THE PRICE OF WATER.

While we fully recognize the importance of water as an indispensable condition of life, we seldom realize what quantities of it exist in our daily food, or what high prices we have to pay for it in the ordinary course of our purchases in shop or market. Take, for instance, the butcher's bill, which is usually the most serious item of domestic expenditure. It is a trifle disconcerting to be told that when the thrifty housewife expends money upon the best cuts of beef, no less than three-quarters of the sum is paid for water. Yet such is unquestionably the case—vouched for by the highest analytical authorities. Uncooked beef or mutton contains exactly 75 per cent (or three-fourths of its whole bulk) of water.

Other kinds of meat are less fluid in their nature. Lamb, for example, contains only 64 per cent of water. Pork has still less, the amount varying from 50 to 60 per cent. But those who buy smoked bacon really purchase the greatest amount of solid satisfaction for their money, for this meat seldom contains more than 22 per cent of water.

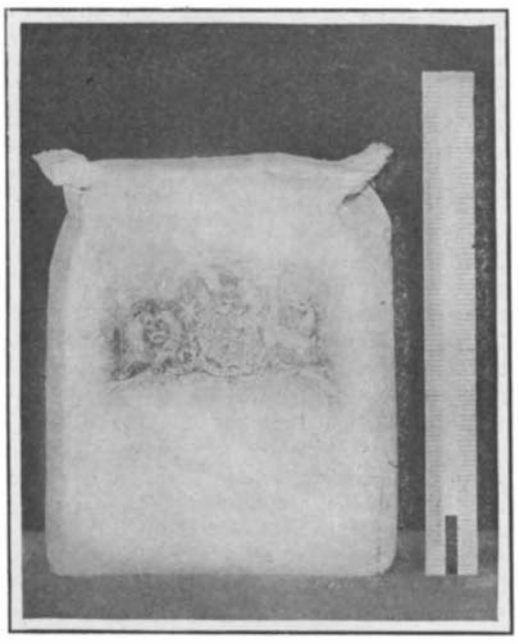
In the fatty parts of food, hydrogen and oxygen do not exist in the chemical proportions necessary for the formation of water. Therefore, it may be laid down as a general rule that the more fat or oily the meat, the less water will it contain. This fact, the diminution of water as fat increases, is well exemplified in the case of poultry. The flesh of pigeons contains 75 per cent of water, that of fowls and ducks 70 per cent, while a fat goose may have as little as 38 per cent of water in its composition.

The flesh of different sorts of fish varies considerably in the quantity of water which it contains, the figures ranging between 40 and 80 per cent. Most of the kinds commonly seen upon the fish dealer's slab approximate to the higher rate. Thus, the flesh of eels contains 75 per cent of water; that of salmon and other red-fleshed varieties, about 77 per cent; while white fish, such as soles and turbots, reach one per cent higher still.

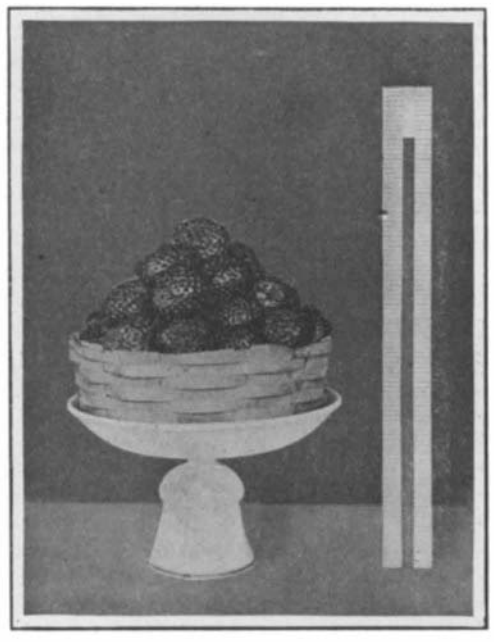
Milk must be regarded as the type of a complete food. Yet milk, fresh from the cow, and before it has paid a visit to the nearest pump or tap, contains between 86 and 88 per cent of water. This fact is exceedingly significant of the importance which Nature attaches to water as a diluent of her food substances. But certain so-called solid foods contain even more water than the same weight of milk. This seems a paradoxical statement, yet it is perfectly true. Examples of the kind are especially common among our kitchen vegetables.

