

# SCIENCE AND INVENTION



## DEADLY EXTERIOR OF FRUITS

Made as Germless as Sterilized Water by Simple Process of Washing Off Bacteria.

Professor Metchnikoff has had so much to say in recent years about the enormous proportion of diseases that are acquired by taking bacteria into the system on raw fruit that a certain class of people afflicted with the modern mania which may be called germ-phobia will be interested in the findings of Drs. Fillastier and Sartory, who assert that a little common washing will render the deadly exterior of all fruits as germless as sterilized water.

These men are members of the French Academy of Sciences, and becoming interested in the charges brought against raw fruit they recently set about the experiments of a simple character which proved the complete efficacy of cold water as a germ chaser. They placed a few grapes in a little water and found from 120,000 to several million germs in a cubic centimeter in the water. A second washing produced a few thousand of the Metchnikoff germs, and at the end of a fourth rinsing scarcely any germs could be found in the water used.

The interesting part of this work was that with each washing a constant decrease of germs was noted—90 per cent. being eliminated each time the process was repeated. In addition to demonstrating how simple it is to ward off all danger from germs on fruit the Frenchman asserts that not half the specimens which do find a habitation on fruit are harmful.

## IMPROVEMENT ON AEROPLANE

Object of Recent Invention is to Provide Propellers to Drive and Also Steer Machine.

In describing an aeroplane, the invention of G. W. Thompson of Kingston, Okla., the Scientific American says:

This invention relates to flying machines of the heavier-than-air type, and the object is to provide a machine of this class which has its propellers so arranged that they not only drive the machine but steer it also. By such a construction the inventor minimizes the necessity of using movable



Aeroplanes.

rudders heretofore used to control the machine's course of travel. Balancing is accomplished by locating the power plant directly below the center of gravity of the supporting planes, and by the manner in which the planes are tilted with reference to the line of travel. The improved aeroplane is shown in perspective in the accompanying view.

**First Sewing Machine.**  
The earliest patent for any kind of a sewing contrivance was granted in England, June 24, 1755. The first complete sewing machine designed for general purposes was patented in the United States, September 10, 1846.

**Effect of Drainage.**  
Recent experiments in Germany indicate that drainage waters do not take any more plant food away from fertilized soils than from unfertilized.

# NOTES OF SCIENCE AND INVENTION

The first typewriter was produced in England 200 years ago. The only gem in the world which cannot be counterfeited is the opal. The controversy regarding Mars being an inhabited planet began in 1877.

At the height of 3,000 feet a man in an aeroplane can see a submarine gliding along 30 feet under water. It has been estimated that the eye of a fly can discern an object one-five-millionth of an inch in diameter.

Aerial propellers, driven by gasoline engines, are being tried in France as means of propulsion for canal boats. An inventor has placed a small horseshoe magnet on the side of a thumb to help tailors pick up needles. A pocket comb, penknife and cigar clipper have been combined in a single implement by an ingenious inventor.

An attachment for converting eyeglasses or spectacles into automobile goggles has been invented by a Philadelphian.

Oil lamps can be prevented from smoking if a little liquor distilled from onions be placed in the bottom of their reservoirs.

A rubber cap to hold cracked ice upon a fever patient's head that will not slip from place has been invented by a Maryland man.

A double-barreled telescope, to permit two persons to view the same object at the same time, has been invented by a Swiss optician.

Pearls are increasing in value. A trade paper tells of a necklace of pearls that originally cost \$28,000 recently being sold for \$90,000.

By research, prevention and cure, every epidemic disease can be abolished within the next fifty years, according to Professor Ray Lankester.

# Designs in Soft Caps



To the astonishment of some of us and the delight of all, American women are developing a liking for soft caps, most of them for indoor wear. The day now begins with the breakfast cap of sheer silk, over-draped with net or lace and trimmed with ribbons and little flowers, and ends with the theater cap of cloth-of-gold or silver, jeweled and feathered. There are all sorts of gradations in material and design.

