the preservation and utilization of potatoes in one form or another.

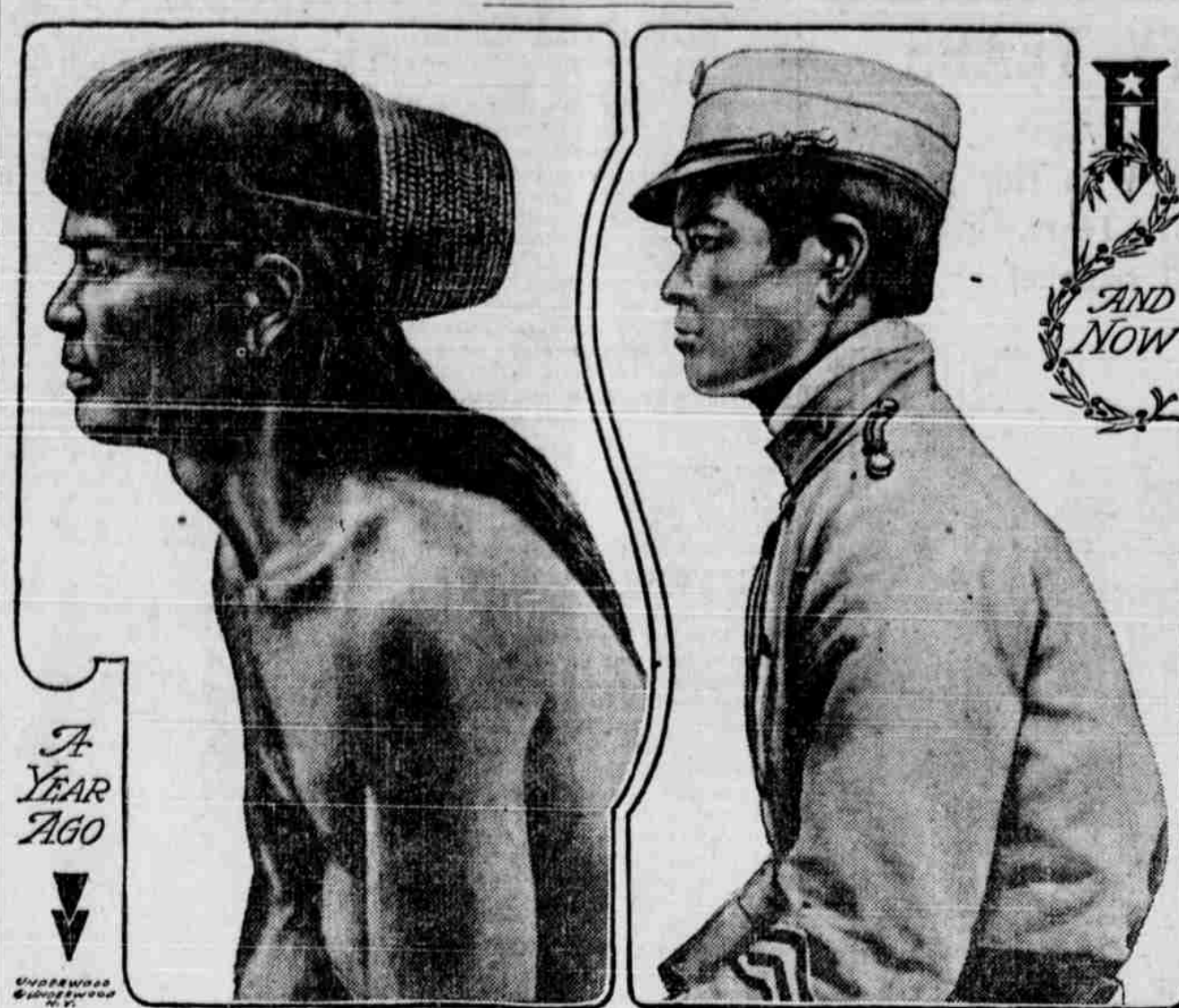
## The effect of seasoning wood is to bring into the same space 10 per cent more of the fibres as when the wood was green.

As a possible substitute for cotton, German textile experts are experimenting with the fiber of the Asiatic silk cotton tree.