For instance, the turnip contains water to the extent of nearly 90 per cent, while very nearly the same proportion goes to the "make-up" of a cabbage. But it is a still greater surprise to learn that cucumbers, vegetable marrows, and pumpkins are only 5 per cent removed from water itself, chemically speaking. Nineteen-twentieths of this substance is water, suspended, as it were, in a frail network of solid matter. This brings to light the extraordinary fact that a cucumber—an object with which a fairly effective blow might be dealt—has from 7 to 9 per cent more water in its composition than the milk which we drink out of a glass!

It is quite impossible to determine the amount of water in any substance, and thus arrive at the price which we have to pay for it, without careful analysis. Guessing is valueless, for appearances are more than usually deceptive in this particular branch of chemical study. This fact is well shown in the case of fruit. Whereas the hard, dense-fleshed apple contains from 80 to 82 per cent of water, and the comparatively solid-looking strawberry 90 per cent, the most luscious grapes yield only 80 per cent of water when subjected to the analytical process.



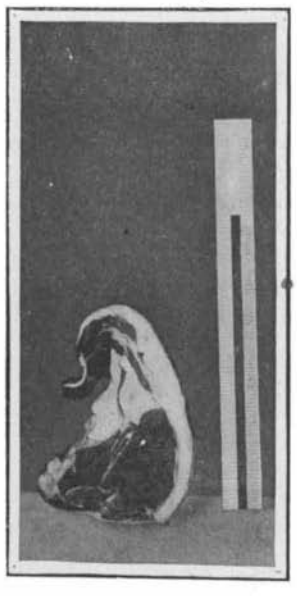
Wheaten Flour Contains About 12 Per Cent of Water.



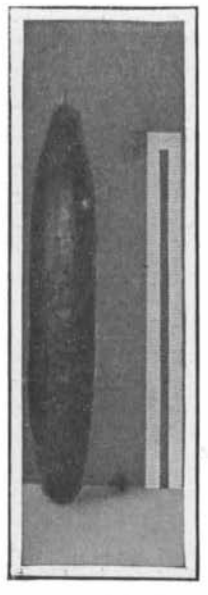
Strawberries Contain 90 Per Cent of Water.

Foods which contain only a small percentage of water are usually unfit for human consumption until they have been cooked. The culinary art, reduced to its simplest terms, consists mainly in innumerable devices for putting water to food in an attractive manner. Bread is a capital case in point. Dry wheaten flour contains, as a rule, about 12 per cent of water; and dry wheaten flour would be voted anything but a satisfactory article of food by the majority. Bread, on the other hand, is the acknowledged staff of life. In this, its changed form, the flour has received an addition of water until the percentage has risen to from 45 to 50. This increase of moisture has brought about important chemical changes, which have converted the dry and uninviting flour into a pleasant and easily digested food.

At the same time, it is occasionally possible, after adding water to food in the cooking process, finally to evaporate it again with excellent results. This we do in the case of biscuits, which seldom contain more than 8 per cent of water when they come from the oven—that is, some four per cent less than the original flour. From these facts we begin to realize that Nature does not really cheat us when she makes us pay a premium on water when we think we are buying food. A large quantity of water is necessary not only to render food palatable, but also to make it at all edible. Speaking broadly, all dry food is indigestible food; and thus water is seen to play a part in our dietary far more important than is at first evident. Chemical change under an absolutely dry condition is impossible; and with equal certainty it may be said that if the stomach is deprived of its due allowance of water necessary for the digestion of any particular food, it fails in its work.



A Lamb Chop May Be Considered Fairly Solid Meat. It Contains 64 Per Cent of Water.



In a Cucumber 5 Per Cent of Solid Matter Contains 95 Per Cent of Water.

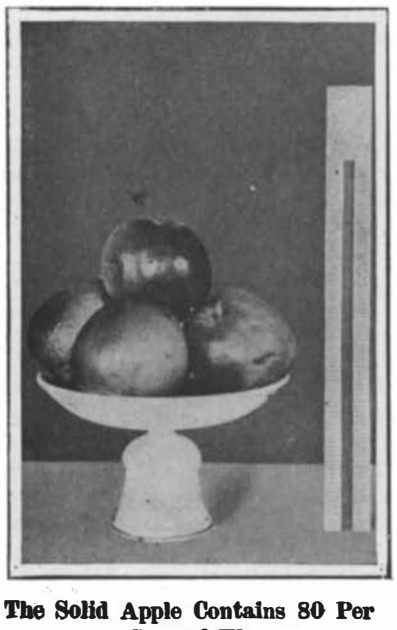
TABLE-TOP PHOTOGRAPHY.

