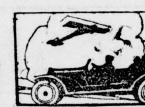
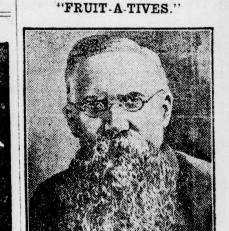
2 New Interesting acts for Dience and Life &



Helpless in Bed With Rheumatism Until He Took

CRIPPLE FOR



MR. ALEXANDER MUNRO

R. R. No. 1, Lorne, Ont. "For over three years, I was confined to bed with Rheumatism. During that time, I had treatment from a number of doctors, and tried nearly everything I saw advertised to cure Rheumatism, without receiving any benefit.

"Finally, I decided to try 'Fruit-afives'. Before I had used half a box, I noticed an improvement; the pain was not so severe, and the swelling started earliest times, had had a simple flat sole. Since to go down.

"I continued taking this fruit medicine, improving all the time, and now I can walk about two miles and do light chores about the place.

"ALEXANDER MUNRO." Fifty cents a box, 6 for \$2.50, trial siz 25 cents. At all dealers or sent pos paid on receipt of price by Fruit-a-tive Limited, Ottawa.

GIRLS! LOTS OF

A small bottle of "Dander makes hair thick, glos and wavy.

itching scalp and falling



To be possessed of a head of heavy ravy and free from dandruff is merely It is easy and inexpensive to have nice small bottle of Knowlton's Danderine now-it costs but a few cents-all drug stores recommend it-apply a little as directed and within ten minutes there will be an appearance of abundance, freshness, fluffiness and an incomparable gloss and lustre, and try as you will you cannot find a trace of dandruff or fall ing hair; but your real surprise will be will see new hair-fine and downy at first-yes-but really new hair-sprout ing out all over your scalp—Danderine is, we believe, the only sure hair grower, destroyer of dandruff and cure for Itchw scalp, and it never fails to stop falling hair at once.

If you want to prove how pretty and soft your hair really is, moisten a cloth with a Mttle Danderine and carefully draw it through your hair-taking on small strand at a time. Your hair will few moments-a delightful surprise awaits everyone who tries this.

CUTICURA HEALS BADDISFIGUREMEN

Very Itchy. Burned at Night. Could Scarcely Sleep. Healed in One Week.

"My face became very red and swollen and broke out in watery blisters. Then it got very items used to burn so that at night I could scarcely sleep. Later the blisters broke out forming hard scales and my face was badly disfigured. Then I used Cuti-cura Soap and Ointment and in about a week's time I was completely healed." (Signed) Lloyd Brady, Breckenridge,

Que., May 25, 1917. Skin troubles are quickly relieved by Cuticura. The Soap cleanses and purifies, the Ointment soothes and heals For Free Sample Each by Mail address post-card: "Cuticura, Dept. A, Boston, U. S. A." Sold everywhere.

The Various Interesting Stages in the Manufacture of High Heels Which Are Made of Beech and Birch Wood and Covered with Cloth.



Drawn from an X-Ray Photograph Showing How High-Heeled Shoes Throw the Bones of the Foot Into an Oblique Position.

V 70MAN'S physical foundation-her feet and legs-13 becoming unsound, according to the latest conclusion of anatomists after searching investigations. And it is all the result of wearing high-heeled shoes, these investigators declare. One authority. P. A. Vaile, who has made a study of feet, says that the human stride will degenerate into a penguin wabble, if the present monstrosities in footwear are not dis-

carded. Women have abused and neglected their feet so long in this way, these authorities say, that serious malformations have resulted and in thousands of cases have produced a most ungraceful stride, with the general effect that "there is no longer in a woman's leg the beauty of the classic line."

Of course, a discussion of high heels is not a new subject by any means for doctors are accustomed, every now and then, to speak a few words upon the subject. But in view of some of the Dides Autom

Are HIGH HEELS a REAL MENACE to HEALTH?



very latest scientific wrinkles which French physicians have applied in their investigations of the effects of the high French heel, a new interest is given to this matter. The high heel in action has been subjected to the all-revealing eye of the motion-picture camera, with the result of some interesting discoveries which Jacques Bayer describes in an illustrated account in the Scientific

"Unfortunately," says Mr. Bayer, "the fashion which calls for these heels is as unhygienic as it is unesthetic. Several years ago Dr. Dagron enumerated the troubles which these wooden stilts inflict upon their wearers. Initial pain develops into slight lameness, which increases until the shortest walk is quite impossible. As a very brief examination will show, this is due to the bad position imposed upon the foot by the unnatural shape of the shoe.

