

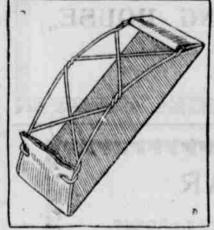
vest of tucking, running down to a point at the waist, and have little revers from the neck to the bust on each side. These are also of tucking and simply finished with a frill of narrow lace. Large collars and full, fussy revers are not shown at all. There is every evidence that the 1900 summer girl proposes, above all, to be sweetly cleanly. Her waists say plainly enough that it will be a simple matter to wash

SCIENTIFIC TOPICS the full moon. The evidence is cumu-

CURRENT NOTES OF DISCOVERY AND INVENTION.

Modern Shoe Pollsher - Novel Candle Holder-The Moon and the Weather -Popular Bellefs as to Their Connection Are Altogether Unfounded.

Modern Shoe Polisher. With the popularity of the up-todate enamel, patent and russet leather and kid shoes, the use of patented preparations for cleaning and polishing them, the function of the old time blacking brush is becoming less important in the boot polishing outfit. its place being largely usurped by a piece of cloth. Lamb's wool polishers are excellent for this purpose, but unfortunately they are rather expensive, and when a man has to do his own polishing it requires considerable dexterity on his part to manipulate a long strip of cloth in the artistic manner of the professional. The shoe-polishing device here shown, the invention of an inventor of Cedar Rapids, Iowa, is offered as an ald to this taighty army of unfortunates. Perhaps its most essential feature is the cheapness and simplicity of its construction, being made out of a single piece of wire hent and looped as shown, with provision at one end to take a fold in the polishing cloth, and at the other with two "tangs" that hold the other end. This arrangement forms a convenient and easily manipulated holder for the



cloth, permitting of that elasticity of the latter so necessary forits successful operation by allowing the polishing cloth to conform to the outline of the

The Moon and the Weather.

A belief that the moon has a potent influence on weather changes is wellnigh universal. The moon's appearance goes through such marked changes each month that it would be very natural to attribute weather changes to these. In this way undoubtedly such sayings as these have arisen: "The weather won't change till the moon changes." "If the moon lies so that the water cannot run out we shall have a drought." "A wet moon is one upon which a huntsman in the house. But the appearance of can hang his horn," etc. Diligent inquiry, at one time, as to the popular belief regarding this question, brought one in a large bare room. Place a out the view more persistent than any couple of brass arms so they will jut other, that more rain will occur at the new moon than at the full moon. Sinand connect them in the front with a gularly enough,in Connecticut,on Long Island Sound, there does seem to be such a law, but it does not hold in the interior of the country, and a test on the Pacific coast showed, if anything, exactly the opposite. At London, where observations have been made for more than a century, a careful computation for the whole period has shown no effect. If we reflect that the moon is dead and does not have any air, even, up on it, that 't always shows the same face to the earth, that its changes are simply due to changes in its position as respects the earth and sun, and that its varying appearances are all borrowed, we see how absurd the notion is that the moon does influence our weather. There is, however, another argument, that appears quite valid at first sight. If the moon can raise a tide of sixty feet in the ocean, why may :t not raise tremendous tide in the extremely tenuous air, 800 times lighter than water, or a tide of about 48,-000 feet, and if so, it seems easy to see that such a commotion would affect our weather enormously. The tide of sixty feet, (the highest in the world) is experienced only in the Bay of Fundy, and is due to the configuration of the Atlantic coast. In the open Pacific the tide is only a little over one foot. Most careful observations of a lunar atmospheric tide have been made at St. Helena in mid-ocean and have shown a tide a little more than .001 inch. Since ordinary weather changes affect the pressure a thousand times as much, we see how extremely insignificant the moon's total effect must be. There is a common saying, "The full moon has power to drive away clouds," and some computations seem to bear out this idea. If any one will look to the east as the rising full moon shines through the clouds, he will often see the clouds disappear. There is a natural explanation for this, however, and in no wise dependent upon the moon. A long series of observations have shown a diurnal range of cloudiness with a minimum point, or time of least clouds, from 6 to 9 p. m., hence we see that as the full moon rises and advances in the sky during this period, there will often appear a diminution of clouds. Lord Rosse turned his big reflecting telescope (so big that a tall man walking erect in it could carry a spread umbrella) toward the moon and found that if anything, the earth received a little chilling from the full moon. More recently the bolometer, an instrument which can measure less than one-millionth of a degree of temperature change, has shown that the arth receives a tiny bit of heat from | inversely as the opposition."

lative and overwhelming, that no weather changes can be ascribed to the moon .- Prof. H. A. Hazen, in Popular Science.

