

Chapped Hands AND Cold-Sores

Are your hands chapped, cracked or sore? Have you "cold cracks" which open and bleed when the skin is drawn tight? Have you a cold sore, frost bite, chilblains, or a "raw" place, which at times makes it agony for you to go about your household duties? If so, Zam-Buk will give you relief, and will heal the frost-damaged skin. Anoint the sore places at night. Zam-Buk's rich healing essences will sink into the wounds, end the smarting, and will heal quickly.

Mrs. Yellen, of Portland, says: "My hands were so sore and cracked that it was agony to put them near water. When I did so they would smart and burn as if I had scalded them. I seemed quite unable to get relief from anything I put on them until I tried Zam-Buk, and it succeeded when all else had failed. It closed the big cracks, gave me ease, soothed the inflammation, and in a very short time healed my hands."

Zam-Buk also cures chafing, rashes, winter eczema, piles, ulcers, festering sores, sore heads and backs, abscesses, pimples, ring-worm, etc., cuts, burns, bruises, scalds, sprains. Of all dressings and stores, or post free from the Zam-Buk Co., Toronto. Price 50c a box.



How Clouds Get Their Fringes.

Tyndall used to explain to popular audiences with the aid of a brilliant experiment that the blue color of the sky is owing to floating particles of invisible dust that break up and scatter the short waves which are the blue waves of light. This, as has recently been pointed out, occurs principally at a great elevation, where the atmospheric dust is extremely fine, while in the lower regions of the air, where the dust is coarser, the scattering affects all the rays, or colors, alike. The brilliant fringes of clouds seen nearly in the direction of the sun are largely due to dust, which especially accumulates in the neighborhood of clouds and refracts the sunlight around their edges.

To Clean Machine Belts.

Machine belts sometimes become so saturated with oil that they will not stay on the machines. Of all methods this is probably the simplest for cleansing the leather of oil and restoring its efficiency. Coil the belt in a tub of sufficient size so there is some space between the coils, then cover with whiting. The whiting should come in contact with the leather at every point on its surface, and if properly covered in this fashion the belt will soon be in good condition, for the whiting will absorb all the oil and restore the texture of the surface. Before being put back to use it should be wiped clean.



WHICH appeals to you more? A truth backed by a bond of good faith, or a mere claim?

Judge this:

REGAL Flour yields the best quality and the utmost quantity of bread per barrel of any flour in the world. Costs a bit more but you save on the quantity it bakes. Lovely loaves, white and light. Fine flaky pastry too.

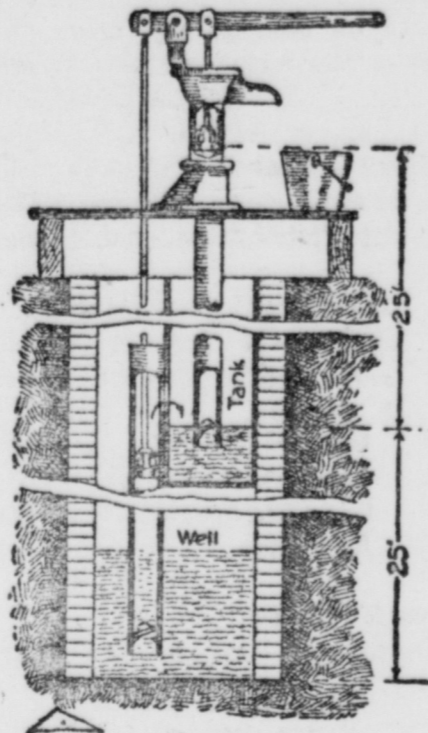
Essential point:

Try one barrel. If we have not here signed our name to the truth, your dealer will return your money. Then we must pay him. And worse still, we shall lose your good opinion forever. Remember—Regal—the flour that is used exclusively by many of the best bakers in the provinces.

RAISES WATER FIFTY FEET.

Simple Device For Doubling the Lift of a Suction Pump.