For the street, made caps of beaver-cloth, velvet, satin, plush, many of them fur-trimmed, are fascinating from the standpoint of becomingness and most comfortable for winter wear. At present, at least four caps are required for wear during each 24 hours. The fresh, dainty breakfast cap, the cap for out-of-doors, the sparkling evening cap and the simple and useful sleeping cap. Besides these, there are sweeping caps, plain and easily laundered, which are necessities and not luxuries, and occasion comes for their use.

Most breakfast or morning caps are made with a soft crown of liberty silk over which is draped either net or lace, and a ruffle of lace which makes the frill about the face and neck. All the support such a cap needs is a circle of fine shirring or ribbon wire. The crown is a plaque of silk, overlaid with lace, cut in a circle 18 inches in diameter. This is gathered about the edge and sewed to the wire, or laid in a narrow hem, through which the wire is thrust. The frill of lace is sewed to the wire and the cap finished with a collar and bows of ribbon. Sometimes the frill is turned back across the front, hanging over the ears and neck. Again, the frill at the front is omitted, and the cap finished with a flat band of ribbon extending across the forehead to the ears. Narrow ribbons from No. 1½ to No. 5 are used in rosettes and finished with long hanging loops.

## EXERCISE ADDS TO CHARM

Thing for Women to Keep in Mind is the Necessity for Proper Selection.

It is curious to find that, with all the modern athleticism of girls and their fervid devotion to outdoor sports, they still cannot compete (except at tennis) with the more stolid and muscular male.

At dancing, to be sure, which is nowadays a high form of athleticism, the premiere danseuse not only competes with but outwits the particular youth with whom she gyrates and bounds, but dancing, after all, is more an affair of long practice than of actual muscular strength. The most exquisite dancer of the present time declares that athletics need not make women ungraceful, as so many people fear they do. She protests that the more she dances the more graceful she can make herself, which is easy to believe.

All her movements, however, are on strictly esthetic lines, which tend to make the body supple and beautiful. The danger to feminine attractions lies in games like hockey and golf, in which the most odd postures must be assumed in order to succeed at all. On a horse a woman can look perfectly graceful and yet perform much the same deeds of prowess as a man.

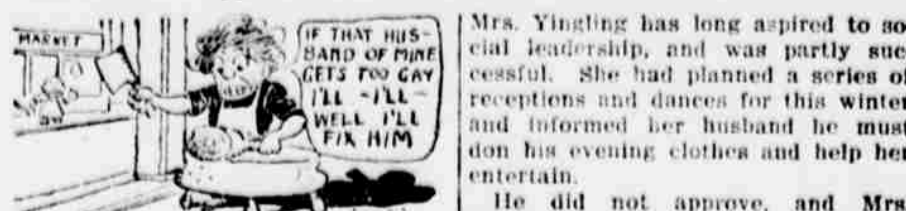
The prudent girl should choose carefully the kind of exercise which will not rob her of her feminine charm, though it is probable that the woman of the future will be built on robust lines, and that the young man of her period will not fail to find her adorable.

## Hat Ornaments.

One of the practical and universally becoming trimmings being put on to straw hats for the south are the wing, plume or egrettelike ornaments made of shadow lace, tulle or other gauze. While these hat trimmings are usually simple in number, a single ornament such as the ones mentioned being as much as is needed, the size of the ornaments is often very large. These made feather arrangements admit of a great variety of shapes and effects.

# HAPPENINGS IN THE CITIES

## "Social Queen" Found to Be Butcher



WHEELING, W. VA.—A bundle of blood-stained butchers' aprons, an electric washing machine, a "bridge" and a bucket of water have started a domestic and industrial warfare here in which are involved Thomas Yingling, millionaire wholesale meat dealer, and his wife, would-be social dictator.

It is because of them that Mrs. Yingling has resigned her efforts to dictate to Wheeling society and has announced her intention of spending a million which she possesses in her own right to put her husband "out of business."

Meantime both wife and husband continue to reside in the mansion which was the scene of the affair which led up to their separation. Both say they will remain there and that the campaign they will wage against each other will be conducted from the same headquarters.

