

# The Bee's Home Magazine Page

## Taking Bearings From Polaris

By EDGAR LUCIEN LARKIN.

Q.—When a surveyor takes his bearings from Polaris does the star move, and if so can this be plainly seen through the telescope on the surveying transit?

A.—The earth turns on its axis once in 24 hours. The length of a mean solar day is 24 hours. The absolute or sidereal day is therefore 23.9345 hours, or 3 minutes 56.4 seconds shorter than the solar day.

This motion of rotation is from west over to the east, from right over to the left, or from figures 1 over through 12 to 11 on the face of a watch if held toward the equator, or to the south by any observer in any north latitude. Then all stars appear to move in the opposite direction.

Our present north star—Polaris—is no exception. The only exceptions would be two stars at the mathematical exact celestial north and south poles. Unfortunately for surveyors and navigators, there is none. And this fact has made a vast amount of mathematics necessary in all historic ages.

Our present north star is constantly drawing so it seems, nearer to the precise celestial pole, and will so appear to move until A. D. 2100, when the nearest possible approach will be 30 minutes, or one-half degree of arc. Then it will recede, reach its maximum distance in 22,829 years and begin its return sweep in cosmic space, and be distant 30 minutes again in the grand period of 25,778 years, the actual length of one cosmic or precessional period, one earth year.

The ablest observers and micro-measurers in the world have measured and watched Polaris since the discovery of the telescope, in 1610, and with from ten to 100 times greater accuracy since the perfection of the present refined micrometer within the last fifty years. The rate of approach of the axis of the earth to the direction of the star of the north is between 1.56 and 19.7 seconds of arc per year. And this degree of accuracy in extremely minute measurement has elicited the admiration of all students of the magnificent laws of nature.

The motion is that of the entire globe—the earth—which makes its axis appear to sweep around in a colossal circle 47 degrees in diameter in the Annus Magnus, or Great Year. On January 1, 1914, the axis of the earth prolonged to very infinity would have passed Polaris at a distance of 1.1 degree 3 minutes 41 seconds. Thus in one sidereal, or star day, the north star appears to traverse an exact circle or twice this in diameter, or 2 degrees 17 minutes 42.6 seconds. Therefore the star must actually pass once above and once below the axis in the true star day. But when exactly above or below, Polaris is in a very valuable place, the celestial and terrestrial meridian.

I have never been able to see Polaris in the day time in the telescope of any surveyor's transit, but up here in the great telescope the polar star is an easy object, even at noon in the most brilliant sunshine. People living away from the glare of the electric light of cities can always tell of the approach of Polaris to the meridian at night by watching the star. Albeit, the first one from the bowl of the great dipper, or third from the end of the handle.

From a stick nailed to the corner of a house, say fifteen or twenty feet high, let fall a plumb-line with bob in a bucket of water to prevent the wind causing it to oscillate. Stand south of the plumb line, look toward the north, watch Alhith; then when this star and Polaris are on the line, drive stakes in a line to the south and you will have a very rough location of the meridian.

## Advice to the Lovelorn

By BEATRICE FAIRFAX.

Be a Little Indifferent.

Dear Miss Fairfax: I am 19 and work in a store with a number of other girls. A young base ball player stops in of mornings to talk with the girls. I am greatly infatuated with him, but he doesn't seem to pay any more attention to me than to the others. How can I win his affection in such a way so he will be aware of it?

When the other girls hang around him like bees around a sweet morsel, you walk away and appear oblivious to his existence. He will at last realize that you are not interested in him, and that will awaken his interest in you.

That Depends.

Dear Miss Fairfax: I have been keeping company with a young man (two years my senior) for over a year, and as a rule we are very happy when together; but every time he meets a certain person in my family whom he dislikes he is very cool with me. When I speak to him about this he answers that he always has the same good feeling toward me.

If the person he dislikes is very near to you, and one he would often meet after your marriage, I hope you will not marry the man. His intolerance now will become active dislike then, and he will make you very unhappy.

## Comb Sage Tea in Hair to Darken It

Grandma kept her locks dark, glossy, thick with a mixture of Sage Tea and Sulphur.

The old-time mixture of Sage Tea and Sulphur for darkening gray, streaked and faded hair is grandmother's treatment, and folks are again using it to keep their hair a good, even color, which is quite sensible, as we are living in an age when a youthful appearance is of the greatest advantage.