Modern High Explosives.

Mr. J. S. S. Brame, F. S. C., gave a lecture at the London Institution, Dundee, the other day, on "Modern Explosives." He began by showing, says the Courier of that city, that an explosion was simply rapid combustion, caused by the combination of oxygen with some inflammable material, and the application of a light. A step onward led him to gunpowder-charcoal, brimstone and nitre-the nitre supplying the oxygen. These three things made up the powder of the ancient Chincse, as well as that used in the rude cannon of the battle of Cressy, in 1346. But during the last few years artillery has been so developed that gunpowder could not properly fire the huge shot fired by the 110-ton gun. What was wanted was something that would burn slowly at first, apply its power as the shot moved up the gun, and have expended itself by the time the muzzle was reached. So that we got gun-cotton, and later cordite. The making of cordite was explained fully. Its constituents are nitro-glycerine and gun-cotton dissolved in a mutual solvent, and vaseline added as a lubricant.

Lyddite, be explained, was carbolic acid in combination with sulphurle and nitrie acids, forming pierie acid. The only way of exploding it was by means of a powerful detonator. When the shell has been filled with the melted yellow lyddite, a "plcric detonator" is placed at the top; and above this a fulminate of mercury detonator. When the shell strikes an object the fulminate explodes, flashing the second detonator, which in its turn explodes the lyddite. The only disadvantage of lyddite was that there was less certainty of detonating pieric acid than of firing powder. Melinite was supposed to be a gelatinised compound of picrie acid. Among several interesting experiments was one in which a little white flag was treated with nitric acid, and thereby converted into gun-cotton. At a touch of the gas flame it vanished in an instant.

Home Power for the Great Exhibition.

Engineering mentions the surprising fact that 20,000 horse-power of machinery will be required for the Paris exposition. As it is intended that the processes of manufacture shall be displayed side by side with exhibits of raw material, much machinery will be distributed throughout the Champ de Mars, and the transmission of energy will be electrical. About 5,000 horsepower will be needed for this purpose besides 15,000 horse-power for lighting, making a total of 20,000 horsepower. The steam producing plant will be collected in two buildings placed parallel to the old Machinery hall. Of course in each case the generators supplying steam will constitute exhibits, and payment made for the steam supplied, with an allowance towards the cost of installation. The coal supnly will be taken through underground passages. The electrical units, consisting each of an engine and direct-

FAST SPEED IN A FOG.

tirain on the Nerves of Engineers of Express Trains.

A railroad engineer, referring to the published story of the strain upon the uerves of pilots of Long Island sound steamers in dense fogs, said to a Telegraph reporter: "I just wish you would say for the engineers: "They don't have a very easy time in such weather." And then he went on to tell how in foggy nights the engineers of the fast trains, and for that matter, the slow ones, endured a strain that would sicken many a man. They sit on the hard little perch provided for them, rushing along, often at a pace of 50 miles an hour or more. Under them the huge mass of iron and steel trembles and throbs, as nervous as a woman and twice as skittish. It is impossible to see ten feet ahead of the engine, and the signal lights, be they red or white, are only visible as they are passed by. A misplaced switch would mean a disaster horrible to contemplate. These men know all this, and still they are obliged to sit there with a hand on the throttle, ready at any minute to shut off steam and stop the enormous bulk of plunging metal. I have been running on fast trains now for 10 years," said the engineer, in winding up his story, "and every time I get on my engine to take my train, I say to myself that it will be for the

last time, but somehow I always come again. It is not the danger which attracts me, for I know too well the results of a slip or a mistake, but somehow or other I cannot give it up. When I get old I will be put to running some freight train, and then will prohably die in a smash-up, after having taken one of the fastest trains in the country over 125 miles of track, day in and day out. Still I cannot give it up." And that is the tale that all of them tell. They all say that it is not the danger which fascinates them, but they cling to the life which wears a man out in a comparatively few years, and ages him before his time.-New London Telegraph.

CHARLES I. AS A "MARTYR."

What Shall We Say of These Americans? Asks Rossevelt.