BY PERCY COLLINS.

The well-known saying that the "camera never lies" has nowadays become somewhat limited in its possible application—to say the least. In the early days of dry-plate photography, the phrase was no doubt strictly true in its widest sense. But nowadays, as everyone knows, the camera can and does perpetrate on occasion the most flagrant falsehoods. Of course this is true, to an extent, in the case of ordinary photography, when the artist is perfectly straightforward in his intentions, and merely desires to select the best point of view for his picture. In this way it may be said that almost any back yard or piece of waste land will yield a pretty but absolutely untruthful "peep," if only the right spot for setting up the camera be chosen. All around may be grim and ugly, but by dint of a little judicious selection, a little clever "touching," and possibly with the aid of a "cloud negative," the photographer turns out a picture of real beauty.

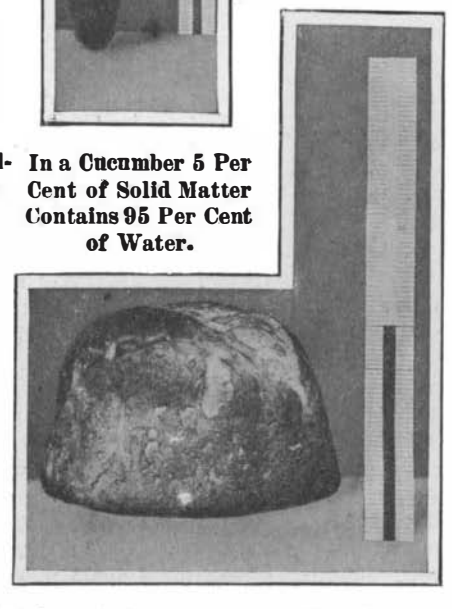
But in this article it is the writer's intention to deal briefly with a more obvious phase of deceptive photography. Everyone knows something about "faked" photographs, and is aware that the depravity of the camera may often be turned to good account, and made to supply a number of pictures, both curious and beautiful, for the photographer's album. Table-top photography, however, is quite a novel craze, to which few people as yet have paid much attention. Indeed, it is quite on the cards that many of my readers may have heard nothing about it whatever. A few words by way of introduction will therefore be desirable.

Table-top photography may be justly described as an art; for no inconsiderable amount of skill and ingenuity must be called forth if the results are to repay the trouble which must be taken. Briefly, the

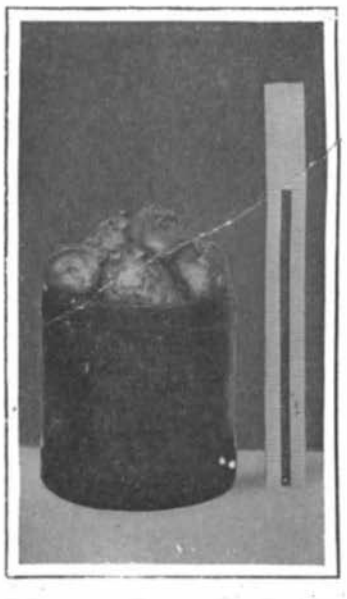


The Solid Apple Contains 80 Per Cent of Water.

Pure Milk Contains 86 Per Cent of Water.



In Converting Flour to Bread the Percentage of Water Is Increased to 45 or 50.

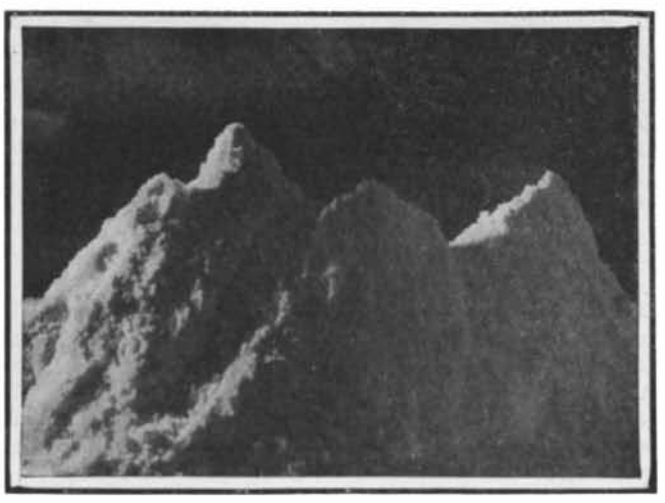


Potatoes Are Among the Vegetables Containing the Least Water.