## There has been great industrial development in Austria in the last eight years and the standard of living has been raised materially.

For purposes of ventilation they make in France a kind of porous glass. The holes meanwhile are so small that they are proof against both draft and dust.

## PROGRESS IN THE PHILIPPINE ISLANDS



GOVERNOR FORBES of the Philippine Islands is in this country telling of the great work the United States is doing in the archipelago. Among the evidences of the results of civilization which he brought is the accompanying photograph. It shows a Bontoc Igorot, a member of a savage head-hunting tribe, photographed when making application to join the Philippine constabulary, and the same "savage" as a member of the constabulary one year later.

## BETRAYED BY PUMP

### Two West Point Cadets Found Guilty by Contrivance.

Students Accused by Commander of Having Partaken of Forbidden Refreshments, Make Denial and Are Sent to Hospital.

West Point, N. Y.—Because they were found guilty of following other alleged transgressions by a violation of one of the most stringent rules of the army, Charles Carroll Fitzhugh, appointed from North Dakota, and Frederic Hurd Van Horn, from Connecticut, were dismissed from the Military Academy recently by General Thomas Barry, commandant of the post. An innocent but efficient stomach pump used in the post hospital accomplished the downfall of the cadets.

Both cadets were members of the fourth class and obtained permission to leave their quarters on April 27 to witness a baseball game on the post athletic field. They discarded their cadet uniforms, and, dressed in natty civilian attire, escaped the watchful eyes of their superiors after the game and slipped away from the reservation. The late afternoon and part of the evening of that day Fitzhugh and Van Horn were alleged to have spent in the village of Highland Falls. They were detected by one of the officers when they attempted, under cover of darkness, to slip unobserved back to their quarters.

One of the charges subsequently lodged against the cadets was that when absent from the post they had partaken of intoxicants. Both denied the charge. To tell an untruth is considered in the army an unforgivable offense. General Barry learned of the cadets' denial. He ordered both to the hospital. A report reached the office of the commandant soon after a vigorous application of the pump, that established to the satisfaction of General Barry that both had partaken of the forbidden refreshments. The order of dismissal followed.

## SORCERY REVIVED IN FRANCE

Two Women Discovered Practicing a Medieval Form of Witchcraft by Sergeant.

London.—An extraordinary story comes from Calais. While a sergeant was on guard before the postern gate of the old citadel two black-veiled women glided slowly into view, and one of the visitors stretched herself out on the damp grass with arms extended in the form of a cross. The other with a small spade began hastily to dig a hole in the ground. In it she placed a packet wrapped in white linen, covered it as quickly as possible.

Under the idea that he had witnessed the closing scenes of an infanticide, the sergeant notified the authorities, and the packet was discovered.

## TO RAISE TERRAPIN HERE

Fisheries Bureau to Ask Congress for Appropriation for a Culturist to Study Fish.

Washington.—The bureau of fisheries, confident that the diamond-back terrapin can be cultivated in the United States for commercial purposes and placed within the means of everybody, will seek an appropriation from congress for the employment of a terrapin culturist. Some study of the subject already has been made in the fisheries laboratories in the South. George M. Powers, commissioner of fisheries, said if congress authorizes a culturist experimental work will be pursued at the Beaufort laboratory.

## Are Puzzled by Boy's Death

Fort Worth, Tex.—Six weeks ago a corpse identified as that of W. E. Wofford, was sent from here to Brooklyn, N. Y., and the man's mother, Mrs. Mary Wofford, accepted the body as that of her son, and collected life insurance.

Recently a man walked into the undertaking shop where the corpse had been prepared for shipment. He said a "mistake had been made" and that he is the real Wofford.

The mistake in identity was caused by a resemblance between Wofford and the man who was buried in his name, and by letters found on the corpse addressed to Wofford. Wofford explains this by saying he had lost a coat, in the pockets of which were several letters from his mother.

The mystery of the identity of the man buried for Wofford is unsolved. The man died in a local hospital.

## Two Simple Costumes for the Small Rulers of the Household



Coat for girl of four to six years. This is a little one-piece pattern that makes up well in cloth of some pretty light color. The collar and cuffs are bound with silk of a darker shade than the cloth and have embroidered mufti collar and cuffs worn over them.