Any man who has ever had anything to do with the infliction of the death penalty, or, indeed, with any form of punishment, knows that there are sentimental beings so constituted that their sympathies are always most keenly aroused on behalf of the offender who pays the penalty for a deed of peculiar atrocity, says Theodore Roosevelt in Scribner's. The explanation probably is that the more conspicuous the crime the more their attention is arrested and the more acute their manifestations of sympathy become. At the time when the great bulk even of civilized mankind believed in the right of a king, not merely to rule, but to oppress, the action struck horror throughout Europe. Even republican Holland was stirred to condemnation. and as the king was the symbol of the state and as custom dies hard, generations passed during which the great majority of good and loyal,but not particularly far-sighted or deep-thinking men, spoke with intense sympathy of Charles, and with the most sincere horror of the regicides, especially Cromwell. This feeling was most natural then. It may be admitted to be natural in certain Englishmen even at the present day. But what shall we say of Americans who now take the same view: who erect stained-glass windows in a Philadelphia church to the memory of the "royal martyr," or in New York or Boston hold absurd festivals

A cold plunge can be borne only by | suit, with soft socks and a short flanthe robust, and a cold plunge before | nel outer sack, constitutes the night

the flow of blood in the skin and opens the pores. If a woman is strong enough, after taking a warm bath she may turn on cold water, thus gradually reducing the temperature of the water until it is cold, or she may follow the hot bath with a cold shower bath.

The woman who wants to accomplish the most and best work possible will find that one hour's rest at a fixed hour every afternoon will do far more for than stimulants. In order to ob tain the greatest good from this hour's rest she must disrobe, as if it were night, and then lie down in a darkened room and sleep for a half hour or even less. She will arise refreshed and invigorated. One whole day out of ten spent in absolute rest is a great restorer of strength and beauty as well as cheerfulness.

Have You a Bay Window?

Nothing affords so great an opportunity for decoration as a window in a recess. A low seat running around it, the cushions upholstered with some artistic tapestry, is suggested at once. After that growing plants should be hung from above and curtains arranged to make of the window a veritable cozy corner. Of course, this is simple if the recessed window is built a recess may be given to any window, and it is advisable often in the case of

shoe.

and iron them, and there need be no lack in their number for that reason. One feature which marks them as new and far prettier than the old shirt waists is the entire absence of yokes of any kind, even in the back. The only semblance of a yoke is the one which is trimmed and applied to the shoulders, forming a little epaulet over the sleeves. The backs of the semifull front walsts are tucked and plaited to correspond with the front. There are stiff linen cuffs, with rounded corners and detachable collars, which can be discarded altogether for the more becoming stocks, and long silk scarfs tied twice around the neck.

The Healthful Bedroom. A lady noted for her good taste and her unusual ability as a housekeeper says that everything about a sleepingroom should be simple, immaculate and easily kept so. Bedrooms may be either carpeted with matting or the floors oiled and rugs placed beside the heds. If the walls are papered the colors should be modest and the pattern subdued. The windows should be curtained so as to be uniform with the rest of the house, but too much drapery is an abomination and it should be entirely dispensed with in a sick room. The bedroom is what its name implies, a place of repose, and everything about it should be conducive to the one purpose of sleeping. Pictures and garish furniture, or articles not actually necessary to the comfort of the occupant should be entirely ignored. Above all things, a sleeping apartment should be flooded for at least one hour during the day with sunlight and have in at night an abundance of fresh air, taking care the while that the sleeper is not exposed to a draft.

Breathing-Bathing-Resting.

A few breathing exercises every day, taken in the open air, if possible, will accomplish wonders in warding off disease, particularly colds. Stand erect, with the arms at the sides of the body. or the hands laid loosely on the hips. Expand the cavity of the chest to its full extent by raising the ribs, thereby allowing air in abundance to stream into the lungs. When at the height of the inspiration, the greatest expansion of the chest is reached, and it should be maintained for a moment. Then the ribs should be allowed to recede slowly but completely, so that the cavity of the chest becomes narrowed and the air is expelled. In this way inspiration and expandion should alternate regularly. The inspiration should take Mace chiefly through the nose, with the mouth shut.

French Model for Summer Dress.



Made with bodice and tunic of bands of white lace over pleated yellow mousseline de aoie.

Comfort for Invalids.

It is often the case that invalids and persons infirm from age or other cause suffer serious discomfort from the ill adaptation of their clothing. One feeble gentleman has by experiment succeeded in contriving and having fashioned for him a dress which is quite satisfactory. Though long averse to having any woolen fabrics touch his skin, he is now clad in wool from neck to toes. First is a sort of waistcoat or sack reaching to and covering the hips, buttoned down in front and having a row of six large, flat buttons about the waist-line for supporting the easy-fitting drawers. Both garments are made of very soft, light-weight fiannel. The two pieces are preferred to the "combination suit"-waist and drawers made in one-as the wearer perspires profusely and changes the waistcoat several times a day, with no need of many of drawers. Besides.

he likes the added covering over the hips and lower part of the spine. This substitute.

out from either side of the window brass pole, over which some curtains are draped. Curtains may also be hung from the side arms, and the inner side of them partially concealed by tall palms. The decorations should be finished, of course, with a window seat.