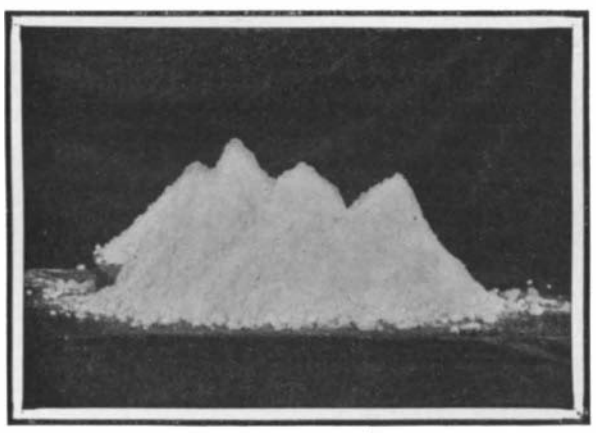
Various Articles of Food, and the Percentage of Water Contained in Them.

"A Scene in Switzerland."

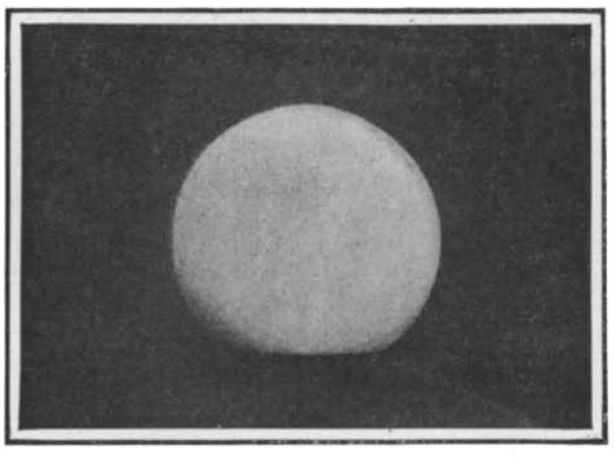
A Winter Scene.



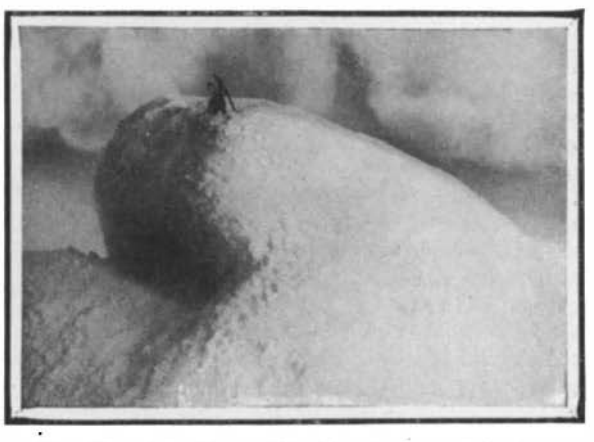
"Sunrise on the Mountains."



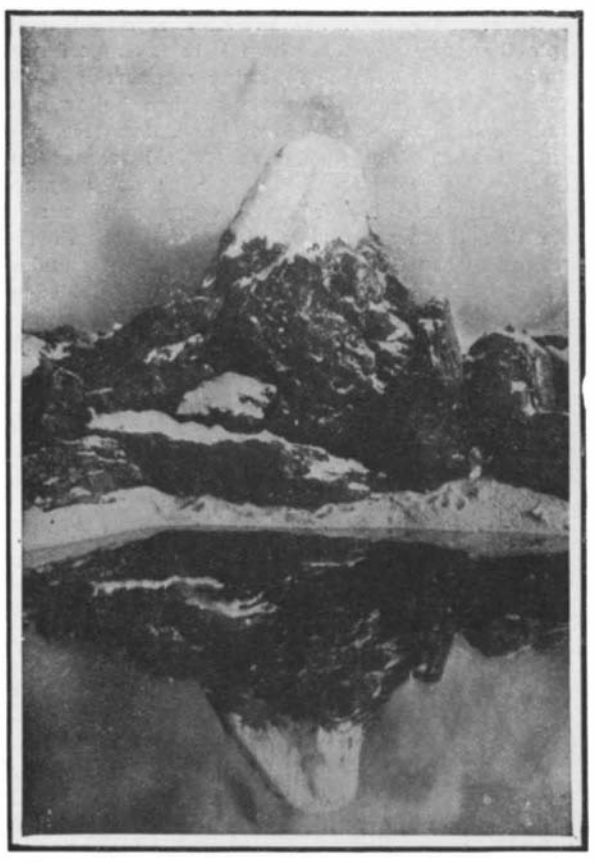
Powdered Alum Arranged for the Sunrise Scene.