Dress for girl of four to six years. Cream delaine is used for this simple little dress. There are three small tucks on each shoulder and two inch-wide tucks above the hem on skirt. The sleeves are finished with lace ruffles.

## Social Forms and Entertainments

From "Sweet Sixteen." I am always interested in your columns and find them a great help. I am in doubt about a few questions that bother me. A boy friend of mine is about to leave town and has asked me to keep corresponding with him and not to go with anyone else. Should I like better? Is it proper to kiss a boy good-bye at the train, whom I've gone with for over a year? What would be nice for a gift to give a boy who is going away? Most girls at the age of sixteen do these things. Is it proper? I want to know the right thing.

A Debut Party. My sister and I are planning to make our debut soon. I've read many of your suggestions in the paper and think them just splendid, but have not seen anything suitable for this occasion. I do want it to be nice, so that people will remember it.

We have quite a large house, and have three rooms in which we could dance, but the floors are not waxed. I thought possibly we could end up with a little bit of dancing. I hope to see some more of your excellent suggestions.

Debut parties are rather formal affairs, and should begin with a reception at which the debutantes wear their prettiest clothes and most gracious manners. Then I should have a dinner party for as many young people as could be conveniently accommodated, especially the girls who assist. Ask the men in for the evening, and have a jolly little dance or collation. It is an easy matter to wax the floors, and a piano and violin will make sufficient music. The favors may be as costly as your purse will permit, making them lasting souvenirs of the happy occasion.

Questions From "Anxious." I am thirteen years old. Am I too old to wear sandals? I wear a No. 3 shoe. Are sandals worn much this year? Is it rude for a girl my age to play baseball? Am I too young to wear shirtwaists? What finger are the shirtwaist rings worn on? Is a girl the age of fourteen too old to play with dolls? Would it be all right for me to get some nice stockings and embroider some design on them in tan? I wear short dress. What kind of a design could you suggest that would be pretty?

You are not too old to wear sandals and they are always worn in warm weather, especially in the country or at the seashore. It is not any more rude to play baseball than any other game of ball. There seems to be no age exempt from the shirtwaist, but I much prefer one-piece dresses or "middies." The rings mentioned are usually made for and worn upon the little finger. A girl is never too old to play with dolls, in my estimation. Personally I prefer plain stockings, but you may

The Proper Thing to Do. Kindly tell me what to do in this matter. One of our neighbor's daughters was married. We received an announcement card and one "at home" card enclosed. Does this announcement need a reply? In what form should we write? We are not acquainted with the bride and groom. Must we call on them or send our cards when they return? Do we have to send a present? LA FAYETTE.

All Made to Match. In the great London and Parisian dressmaking establishments all the accessories of the toilet are supplied by the firm, so that the outfit may harmonize in every particular.

The range is very large, and each item must pass the scrutiny and receive the approbation of the head of the firm before it is sent out to a customer. Gloves, shoes, handkerchiefs and hosiery are supplied for each customer, and for the evening dress there is the appropriate scarf and cuff ornament.

Each ornament for the dress, such as the clasp or buckle, and each one for the hair is individualistic. It cannot be found elsewhere, because it is the design of one of the artists especially engaged by the firm for the purpose of thinking out and making such decorative details.

In one case shoulder plaques of blue turquoise, painted by hand, with tiny pink roses, and surrounded with pearls and diamonds, are the finishing touch of an evening costume. And in another small diamond clasps for the scarf and smaller ones for the shoes

are the work of a young man who spends his time searching through the archives of the past and evolving for present day use personal ornaments of all kinds.

Chiffons and Fringes. To expect logic in matters of fashion is unreasonable. Chiffons are weighted with heavy embroideries. Lace mingles with tulle and velvet. Sometimes fringe supplies the cut motif of motor coats, cleverly pleated together out of traveling rugs, with the fringe carefully adjusted in all the oblique places.

Silk fringe makes a graceful finish to the hem of satin gowns. It is imitated in pearls and borders the edge of many evening dresses. Some of the fringes resemble a shower of precious stones caught by a thread.

Others are manufactured by hand and cost a respectable amount of louis per meter. They are much in vogue this season and are used lavishly, regardless of expense.