OUR COOKING SCHOOL.

Staffed Apples.

Select as many apples as required, being careful to have them of the same size. With a long, slim knife, take out the core. Prepare a filling of grated bread crumbs, a small lump of butter, sugar to taste and a little cirnamon or nutmeg. Rub all well together, fill the hollow in the apples with it, and bake it, and bake in a hot oven.

Banana Pudding.

One box of gelatine, five bananas, one quart of milk, one plnt of cream, two cupfuls of sugar, one cup of water. Dissolve gelatine in the water, and scald milk, to which the sugar has been added. Strain the gelatine and stir into the milk. Let simmer ten minutes. Cool. Break bananas, after peeling, into small pieces, and stir into the jelly before it is stiff. Served with whipped cream flavored with vanilla.

Pineapple Cake.

Peel a small pineapple and grate it. Beat a quarter of a pound of butter to a cream, with a pound of powdered sugar; add the yolks of twelve eggs to it, and the grated pineapple. Sift a level teaspoonful of salt and two heaping teaspoonfuls of baking powder with a pound of flour, and then quickly beat the flour into the cake batter. Put the batter at once into molds, and bake. This is very good.

A Matter of Headwear.

"She is so interested in higher education!" said the young woman. "Yes," answered Miss Cayenne. "A mortar board is very becoming to her style of beauty, and she knows it."-Washington Star.

Not at AlL

"Willie," asked his mother, "are you making the baby cry?" "No'm," replied the boy. "I'm holdin' my hand over her mouth to make her stop."

many are willing to accept money as a

coupled dynamo, will be placed as near as possible to the boller-houses in a gallery parallel to them.

Novel Candle Holder.

Nothing to the inventor appears too trivial for improvement, and even the modest candlestick that has remained the same for generations 15 now to be transformed into a new article of manufacture by an inventor of New | in his praise? York city. This patentee claims a portable candle holder in which there are two fixed wings for the support of the candle and an adjustable wing attached to the handle. This arrangement permits of the use of cardles of different sizes, and of the removal of



the butt end which is left after the candle has burned down as far as possible. The simplicity of the design permits of cheap manufacture, an essential feature of such an article.

Insanity.

In his book on "Mad Humanity: Its Forms, Apparent and Obscure," Dr. Winslow states his belief that insanity is on the increase; that the degeneration of the human race is "in gradual and sad progression"; and that much of this result is due to indulgence in alcohol. His attempted proof of Lombroso's theory that genius is akin to insanity consists merely in a list of geniuses who were more or less deranged. Dr. Winslow hopes his book may do good in enabling some to detect the incipient progress of mental diseases.

Faith Cares.

In an article in the American Journal of Psychology entitled "The Effects of Mind on Body as Evidenced by Faith Cures," Mr. Goddard discusses Christian science, divine healing, relic cures, hypnotic therapeutics, patent medicines, etc., and arrives at the conclusion that all mental healing is by way of suggestion. "The idea of health tends to produce health in proportion to the strength of the idea or World's Most Remarkable Whiripool.

The Maelstrom, which means literally, "grinding stream," is situated on the Norwegian coast, southwest of the Loffoden Isles, and is the most remarkable whirlpool in the world. It runs between the island of Moskenes and a large solitary rock in the middle of the straits. The strong currents rushing between the Great West Fjord and the outer ocean through the channels of the Loffoden Isles produce a number of whirlpools, of which the maelstrom is by far the most dangerous. During severe storms from the west, for instance, the current runs continually to the east at the rateofsix knots an hour, without changing its direction for rising or falling tide; and the stream will boil and eddy in such mighty whirls that the largest steamer could hardly contend successfully with the waters. The depth of the whirlpool is only twenty fathoms. but just outside the straits soundings reach from 100 to 200 fathoms. The great danger to vessels is of course not of suction into the heart of the whirlpool, as legends have supposed, but ot being dashed to pieces against the rocks.

Not Propared.

An eccentric Maine preacher was recently driving along a country road and, overtaking a young man tramping his weary way on foot, invited him to a seat in his sleigh. After he was comfortably seated the preacher rolled the whites of his eyes up under the visor of his cap and said in sepulchral tones: "Young man, are you prepared to die?" With an ear-piercing scream and a back somersault over the back of the sleigh, the young man made for the dense woods, and has never been seen in those parts since,-Boston Globe.

Crime and Its Pont-hment.

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For stealing two prayer books Joscph Szezepanski caused the arrest of Charles Jarzambrowski in Chicago yesterday. The offense is a serious one and Jarzambrowski will no doubt be hustled to the pejnitejntizjrski.-Waukegan Gazette.