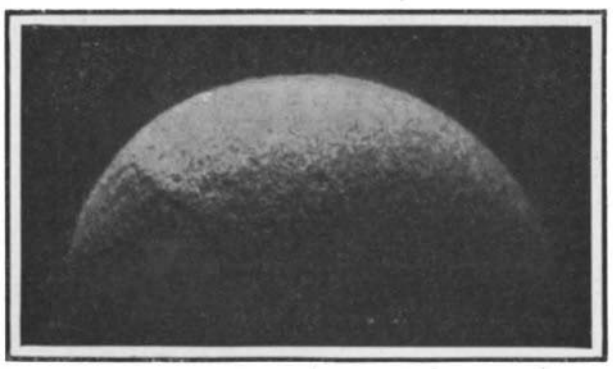
Tennis Ball Arranged for the "Young Moon" Photograph Below.



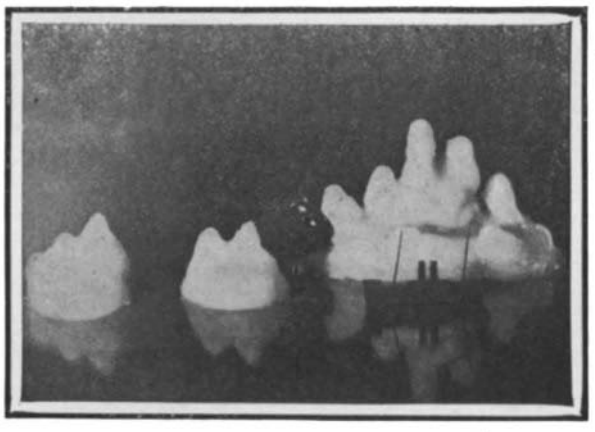
The Mountain Top. The Clouds Are of Cotton Batting Hung Out of Focus.



"A Mountain Lake." Note the Cloud Effect. The Lake Is a Plate of Glass.

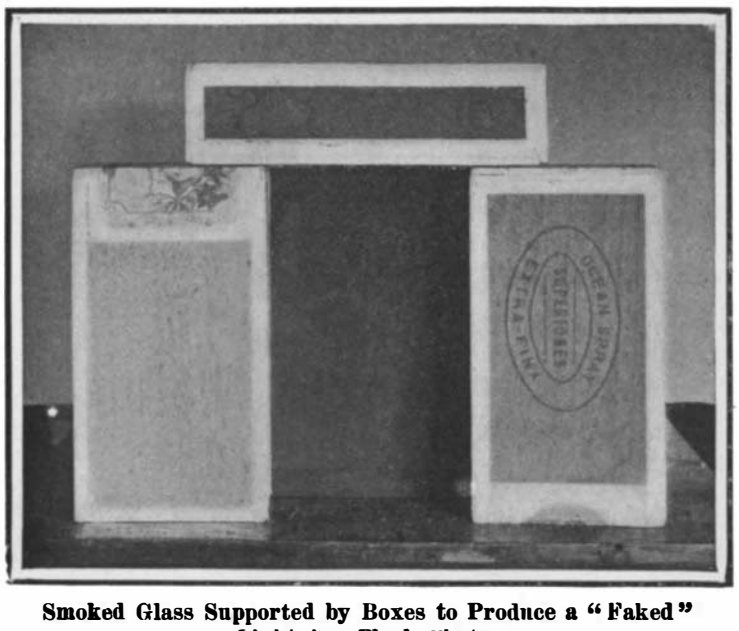


Photograph of the Young Moon.

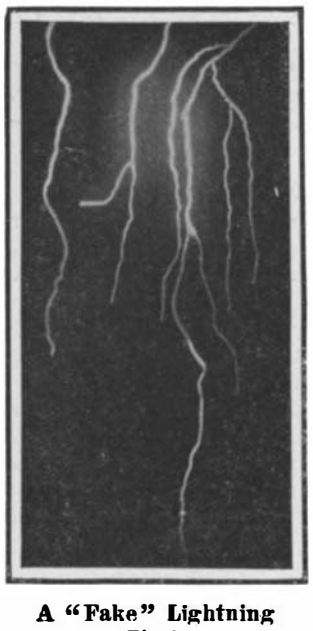


Lumps of Wax and a Paper Ship on a Looking Glass Make an Excellent Iceberg Scene.

