

QUERIES & ANSWERS.

HOW RAINFALL IS MEASURED—VARIATION OF GAUGES.

Information Concerning the Refunding of the Direct Land-Tax—How to Get a Direct Sheep-Sherd, &c.

SMITHVILLE, VA. To the Editor of the Dispatch: How is rainfall measured? What constitutes an inch of rain? Yours, &c., E. W.

Rainfall is measured as the depth of water it would form on the ground were it to remain as it falls. In the case of snow its depth is measured as the depth of water it would form if melted. Rain, hail, and snow are known under the general designation of precipitation.

Snowfall is preferably measured as depth of water rather than by the thickness of layer it forms on the ground. When it is not convenient to measure it by means of the measured depth of the snow on a level open place. The relation between the depth of snow and depth of melted snow is very different in different cases, depending on the wetness of the snow. The equivalent depth of water in some cases is as great as one seventh of the depth of snow and in others only one thirty-fourth. It is always best to melt it for measurement.

The chief of the United States Weather Bureau, in his book of instructions for volunteer observers, says:

Rain-gauges in slightly different positions differ greatly in the depth of rain indicated. Within a few yards of each other two gauges may show a difference of 20 per cent. in the rainfall in a heavy rain. The standard gauge is the one with the greatest surface area. In a high location eddies of wind produced by walls or buildings divert rain that would otherwise fall in the center of the gauge. The windward side of a building shows a less rainfall than one in the center of the roof. The windward side of the ascending current along the side of the wind extends slightly above the level of the roof, and part of the rain is carried away from the gauge.

In the centre of a large flat roof, at least 60 feet square, the rainfall collected by a gauge does not differ materially from what is collected at the level of the ground. A rain-gauge mounted on a mast at a height of 43 feet collects only 0.75 as much as at the ground; at 85 feet, only 0.64, and at 124 feet only 0.58.

A gauge on a plain with a fence 3 feet high around it at a distance of 3 feet will collect 6 per cent. more rain than without the fence. These differences are due entirely to wind currents.

Forests intercept from 15 to 25 per cent. of the rainfall in direct rain-storms.

The Direct Tax.

To the Editor of the Dispatch: Please let me know how the Governor proposes to return the direct land tax on the returned land in North Carolina and had the tax returned to me at a cost of twenty-five cents and a postage stamp. To whom should the tax-receipt apply in this State? Persons who paid taxes and who have left the State are at a loss to know how to proceed.

I suppose the Governor of each State has his own rules regarding the return of such taxes. As country people are interested in this inquiry you will please answer in your weekly as well as in the daily.

According to the Virginia Statute these taxes will be refunded in each county by the county treasurer or by a commissioner appointed by the Governor for the purpose, who will post notice of his readiness to distribute at each voting-place in the county.

Lists of those entitled to a return of taxes, with the amounts due them, will be filed for each county in the clerk's office of the county before the distribution is made. All this is provided for by the general law which we have already published.

LOUISA COURTHOUSE, VA. To the Editor of the Dispatch: I have been intending ever since the publication of Mr. Moon's letter to the Washington Post to ask you to publish an explanation of it.

You remember that he said that the sum of the "direct tax" would only be \$25 to \$50 apiece to those who had paid \$1. How is that? There are some who paid from \$25 to \$100 each, and Congress evidently intended that they should be paid back in full, minus the interest. No such thing has happened, so far as I have seen, in any of the other States. In North Carolina each person received his full share of \$100 or \$50 apiece, and the tax was satisfied. How is it in Virginia? Was there some trouble with West Virginia, owing, I believe, to the non-settlement of the debt between the two States, and that was satisfactory to the State, I think.

Will you kindly publish an explanation in answer to this, so that we who paid large amounts and hold receipts for the same may know why we are to be so badly treated?

AN OLD SUBSCRIBER OF MANY YEARS. As near as Commissioner Moon can estimate there are at least 100,000 persons entitled to reimbursement out of the direct tax repaid to Virginia, in sums ranging from a few cents up to hundreds of dollars.

The Onion as a Medicine. DIAMOND STATION, VA. To the Editor of the Dispatch: Will you kindly give me the medicinal qualities of the onion? Is it a nerve, and how is it best eaten—raw or cooked? S. SCHNEIDER.