"Now comes Drs. Quenu and Kuss, pointing out that the artifical elevation of the heel deranges what they have very happily designated the pedal equilibrium. The muscular action, the orientation and the mutual relationships among the elaborately articulated members of the human foot are thrown out of gear; in particular the arrangement of those joints of the foot which support the weight of the body is profoundly changed. The tibia is forced backward; there is a tendency to bend the knee; and in order to maintain the centre of gravity within the area of support it is necessary to throw the upper part of the trunk backward, exaggerating the curve of the spine and causing the abdomen to protrude unduly.

"Such are the rearrangements of the organs and members which the high heel necessitates in merely standing still; when it comes to actually walking the case is even more serious. By means of the motion-picture camera Dr. Quenu has been able to analyze the constrained gait which results from a heel three inches or more in height." After making a comparison of the films repre-

senting a young woman walking first barefoot and then in high-heeled shoes, Mr. Bayer goes on to

"In the first film we see the various parts of

the sole of the foot in harmonious action. The ground, to leave it again in the same way. We have, in a word, a natural stride, in which the foot rocks on the ground from heel to toe, ankle and foot flexing properly to make this possible.

"In the second film, however, the subject

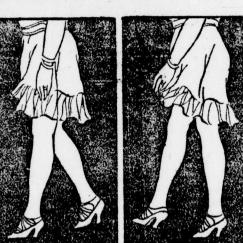
"And what is even more fatal, the same parts of the foot support, at all times and wholly without aid, the weight of the body. The resultant excessive fatigue has been demonstrated radiographically by Dr. Menard. His prints show the respective positions of the bones of the foot, both when the latter is in its normal position and when it is confined by high-heeled shoes. When at rest all the bones are aligned side by side; but the shape of the high-heeled shoe throws them into an oblique position, high behind and low in front. In this position the bones of the foot proper press upon those of the toes, which, striking in turn against the bottom of their prison, in time become deformed. On the other hand, the bones of the heel take an altogether vicious position, and

"Long before this stage is reached the foot has registered failure in its normal functions of balance and support, and these duties have been thrown upon the leg muscles, especially that of

Wearing Shoes with Three-Inch Heels. heel first touches the ground, then the sole is down in its entirety; then the heel is lifted, the foot swings forward and is applied again to the

passes before us in short, jerky steps, moving her foot through the air and putting it on and off the ground quite rigidly, without change of relative position of heel and toe, without any flexure whatever-giving the effect of a stiff and awkward glide rather than a step. It is the jerky progress of an automatic puppet which we have here, not the supple gait worthy of a brisk human being.

the whole effect is precisely that of clubfoot.



The Constrained Hobble That Results from

"The wood comes to these establishments in logs, bark and all. It is first cut up into boards, then into blocks, and these are piled up in the yards and left to season for two years. After this the process of drying is completed by a sojourn of a month in a bath of warm air. These precautions are for the purpose of avoiding subsequent splitting or warping of the heel.

The Natural Stride in Which the Various

Parts of the Sole of the Foot Are in

Harmonious Action.

the calf, which must be in a constant state of ten-

sion in order that an upright posture may be at-

High-heeled shoes date only from the 15th

century. Up to that time all footwear, from the

then, with few reactions, the trend has been

toward high and ever higher heels, until the pres-

ent extremes of three and even three and one-half

inches have been reached. These extremes have

produced practically a new and picturesque indus-

try, making it necessary to adapt modern machine

tools and modern methods to the manufacture of

high heels, a business that has to a very large ex-

tent taken place in specialized establishments,

quite outside the shoe factory proper. The mak-

ing of a high heel is an interesting process which

Mr. Bayer describes as follows:

"Beech and birch are the woods employed. Once completely dried, the blocks are planed and cut into pieces-trapezoidal prisms, which already outline roughly the form of a high heel, showing the proper height and length and the tapering Removes all dandruff, sto width, although all their faces are still plane. They are then cut to give the taper from top to bottom, and gouged out behind in the desired curve.

"The tapered block thus prepared goes next to one of several turning machines, according to the particular style of heel into which it is to be transformed and soon begins to look really like a heel. "The shaft of the lathe carries a metal form for the finished heel, and the block of wood which is being worked is fixed rigidly to this. A carriage moving both laterally and longitudinally supports a roller which rests in contact with the metal form, and follows around the whole contour of the latter. The roller communicates its movements to the battery of knives and bits, which cut the wood accordingly.

"There remains nothing further except to hollow out the upper surface where the heel will join the shoe, and to polish the turned surfaces so as to make them absolutely smooth and clean. Then the camouflage is in order; this consists in covering the wood with silk, satin, velvet, linen or other cloth, or perhaps with black or white celluloid

"After this final step in their toilette, the heels are packed in dozens of pairs according to style and size; and the next incident in their careers is shipment to the shoe factory.'