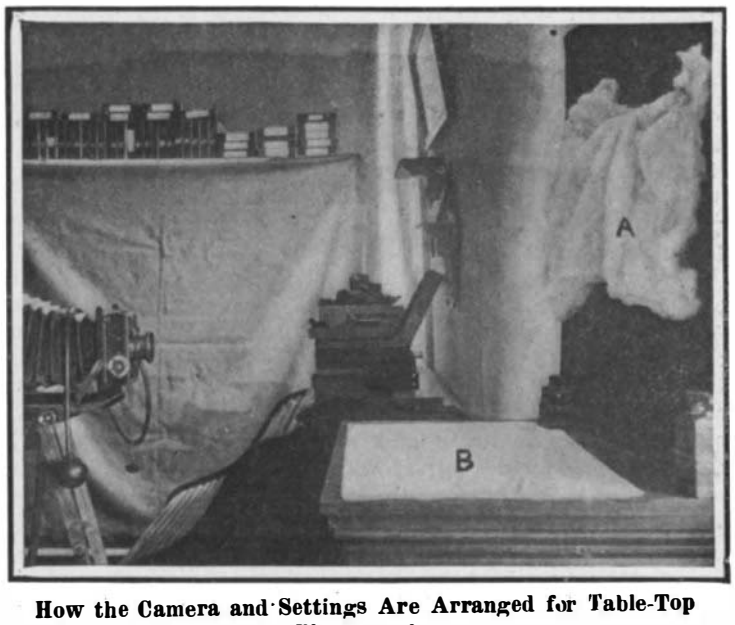
An Alpine Peak Made of Coal Lumps Dusted with Alum to Produce Snow Effects.



Smoked Glass Supported by Boxes to Produce a "Faked" Lightning Flash Photo.



A "Fake" Lightning Flash.



How the Camera and Settings Are Arranged for Table-Top Photography.

TABLE-TOP PHOTOGRAPHY.

idea is to obtain negatives of mimic scenery, etc., which has been previously built up from any materials that may suggest themselves as suitable. The annexed photograph will give the reader some idea of the necessary preparations. At *A* we have a movable background, upon which paper of different colors may be pinned at will, or masses of cotton wool, according to the nature of the "sky effect" that may be required. The stage marked *B* may be a table or upturned box—anything, in fact, that will provide a good steady platform upon which the scene may be arranged. The camera is set up opposite to the stage, as shown; and it should be furnished with a lens of fairly wide angle. In addition to the above apparatus, it will be found desirable to have at one's disposal a couple of screens, which may be fixed up on one side or on both sides of the stage, for the purpose of shutting out the light—a strong top light often being more effective than any other kind of illumination. Any odd pieces of stout card or board of the necessary size will be suitable for these screens.

A great advantage possessed by table-top photography is that it may be undertaken at any time—in dull, wet weather just as much as when the outdoor world is bright and smiling. A fairly long exposure is always necessary; and as one can safeguard one's mimic landscape from the slightest movement, there is virtually no limit to the time during which the lens may be kept open. Certain kinds of table-top photographs may also be taken at night, by means of magnesium wire. A good "fake" of this kind is "The Young Moon," shown in the accompanying picture. Costly apparatus and a vast experience of matters celestial would be required to get a genuine picture of this kind. But by means of a black cloth, a white tennis ball, and an inch or two of magnesium wire, a striking result may be obtained. The deed should be accomplished at night in a quite dark room. Use the black cloth for background, and drape it over a small box, upon which the tennis ball is to be placed. While focusing, get a friend to hold a candle close to the ball. This will enable you to get the rim of the "moon" quite sharp. When all is ready, blow out the light, take the cap off the lens, and burn your strip of wire, holding it in such a position that the strong light falls full upon one side of the ball. The resulting picture will be very puzzling to all who are not in the secret of its manufacture.