It is well known that the height through which the ordinary suction pump will lift water is never much over thirty feet and indeed rarely exceeds twenty-five feet after some service, although the theoretical distance is nearly thirty-four feet. It is therefore somewhat of a novelty to find a suction pump having an effective lift of over fifty feet. Such a pump was described in a recent issue of the Practical Engineer. The explanation, however,



ARRANGEMENT OF THE PUMP.

is simple. Instead of using one suction barrel two are employed in this case, the piston rods being attached one on each side of the pivot of the pump handle. The pump to the left elevates the water from the well about twenty-five feet and discharges into a tank supplying the other pump, the water thus being relayed to the surface in two stages. It is obvious that the pumps must work at the same rate in order to obtain the best effect from the apparatus.

Simple Way to Remove Rust.

A recent issue of the Brass World contained a simple method for removing rust from surfaces that were afterward to be electroplated, but the method might be applied equally well to other rusty surfaces. It consists in dipping the articles first into a strong hot potash bath for about half an hour and then immersing in a cold muriatic acid pickling solution composed of two parts of water to one of acid. This removes the rust in a few minutes, leaving the metal apparently attacked but very little. The previous soaking in the strong hot potash solution is responsible for this rapid pickling, as a test proved, for without the previous dipping sixty-five minutes were required by the acid bath against four minutes when previously treated in the potash bath. Apparently a chemical reaction is set up, changing the character of the rust, softening it and making it readily soluble. The appearance of the rust as it comes from the potash kettle testifies to this, as it is black and soft and may almost be rubbed off with the hand. The pieces that have been treated in the potash bath have a smooth and glossy finish.

How Eels Breed.

Until within a few years ago no one could state with certainty how eels breed. For centuries naturalists have

known a small, elongated, flattened, peduncled marine fish called leptocephalid by reason of its curiously small head. In the latter part of the nineteenth century a leptocephalid in an aquarium in France was observed to become gradually opaque and cylindrical until it turned into a little conger eel. A few years later it was demonstrated by Gassi that a species of leptocephalid to be found near the strait of Messina was the long sought young of the fresh water eel.

Now, we are informed, eels when full grown make their way from ponds, ditches and streams into large rivers and from these to the sea, where they spawn at quite a depth. On the way to the ocean the skin of the eel becomes silvery, its eyes grow large and dark, and the milt and eggs develop in both sexes. The leptocephalids grow to a length of about three inches and then ascend rivers in the form of eiders or young eels.

Milk Sterilization.

A Russian chemist claims to have solved the problem successfully of sterilizing milk without altering its ferments and antitoxins. An ordinary boiling process or heating even to 62 degrees C. will make milk inert, while the Russian's method of bringing it so rapidly to a temperature of 80 degrees C. that the ferments are not altered is just as effective so far as the thoroughness of the sterilization is concerned. It is done in this manner: The milk is forced into the heated vessel in the form of a spray, which breaks it up into globules. It is at once condensed and drawn off into a receiver to cool. An air spray has no effect upon the character of the milk, but a steam spray, of course, dilutes it about 10 or 15 per cent.

A Wonderful Fountain.

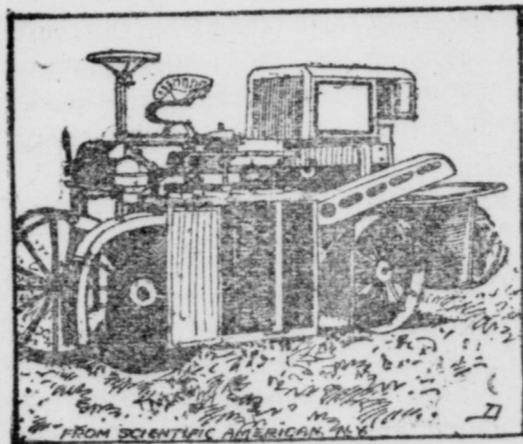
One of the natural marvels of France has but recently been made generally known. It is the fountain or source of the Coulomp, a small river in the department of the Basses-Alpes. Out of a mighty limestone wall about 4,000 feet high springs a fountain of water, yielding even in the driest times about 300 gallons per second and forming a full born river which begins its career with a series of leaps aggregating 100 feet of descent. It is thought that the water must pass under the mountain by subterranean channels at least a mile in length.

NEW COTTON PICKER.

Machine Performs Better Work Than Human Labor.