The onion has some reputation as a medicine in diseases of the lungs and kidneys. The juice of the raw onion made palatable by means of syrup is employed. The habitual use of it as a remedy would be of very doubtful utility.

Glen Echo Chateaux, VA. To the Editor of the Dispatch: 1. When does the Glen Echo Chateaux Assembly, near Washington, open? 2. Can you give me the address of some one who can give me all desired information concerning the above assemblage? X. Y. Z.

It opens June 17th. Address Rev. Dr. Elliott, pastor of Dunbarton-Street church, Washington, D. C.

School Trustees and Jury Service. FRONT, VA. To the Editor of the Dispatch: Please inform me if trustees of the public schools of Virginia are exempt from jury service? Under existing laws school trustees are exempt from jury service. The act exempting them, which was in force up to the time of the adoption of the Code of 1887, was not included in the Code.

Governor Gilmer and the Swords. To the Editor of the Dispatch: Will you give me the names of the officers (army and navy) to whom Governor Gilmer delivered swords 22d February, 1861, and for what service respectively? S. R. F.

We cannot; but perhaps some of our readers can.

Notice to Correspondents. No notice will be taken of anonymous communications. Nor will any attention be given to long "strings" of questions. Questions that are not answered because similar ones have been recently answered. Address "Query Editor, Dispatch office, Richmond, Va."

Home Talent. (Detroit Free Press.) The local singer was receiving mildly to the hostess the large amount of praise which she was bestowing upon the visiting vocalist. "It didn't applaud me that way," he complained. "Oh, well, you know," she said, apologetically and sympathetically, "he is a visitor whom we don't see often, and he is just as much of a visitor as you are. The poor we have with us always."

Virginia's Vote for Cleveland. RICHMOND, VA. To the Editor of the Dispatch: Kindly state "Cleveland's majority and plurality in the election of 1888," and oblige. Yours, &c., W. A. K.

We suppose that the Virginia vote is what is wanted. It was as follows: Cleveland..... 151,977 Harrison..... 139,488 Fisk..... 1,678

Index to Acts of Assembly. To the Editor of the Dispatch: Some time since I wrote you to know if section 2509 of the Code of 1887 had been amended. Your answer says "Section 2509 and 2510 of the Code have been amended by an act approved February 17, 1890, &c. Now it happens that I have the honor, or dishonor, to hold the high judicial position in the State, and I am anxious to know if the Acts of Assembly of Virginia, 1889-90," but do not find the act referred

THE CHOICEST GIFT IN THE POWER OF 3 CENTS TO BESTOW IS THE SUMMER SOLISTE, WHICH OCCURS ON THE 20TH AT SIX HOURS 28 MINUTES IN THE EVENING, AS THE SUN ENTERS THE SIGN OF THE CRAB.

THE MINUTIA OF THE PLANETS—THE SUN AS A FACTOR IN TERRESTRIAL LIFE—A WORD ABOUT COMETS AND THEIR TAILS.

The choicest gift in the power of 3 cents to bestow is the summer soliste, which occurs on the 20th at six hours 28 minutes in the evening, as the sun enters the sign of the Crab. The astronomical summer begins. The elevation of old Sol's power in the northern hemisphere will then be reached. His height at noon is the greatest, the sun-rose and sunset points are furthest north, and the longest day is succeeded by the shortest night.

The sun is the support of terrestrial life, but his intense heat is tempered and governed by the elements, air and water, and the air which life as we know it can support. The total area of the earth's surface is about 200,000,000 square miles, and of this only about one fourth is land. The mean depth of the ocean is 12,000 feet, while the mean depth of the land is probably about 1,200 feet. The total volume of the earth is only about one-twentieth of the volume of the ocean.

The moon crosses early in the morning of the 23d of June, and the following day in conjunction with Saturn. On the 6th there is conjunction with Mars, and a little less than two diameters of the moon would form a fairly close estimate of the sun's diameter. The moon's diameter is 2,160 miles, but see the meeting.

The next conjunction is with Mars on the 11th, followed five days later by Jupiter, and the waning crescent of being at the same time. The conjunction with Mars is the most important, and there is too great a distance between the two for a pretty effect, even were they no further removed. The conjunction with Jupiter, however, is not so important, and the conjunction with Saturn is the least important of the three.

"Showers" of Frogs. To the Editor of the Dispatch: Will you please say whether you know of any instance where frogs fell during rains. A. SCHNEIDER.