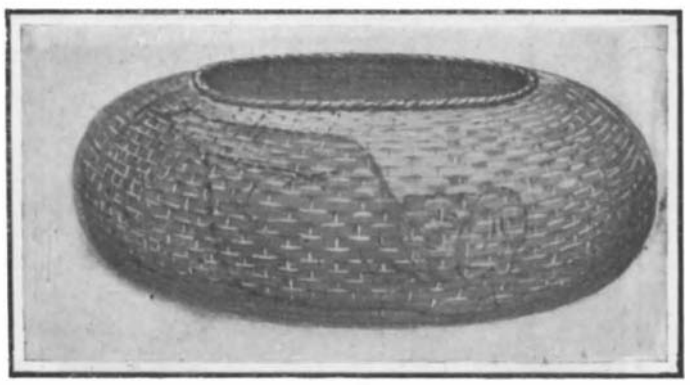
Quite a number of effects may be obtained in a similar manner, this kind of table-top photography being specially applicable as a winter evening pastime. Pile up a quantity of salt or alum to form peaks and ridges, drape a gray cloth to play the part of a "cloudy" background, and then make your exposure as before by means of magnesium wire. A very pretty picture, "Sunrise on the Mountains," will result. This kind of "fake" photography may be carried to almost any extent with surprising success. A few blobs of candle wax, deftly manipulated and arranged upon a sheet of looking glass, supplies a realistic ice floe; while a vessel, cut out in dead black paper, and launched so that she rides above the reflection of a towering berg, adds vastly to the effect These are a few hints. The imagination of the reader will enable him to produce a score of varied and equally striking results.

To make an imitation lightning photograph, first smoke densely a sheet of glass. This may be done most rapidly over the flame of an oil lamp, care being taken not to hold the glass so close to the flame as to crack it. Then, with the point of a sharp pencil, mark the track of the "lightning" upon the smoked surface, using as a copy, if you like, a genuine photograph of lightning. Now, by means of some boxes, prop up the glass so that a light behind it will shine through the transparent scratches. A candle placed behind the glass enables one to focus, and then the exposure is made by burning a strip of magnesium wire. By setting the glass upon, and at right angles to, another sheet, a good reflection, as though in the waters of the sea or a lake, is obtained.

Perhaps, however, the most fascinating kind of table-top photography is that which is done by daylight. As a typical example of how to set to work, the accompanying photograph of a "Scene in the Alps" may be taken. The mountains are specially selected pieces of coal. The snow is finely powdered alum. The sky or background is a rather dark piece of blue paper, chosen to produce a contrast with the snow-capped mountain top. To increase the effect of height and vastness, the tiny figure, cut out of black paper, was set up upon the "snow" in the foreground. Result, a picture scarcely distinguishable at first glance from some which men have risked their lives to obtain.

Even the eternal snow, the brow of the lofty mountain summit, may be photographed in the study or sitting room. Some cotton batting, pressed to the required shape between the hands, forms the basis. Upon it powdered alum is sprinkled liberally. To supply the necessary effect of vastness a little black figure is added, his footsteps being traced in the snow by means of a pin point. The light streaming from a window near at hand casts a strong shadow under the mountain brow. The cloud effect is rendered by means of some pieces of batting, pinned upon the background, which has been specially moved "out of focus," in order to secure the necessary softness of the mimic mists.

When one once takes up table-top photography as a serious hobby, it is surprising how many little ornamental objects (such as are to be found in every house) may be pressed into temporary service. In the annexed photograph of a Swiss scene, the little châlet is a model that was purchased in Switzerland.



The Indian Basket Trick.

It rested upon a shelf for a number of years, and then suddenly found itself among its native snows once more, owing to the craze for table-top photography which had invaded the house! Only the "snow" proved to be powdered alum, while the rock upon which its foundations rested was a lump of coal! Still, the model châlet added much to the effectiveness of the picture.

In "A Winter Scene" also there is a little china statuette which has been promoted in imagination until it plays the part of a full-sized garden statue, half covered with a drift of snow. The leafless tree is just a moss-covered twig. In this way, by permitting one's imagination to rove, and by adapting anything and everything that seems at all likely to prove effective, an almost endless number of pretty and interesting table-top photographs may be established.

The accompanying photograph entitled "A Mountain Lake" is of especial interest because, after being taken, the print was enlarged to cover an area of 7 by 10 inches; and this without loss of effectiveness. Indeed, the resulting picture framed and hung upon a wall would probably deceive everyone to whom it was shown, unless it were subjected to an unusually close scrutiny. Yet the mountain and its lake are "arranged" exactly after the manner described above. The clouds are just cotton, the mountain and its neighboring rocks and hills are so many pieces of coal, while the "snow" is so much sprinkled alum with a little white sand added to form the "shore" of the "lake." The lake is a sheet of glass having a strip of black cloth spread beneath it—a dodge, by the way, which is a decided improvement upon a looking glass, as a less brilliant and more natural reflection is obtainable by this means.