Mechanism has at last been invented which appears to solve the problem of harvesting cotton by machinery. The cotton machine is so adjusted that it picks only the bolls that are ripe or fit for harvesting and leaves those which are not matured. In one field a month or more may elapse before all of the plants are ready for picking, and for this reason it is necessary to cover the ground at least twice by the machine, which operates so rapidly and is so efficient that the percentage of ripe cotton left after the machine has done its work is so small as to be insignificant as compared with the great waste which results from careless picking by the negroes. The machine picks about ten pounds of seed cotton per minute, or 6,000 pounds per day of ten hours. On the first trip it gathers 50 per cent of the ripe cotton, and the remaining 10 per cent is picked on the second trip.

An average of thirty horsepower is required to operate this interesting cotton picker. A gasoline motor of thirty horsepower is usually installed for the service. Beneath the engine are what are termed two picking attachments swung under it, and a pair of canvas bags hang out behind. It moves over the field as fast as a man walks, the wheels passing along the spaces be-



COTTON PICKER, SHOWING MECHANISM.

tween the rows of plants. The cotton is picked over by the revolving steel fingers, which catch the flut, but leave the plant uninjured, so that later bolls may mature. The picking machinery is on two drums which hang from the frame of the tractor.

An endless chain of upright cylinders of small diameter follow each other around the drum. From these cylinders the needles or spindles which do the picking project horizontally into the plant. In operation each part has its individual movement. The drum carries the cylinders around; the cylinders force the needles into the plant at the proper angle, to twist and catch the cotton.

Every motion is delicately adjusted. While the needles move fast enough to catch the fiber, their speed is not fast enough to throw it out of the receiver. The cylinders bring each needle into place at the proper time, so that there is never a space large

enough for an open boll to pass through without being stripped of its contents. The drum is moving backward at the same rate that the whole machine moves forward, so that the picking needles do not move horizontally through the plant, but merely turn in it. In the cylinders of each picker are no less than 816 of the steel fingers which harvest the cotton. But one man is required to operate the engine, while he also steers the mechanism.

Meerschaum Getting Scarce.

The valuable material from which meerschaum pipes are made is continually getting scarcer, and the large industry which has flourished in Vienna, Budapest, Nuremberg, Paris and in the Thuringian town of Ruhla seems endangered. The manufacture of meerschaum pipes is much more important than is generally supposed. The town of Ruhla alone has been exporting in round figures pipes to the value of about \$1,500,000 annually. The finest grade of meerschaum is found near Eski-Schehir, in Anatolia, Asia Minor, in a hollow which in early days was a lake in which the meerschaum was precipitated. Meerschaum is also found in other places, including Thebes, Egypt, the Bosnian mountains in the neighborhood of Grubschitz and Nuen-dorf in Moravia and in some sections of Spain and Portugal.—Consular Report.

HAREM SYSTEM OF MOROCCO.

Crucity and Oppression Almost Beyond Human Imagination.

Remarkable revelations of the extent of the Moorish slave trade and of harem life were made recently by Mme. Legay, a French doctor, who lives at Marrakesh, Morocco. That place is the centre of Morocco slavery and there is a great slave market authorized and controlled by the Makhzen, the Moorish parliament, thousands of men, women and children are bought and sold like cattle. Babies are frequently torn from the arms of sobbing mothers, who never see them again.

"None can form an idea of the Moorish harem and the number of women concealed behind the walls," says Mme. Legay. "I have seen a single harem of more than 500 women. Monogamy, in Morocco, is non-existent, even men of small means possessing sometimes more than 20 wives."

"The Sultan's harem surpasses the imagination. Besides the women he possesses at Fez, he has at Marrakesh in reserve more than 3,000 females. The royal harem at Marrakesh has a special organization of its own. Each town and each tribe has its debt to pay in women to this modern Minotaur. The women are classed according to their place of origin. They live in groups in separate pavilions under the control of female wardens. This enormous female population is constantly added to by the contributions from Kaidis who have offended the Sultan and wish to propitiate him.

"I can personally testify to the silent misery of the poor creatures who swarm in the Moorish harems and the revoltingly cruel treatment they undergo for the smallest offences. They have absolutely no real protection from the most savage treatment. They have no work to do except in the case of domestic servants, and in accordance with Moorish traditions, receive no education. There lives are one long round of unbroken monotony, wherefrom, to my knowledge, they suffer cruelly. It is the duty of France as soon as possible to abolish slavery in Morocco. Then the harems will be deprived of the supply of women and will disappear gradually, as was the case in Algeria."