The story of the split between the Yinglings will be told here for years.

Mrs. Yingling has long aspired to social leadership, and was partly successful. She had planned a series of receptions and dances for this winter and informed her husband he must don his evening clothes and help her entertain.

He did not approve, and Mrs. Yingling started to do the entertaining herself.

The first affair she planned was a party for the Euterpe club. An elaborate musical program was given, attended by most of Wheeling's elite. This over, the guests sat down to bridge.

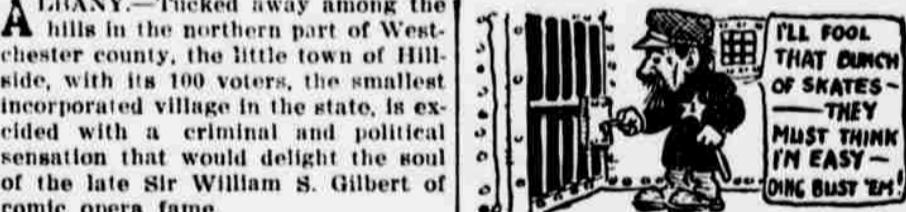
Then Mr. Yingling appeared in his shirt sleeves. He carried a washing machine in one hand and in the other a basket of dirty clothes, among them a number of blood stained butchers' aprons. That was a shock. The guests thought that perhaps some novel feature had been provided for their entertainment.

But they were mistaken.

Mr. Yingling calmly attached the washing machine to an electric chandelier, carried in a bucketful of water, and began to wash the dirty clothes. The guests screamed and departed.

The result was her announcement that she intended to become a business rival of her husband.

## Police Chief Escapes from Own Prison



ALBANY.—Tucked away among the hills in the northern part of Westchester county, the little town of Hillside, with its 100 voters, the smallest incorporated village in the state, is excluded with a criminal and political sensation that would delight the soul of the late Sir William S. Gilbert of comic opera fame.

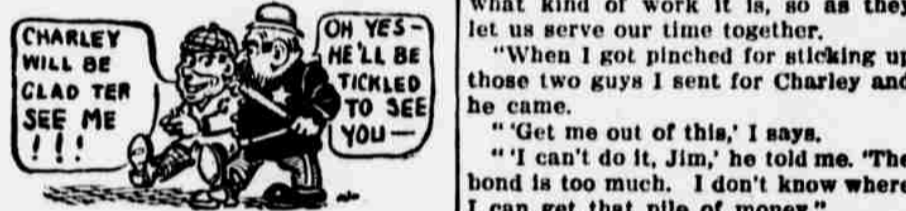
Political activity in Hillside goes by inverse ratio to the town's size. Leaders of the opposing factions are Hewson Stephenson, chief of police when he is not doing odd jobs of painting, and the police justice, William Stage.

Stephenson was making his usual tour of duty the other night when he spied a shaft of light through the closed shutters of the room above Henry Fry's saloon.

"Ha! A poker game," he muttered, as he stole silently up the rear stairs. He could hear voices in lively argument behind the door. He braced his shoulder to force it, but when he turned the handle it yielded and he found himself confronting 20 familiar but not friendly faces. Also he encountered a heavy silence.

There were no cards or chips, but this was the bitterest disappointment, there sat the village constable, the chief's right hand of office, sitting

## Goes to Prison to Join His Brother



what kind of work it is, so as they let us serve our time together.

"When I got pinched for sticking up those two guys I sent for Charley and he came.

"Get me out of this," I says.

"I can't do it, Jim," he told me. "The bond is too much. I don't know where I can get that pile of money."

"It was my first time in jail, and it was a terror to me. I couldn't stand it. I cried and begged and pleaded with him for God's sake to do something to get me out. It made him feel pretty bad, I guess, to hear me act the kid, that way. He looked at me hard and then he put his hand on my shoulder, and—

"Jim, I will," he says.