The Diving Duck Trick.

In conclusion, the writer commends the amplification of table-top photography to the reader, if perchance he is minded to try his hand at the pastime. The brief description which has been penned, together with the photographs which illustrate this article, should enable any amateur photographer soon to become proficient in the art.

The railways of Peru are run according to American ideas, and the rolling stock is according to American standard patterns, both as regards passenger coaches, freight cars, and locomotives.

HINDU MAGIC.

BY HEREWARD CARRINGTON.

Doubtless we have all heard of the tricks or feats of the Indian Hindu fakir; we have been accustomed to regard his powers as marvelous beyond compare—as performing marvels that no mere Occidental can equal. He can, we are told, make trees grow from the ground or the deck of a boat; he can throw a rope into the air and, causing it to be suspended without visible support, have his assistant climb up that rope, and his head and arms and legs falling to the ground, join themselves together, and finally form the original body and come up whole as at first! He can cause a stone to sink or swim at will, a boy to vanish from a basket, and a hundred other things, too marvelous to conceive. Let us examine some of these powers of the Indian fakir, and see how far they are genuine, and how far they are the result of trickery. We will first consider the famous mango tree trick. This has been the marvel of all oriental travelers from time immemorial, and the correct explanation of this trick has never been made public, to my knowledge.

The performer comes forward and proceeds to make a little mound of earth out of the soil and some water. This can be done anywhere, on the earth, on the deck of a ship, etc. The fakir usually wears next to no clothes, apparently making this trick—if it is a trick—all the more difficult. When the mound of earth is complete, the fakir inserts his seed of the mango tree, and waters it to make it grow. He then covers it with a cloth, and, placing his hands beneath the cloth, proceeds to manipulate the seed for some time. In a few moments he withdraws his hands, and makes passes over the cloth, outside it. A wait; then the conjurer removes the cloth, and the seed is seen to have sprouted. Two tiny shoots appear above the surface of the ground. More passes are made, and when the cloth is removed for the second time a tall mango tree is seen sprouting above the earth. This trick has probably mystified more people than any one that the Hindu fakir performs. It is accomplished in the following manner:

The seed that is placed in the earth is hollow, and within it is placed a branch of the mango tree, previously prepared and folded up. The leaves of the plant are specially adapted for the trick, and they are easily compressed into a small compass. The seed containing the mango shoot is placed beneath the earth, and when the conjurer places his hands underneath the cloth he works out a part of this folded-up branch, and leaves it sticking out above the surface of the mold. This is repeated several times, until all the branch is showing above the mold, when quite a respectable sized tree is seen to be sprouting. If the seed is examined before the trick is exhibited, the conjurer has previously exchanged the one examined for the trick seed at some convenient moment before placing it in the ground.

Sometimes, the seed is seen to grow into gigantic proportions—into a regular tree, bearing fruit, in fact! It is probable that much of this is exaggeration pure and simple; but there is a manner of working the trick, or rather extending it, so that a very large tree can be produced at the conclusion. It is this: The conjurer has the large tree concealed beneath a thick cloth—a duplicate of the cloth he uses to cover the seed at first. After uncovering the seed several times, and showing it grown more and more, he uncovers it for the last time, and, while the audience is gazing at the plant wonderingly, the conjurer takes occasion to exchange the cloth for the one containing the big tree underneath it. Now, he quickly covers over the plant with this cloth, and when it is removed, there is the tree, full grown. It may be several feet in height. It was compressed beneath the covering cloth. People do not think of asking to look under the cloth the last time, because they have often seen beneath it, and know it contains nothing They therefore assume that it contained nothing the last time the mold was covered over.

Now we come to the famous basket trick, which has also mystified thousands, and yet is simplicity itself. A large oval basket is shown, something the same shape as an egg, laid on its side, and an opening cut in the upper surface or top. It is first shown empty. Then a small boy is shown, wearing a jacket and turban. He is placed in the basket, and the opening is covered over with a blanket. The basket is so small that the boy apparently fills the whole of the basket. What is the surprise of the spectators, then, to see the fakir suddenly leap into the opening of the basket, and proceed to stamp about as vigorously as he can—treading on the ground, and apparently showing that the boy has disappeared, and is no longer in the basket! To make assurance double sure, however, he snatches up a sword, and proceeds to run the basket through and through in all directions. No sound issues from the basket.