How to MAKE a TOY SUBMARINE the propeller round with the finger, and when re-

UILDING a toy submarine may sound like a forn idable pastime, but nevertheless it will provide any boy ever so slightly inclined to things mechanical many opportunities for entertaining as well as instructive experiments. The toy submarine described herewith by Percival Marshall, editor of the Model Engineer, can be made ty any boy whose only tools need to be a pocket enife and a screw driver.

In the two accompanying sketches is shown a very simple type of toy submarine which can be propelled in the family bathtub or in a neighboring pond or stream. "If carefully made," says Mr. Marshall in London Titbits, "this model will give excellent working results. It will either travel along the surface of the water, or dive, as the owner desires, and will run in either direction.

"The hull of the boat is made from a piece of wood about 12 inches long, by 11/2 inches-or a little more-in diameter. This should be fashioned into the familiar cigar-shaped body shown in the Illustration, having a flat portion cut away on the upper side to form the deck. The conning tower and manhole may be cut from pieces of cork and nailed on, while a wooden penholder, or piece of a wooden knitting needle will serve for the periscope. These upper works should be kept small and light, so as not to make the vessel topheavy, or impede its progress.

"A piece of thin brass or sheet tin, to form the keel, should next be cut out and bent to the shape shown. This should be about three inches long and about two inches deep, when bent to shape. The sides should be at least half an inch apart, to allow clearance for the twisted rubber band which drives the propeller. The keel should be made rather larger than the above sizes in the first instance, so that it may be cut away if necessary to the exact size required to balance the boat when placed in the water. With all fittings on, the hull should be sufficiently weighted to submerge it nearly down to the deck line, when floating at rest. The keel also serves to keep the boat from tending to turn over by the twisting action of the propeller.

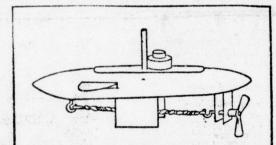
"Two diving fins will be required, one at each side of the boat, placed on the centre line about one-third way along from the front. These fins are attached to the hull by a single screw, so that they can be easily set at any angle. By slightly tilting the fins down at the front end the boat is caused to dive.

"The propeller is cut from a piece of thin fiat brass or sheet tin 1% inches long by half an inch wide. A small hole is drilled or punched at the centre to receive the propeller shaft. The propeller blades must then be twisted to shape. To do this, hold the propeller with one blade between the finger and thumb of each hand. Give one blade a slight twist toward you, and the other a similar

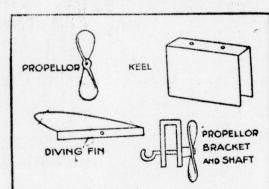
twist from you. "A short length of stout wire to form the propeller shaft is then inserted through the hole in the centre of the propeller; the end of the wire is bent over for about a quarter of an inch and soldered to the back of the propeller blade. If no soldering outfit is available, the wire may be tightly twisted round the centre of the propeller by means of a pair of pliers, taking care that the propeller is kept central on the wire shaft. The proseller is supported in a double bracket, as shown in the sketch. This is bent up from a piece of sheet tin and screwed to the stern of the boat. The shaft is passed through holes made in the bracket, and the inner end of the shaft is bent up into the form of a book. Before this is done a short length of thin tube or a glass bead must be threaded on the shaft between the propeller and

the rear leg of the bracket. This is to keep the propeller blades from fouling the bracket when re-

"A stout wire hook must then be fixed at the front of the boat, exactly in line with the propeller



The Completed U-Boat.



The Various Parts of the Toy Submarine.

shaft. This holds one end of the rubber driving band, the other end being looped over the hook on the propeller shaft. For the driving band, a loop of strip rubber is required, which should be about a quarter of an inch wide, and just long enough to loop over the hooks at each end without sagging. The band is wound up by turning

ALM Sunday is the name usually given to

blessing branches of the palm tree or of other

trees substituted in those countries in which the

palm cannot be procured, and of carrying the

blessed branches in procession, in commemora-

tion of Christ's triumphal entry into Jerusalem.

Palms and branches of the palm were used

in this historic entry because the palm was then

regarded as an emblem of victory, and the carry-

ing and waving of its branches was emblematic

day is uncertain. In the Greek church it was ap-

parently observed as early as the fourth century.

of Christ seated on an ass, carved out of wood,

which were carried in religious processions and

even brought into the church. In other countries

it was the custom to strew flowers and green

are taken home by the faithful and used as a sacra-

mental. They were preserved in prominent places

in the house, barns or even in the fields, and

The palms used in the procession of the day

The date of the first observance of Palm Sun-

In some countries people made use of figures

of success and in honor of royalty.

boughs in churchyards.

the sixth and last Sunday in Lent and the

beginning of holy week, after the custom of

A little soft soap applied to the rudder before winding it up will improve its efficiency very much. The boat will run ahead or astern, according to which direction the propeller is wound. A trial will soon show which is the direction of winding for running ahead eive a coat of paint

"Before the boat is placed in the water it should becoming water logged owing to the porous nature of the wood. "The young submarine builder must not be dis-

leased the propeller should run at a good speed.

appointed if the boat is not a perfect success at the first trial. It will probably require some small adjustments or alterations, and considerable interest and instruction will be derived in the course of these experiments. A boat built on these lines can be made to give excellent results, and is well worth the making. The addition of a simple rudder at the stern will materially increase the evolutions which can be performed."