"Three days after that they pinched him as he was getting off a train in Stuttgart. He had his pockets full of stuff that he had stolen from several stores in Olathe the night before. He was bringing it here to sell it so he could raise the price of my bond.

"They took Charley back to Olathe. They had the goods on him. He couldn't do anything but plead guilty, and they sent him up again.

"Say, do you think they'll let us work together up there?"

## Meanest Man Is Found by a Minister

NEW YORK.—When it comes to depriving the minister of his wedding fee, the "meanest man" may be plural, but when it comes to not only "doing" the minister, but to soliciting a job from him afterward, the Rev. Lincoln Hollister Caswell is convinced the meanest man lives in Flatbush.

The Rev. Mr. Caswell also lives in Flatbush, where he is pastor of the Fenimore Street Methodist Episcopal church. A few weeks ago the Rev. Mr. Caswell was approached by a young man who confided he wished to be married and wished the minister to tie the knot.

About 200 guests were present at the church on the day appointed, and the bridegroom was a sight more gorgeous than Solomon in all his glory, for he appeared in brilliant tan shoes and yellow gloves, colorful scarf and clothes to match. The bride was attired in a plain traveling costume of tan.

They stood at the altar while the minister read the marriage service

## WAY TO KEEP OVERSHOES ON

Pennsylvania Woman Designs Band to Fit Around Ankle With Hook Fastened to Button.

Any person who has ever had an overshoe come off while crossing a muddy street will appreciate the fastener device designed by a Pennsylvania woman to prevent this annoying accident. An elastic band fastens around the ankle and this supports a suspender-like arrangement at the heel of the overshoe. Attached to one side of the gumshoe is another elastic supporter, with a hook which engages a button on a button shoe, or a hook on a lace shoe. It takes only a few seconds to fasten the overshoe on with these devices, and it is worth the trouble. After a rubber has once come



Fastened in a Twinkling.

off in the mud, and it usually does this when you are going somewhere you want to look your best, there is not much use in putting it on again. The attachments are made so that they can be removed from the overshoe when not needed and quickly put on again.

## THEORY OF EARTH MOVEMENT

Sir George Darwin, Noted English Scientist, Delivers Interesting Address on Tides.

Sir George Darwin, the noted scientist, who was the guest of the Authors' club in London recently, delivered an interesting address on his theory of the tides. Everybody knows that the tides are due to the moon's attraction. In the tidal motion the movement of the water causes friction and a consequent slowing down of the motion of rotation of the earth, as a brake would do. The effect, though almost infinitesimal, becomes appreciable in time, although it has not yet been measured. But it must exist, and this slowing down being due principally to the moon it must be accompanied by a reaction on it, with the result that the moon will move further and further away from the earth, owing to the yielding of the system. The opinion of many authorities is that the moon was shot off from the earth at the portion now filled by the Pacific ocean. As it is still moving further away and the rate of rotation of the earth diminishing the time will come when the length of the day and that of the lunar month will be the same, and the earth and moon will again revolve as a rigid body. When that occurs the day will be 55 times as long as our present day. But the sun also produces tides and similar effects, though on a smaller scale. So the year, too, will be lengthened.

## COMPASS FOR THE AVIATORS

Device Invented by Englishman Is Combination Known as "Shadow-Plate"—Directs Aeroplanes.

A device, which is to direct an aeroplane in the same manner as a compass directs a ship, has been invented by an Englishman. It is an ingenious combination of the sundial and the compass, and is known as a



An Aviator's Compass.

"shadow-plate." Its dial is of celluloid, and in the center is a small pin that throws a shadow as the light passes through, says the Popular Mechanics. When it is fixed to the forward part of the upper plane of the aeroplane, the aviator can tell the course he is taking by the variations of the shadow.

**Disinfect Books.**  
In most public libraries all books are disinfected when they are returned. They go into all sorts of places and are read by sick people in their homes and in hospitals. Hence the precaution.

**Opals Expand With Heat.**  
Opals expand with heat to a greater degree than any other precious stones. They are frequently lost because the expansion forces open the gold bands in which they are set.