Better Than the "Verses."

Children, as a rule, have a natural sense of courtesy too often misunderstood or depreciated by the unthinking adult. For some strange and incomprehensible reason the child who is brusque and blunt is apt to be dubbed "natural," while the budding man or woman of gentle tact and sweet politeness sometimes is discouraged by the prevailing belief that such conduct must be insincere. Yet the simplest "little citizens" not infrequently rise to an unexpected or trying situation with surprising, but quite untutored, gifts and grace. A pretty little tale is told, for instance, of the time when the present Dowager Queen Margherita of Italy was the lovely young bride of the youthful crown prince.

Her majesty, passing through one of the hill towns, was accorded the usual reception by the residents. A little boy was to present the usual bouquet, and he, coming of fine literary family, had been taught a brief poem offering graceful praise of the princess. But when the moment came for delivering flowers and verses the little fellow, overcome by nervousness or some similar emotion, stood mutely gazing at the great lady, saying never a word. After a few moments the sympathetic princess, seeking to relieve the situation, extended her hand for the flowers.

The little fellow, waking to life suddenly, yielded them gracefully, explaining confidentially the while:

"There were verses to be said, but you are so beautiful that I can't remember a line!"

Greedy Dogfish.

A story is going the rounds in which four anglers were occupied with one fish, a big mackezel. It took the bait of one of them and then proceeded to entangle the four lines, so that it seemed there were four fish. I dare



say it came in for some hard sayings when the truth was made manifest. But it is not uncommon for fish to take two different baits. I have known it to happen with both perch and pike. Dogfish, of course, will often do it. In fact, I doubt if there is a limit to the number of baits a dogfish would take if you only gave him the baits and the time and the opportunity.—London Telegraph.

A Rapid Heart Beat.

Along with many other discoveries of greater or less importance scientific men have proved the law that the rapidity of the heart beat is in inverse ratio to an animal's size. Thus in a man it is about seventy-two to the minute, whereas in the elephant it is only thirty, and in the horse forty. The dog's pulse, on the other hand, counts about ninety beats to the minute, and the rabbit's over 150. Most remarkable of all, the heart pulsations of a mouse have recently been counted and recorded by an ingenious machine and found to number nearly 700 every minute.

Easy Way.

An attendant at a certain institute for the deaf and dumb was undergoing a pointless rapid fire inquisition at the hands of a female visitor.

"But how do you summon these poor mutes to church?" she asked finally, with what was meant to be a pitying glance at the inmates near by.

"By ringing the dumb bells, madam," retorted the exasperated attendant.—London Answers.

Corrected.

Teacher—What are parallel lines? Micky Mulberry, what are you grinning at?

Micky Mulberry—"Scuse me, Miss Sharpe, but any loidy might make de same mistake. Yer means parallel bars, don't yer?"

The Word "Cab."

The word "cab," which is a contraction of "cabriolet," was not used until 1823.

Not In His Line.

"I presume, my good fellow, you're a laborer?" said a lawyer to a plainly dressed witness. "You are right—I'm a workman, sir," replied the witness, who was a civil engineer. "Familiar with the use of the pick, shovel and spade, I presume?" "To some extent. Those are not the principal instruments of my trade, though." "Perhaps you will condescend to enlighten me as to your principal implements?" "It is scarcely worth while. You don't understand their nature or use." "Probably not, but I insist on knowing what they are." "Brains."

A Murder Tip.

"Excuse me," said the detective as he presented himself at the door of the music academy, "but I hope you'll give me what information you have and not make any fuss."

"What do you mean," was the indignant inquiry. "Why, that little affair, you know." "I don't understand."

"Why, you see, we got a tip from the house next door that somebody here was murdering Richard Strauss, and the chief sent me down to work up the case."—London Mail.

The Drawback.

Miss Victorine confides to the janitor's wife that her mistress, who is old and feeble, has promised to remember her in her will if she takes good care of her till she dies. The janitor's wife shrugs her shoulders. "The worst of that is, my dear, that the better you take care of her the longer you'll have to wait for your legacy."