NEW EXPLANATION of the MARTIAN

NEW explanation of the Martian canals, based on meteorological considerations, is put forth by Prof. W. H. Pickering in his 19th report on Mars. He calls it the "theory of aerial deposition," and it differs radically from the irrigation-ditch hypothesis, now most familiar to

the public. The new hypothesis, explains the Scientific American begins by applying to Mars the "tetrahedral hypothesis" of Green concerning the shape of a cooling planet. Given the shape required by this hypothesis, there would be three depressed areas on the border of the north polar cap, in which water would collect when the latter melts. The moist air supplied by evaporation over these reservoirs would drain away to the south along certain definite routes, according to well known laws of air movement over the surface of a rotat-

thrown into the fire during storms. From the

blessed palms are procured the ashes for use on

olive, box elder, spruce or other trees are used.

In Rome olive branches are distributed to the peo-

ple, while the clergy carry palms frequently dried

and twisted into various shapes. In parts of Ba-

varia large swamp willows, with their catkins, and

ornamented with flowers and ribbons, were used.

some way a remembrance of the resurrection of

Christ and was in consequence called Pascha, the

Spanish term pascua florida owes its origin. Thus

it was that in 1512 the state of Florida, which was

settled by the Spaniards, indirectly received its

The day was also known in England as Flower

Sunday, in Germany as blumensontag or blumen-

tag, and in France as paques fleuries. The Greeks

celebrate the day with great solemnity. It is also

known among them as Lazarus Sunday, because

on the day before they have the feast of the resur-

rection of Lazarus. The emperors used to dis-

tribute branches of palm and small presents

among their nobles and domestics.

Because every great feast at this time was in

Where palms cannot be secured branches of

The ORIGIN of PALM SUNDAY

Ash Wednesday.

ing planet. Nocturnal cooling would produce clouds and rainstorms along these routes, and give rise to elongated marshes, constituting the border

and more conspicuous so-called canals. Instead of being artificial channels, intended to carry water from the melting polar cap to the southern hemisphere, they are, according to Prof. Pickering, natural features of the planet, and serve the purpose of preventing the water from being carried too rapidly, through the natural at-

mospheric circulation, to the south polar regions. where, wrapped at this season in the long winter night and subjected to the cold of space, it would be quickly withdrawn from further use to vegetable and possible animal life. Thus the marshes constitute reservoirs, furnishing water by evap-

oration during the Martian summer. From the shape and radius of curvature of the marshes Pickering calculates the force of the Martian winds, ranging up to 230 miles an hour.

Hand SIGNALLING LIGHT for AUTOMOBILES 7HILE the ordinary battery flashlight has proven its efficacy in many instances, an inventor, August Sundh, has devised and

patented the flashlight signalling and illumination outfit that can be strapped to the hands. In his



Fastened on a Glove or Mitt Serves as Auto Signal at Night.

patent he states that the apparatus is intended and especially adapted for the use of persons working around machinery or in places where portable lights are used. Also it is pointed out that it will prove useful for automobiles and trainmen, such

as for signalling purposes, and its use in this direction is illustrated in the accompanying view, where the autoist is shown giving a night signal after about two weeks' use, when you that he is about to turn a corner.

The device, as described in the Electrical Experimenter, is quite simple and merely comprises a leather or other form resembling a glove, which straps on the hand and at the wrist. This glove contains a flap pocket to carry a small flashlight battery. Several miniature battery lamps are disposed in various positions at the back of the leather mitt, as the illustration discloses, and the circuit between the battery and lamps is closed whenever desired by pressing on a small push- be soft, glossy and beautiful button switch secured on the inside of the mitt.

GOLD TEETH and "MOVIES"

F you have gold teeth and want to play in moving pictures you must either give up your ambition or be prepared to meet a dentist's bill. Actors with beautiful features and marvellous pantomimic ability are no longer to play for moving pictures if they possess teeth of gold.

Moving picture cameras sometimes work freakish tricks. A gown of gorgeous orange shade will photograph a dead black and shiny white material will produce an effect known as "halation," creating a ghostly double which seems to follow the wearer about the room. The camera photographs gold like dead black, and if an actor smiles his gold teeth make his jaw appear quite toothless.