We do not. Frogs and toads deposit their eggs in stagnant water, where they hatch into tadpoles. The tadpoles are transformed into frogs or toads, and when their feet have developed and their tails dropped the young frogs remain for the most part in the water, while the toads hide themselves under leaves and in the grass, or under other sheltering objects at or near the surface of the ground. Showers attract them from their retreats, sometimes in immense numbers, and the probability is that most of the "showers of toads" are merely their sudden appearance from concealment.

Special Letter Delivery on Sundays. DANVILLE, VA. To the Editor of the Dispatch: Does a delivery station on a letter insure its delivery on Sunday? CROKER.

It does not at all post-offices, as many offices are not opened on Sundays at all. The hours of delivery at the large free-delivery offices are regulated by each post-master.

At the Richmond office such letters are delivered by a special messenger-boy between the hours of 9 A. M. and 9 P. M.

Changed. (Hartford Life.) "What I do in my husband's prize," cried Clara, "is to know the Cheek's come, and which had six marvellously beautiful streamers. As to the origin of comets, it is impos-

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ible to offer more than a conjecture. It has been supposed that they may have been merely drawn into space, or may have originated in our system—that they may have been ejected from the sun. Modern science has effectively dispelled the fear and superstition with which, in early ages, the advent of a comet was regarded. We interpret and beautiful visitors who come to please and to instruct, and never to threaten or destroy.

BABY SUPERSTITIONS. Charming and Amusing of Different Countries to Keep the Bogie Man Away. Roumania mothers tie red ribbons around the ankles of their children to preserve them from harm, says the St. Louis Republic. Ethiopian mothers tie bits of assafetida to the corners of their offspring for the same purpose.

CONJUNCTIONS. The moon crosses early in the morning of the 23d of June, and the following day in conjunction with Saturn. On the 6th there is conjunction with Mars, and a little less than two diameters of the moon would form a fairly close estimate of the sun's diameter. The moon's diameter is 2,160 miles, but see the meeting.

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RIDE WITH A PHILIPPIAN

ON THE NIGHT HE ASSUMED COMMAND OF HIS DIVISION.

Battle of Hanover Courthouse—Hill Meets His Brigade Commanders—March from Guinea's Station to Richmond. (From unpublished MS. entitled "Reminiscences of a Staff Officer," by W. Roy Mason, Major C. S. B. of the 1st Cavalry, U. S. Army.)

This was done without orders, the rest of the division being two miles in advance and knowing nothing of the transaction, although much puzzled by the sound of distant firing. For this hot and hasty proceeding General Branch barely escaped a court-martial.

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ALASKA. 607 BROAD STREET. ARE SELLING. LADIES' KID OXFORD TIES, with or without tips, at 75c, 90c, \$1.25, \$1.50, \$1.75, \$2.00, \$2.50, up to \$4.

JACOB MAY & SON, 607 Broad Street. \$25,000 WARWICK-COUNTY COUPON BONDS. BEARING 6 PER CENT INTEREST, PAYABLE SEMI-ANNUALLY.

CITIZENS' AND MARINE BANK, NEWPORT NEWS, VA. (INCORPORATED IN VA.)

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WILLISTON SEMINARY. BOSTON, MASS. Proprietor, Rev. Wm. Williston, D. D. Prepares for any college or scientific school. Sessions September 8, 1892. New laboratories furnished. Tuition \$4.00 per day. Special inducements to traveling men. Moral instruction given. W. J. PARROT, Proprietor.

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DURING THE MONTH OF FEBRUARY I BOUGHT ONE BOTTLE OF DR. B. B.'S REMEDY FOR MY 4-YEAR-OLD BOY, WHO HAD WHAT DOCTORS term "remittent fever," and who had been in a hospital for several weeks.

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PENNYROYAL PILLS. Original and Only Genuine. "I have used your pills for several years, and they have cured me of all my ailments."

THE GREAT BLUCHER FOR GENTLEMEN. All the novelties in SPRING AND SUMMER FOOTWEAR—too numerous to mention.

WARWICK-COUNTY COUPON BONDS. BEARING 6 PER CENT INTEREST, PAYABLE SEMI-ANNUALLY. \$500 each. First Mortgage on all property in the county of Warwick and City of Newport News.

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