Nowadays, though, we don't have the troublesome task of gathering the sage and the mussy mixing at home. All drug stores sell the ready-to-use product called "Wreth's Sage and Sulphur Hair Remedy" for about 50 cents a bottle. It is very popular because nobody can discover it has been applied. Simply moisten your comb or a soft brush with it and draw this through your hair, taking one small strand at a time; by morning the gray hair disappears, but what delights the ladies with Wreth's Sage and Sulphur is that, besides beautifully darkening the hair after a few applications, it also produces that soft lustre and appearance of abundance which is so attractive; besides, prevents dandruff, itching scalp and falling hair.—Advertisement.

## Mid-Winter Day's Dream

By LOUIS TRACY.



While the snow lies white and hushing over the rolling hills and down the streets of the small town villages; while the bony cottontail and the red fox leave their neat, printed trails behind them in the deep woods and round the farmers' fences; the bare, tiny twigs of the trees rattle together with an icy clatter like bones rolling down the street, while the winter wind goes stinging and the faeries are hugging their fires under the roots of trees; while sleek apples in the barrel are looking glossier and redder than they ever did just because it's white outside; while cold blue vendors on the street corner are knocking their feet together and smiling anyway; all this while in "My country" it's summer, there are yellowish pink roses, and a soft blue sea, and vast green hillsides slashed with carnations and violet fields! Oh, to be there! That's what I think, of course. That's because I'm human. Just as a lovely gray-haired woman who had never been out of that

## Could We Ever Have Done It? And Will We Ever Do It Again?

By NELL BRINKLEY.

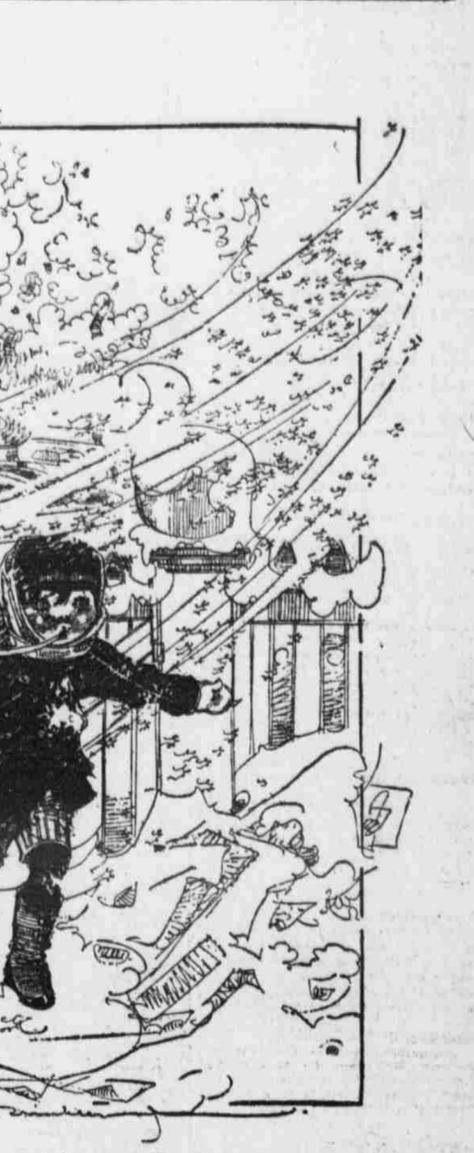


dream country at a time to see snow until this winter, wished, with her eyes dancing with delight, that it would "snow, snow, snow!" That's 'st human natur'! When the dog days come we dream of tobogganing! When we are on the snow-blinded Atlantic, gray and winter-driven, we sigh to be in the tropics where the palms rustle and spring is already on the way. When it's whistling winter we yearn over the summer that was, and long fiercely for the one that will be! Grown-ups, and little kids, and girls, and fellows—everybody—all the same!

Trudging through the snow-smothered woods, the girl in woolly sweater and toque, with her fur against her rosy, robin-breast cheek, sees hanging in the bare rattling trees the dream of what she did last summer. And in vast amazement and a cuddling of her body she wonders if she really ever did that—skipped right out into the surf, la-la-la,

## By Nell Brinkley

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slapping it up about her in a million diamond drops—that same old surf that is beating against the black rocks now in icy green and a boll of foam with snow on its crests and death in its cry? And the bundled-up old kid in his arctics and "comfort," with his red mittened hands beating together and his nose and cheeks the color of a ripe winesap, with his home-made snow shovel taking a rest against the fence, catches a half terrified, half glorified dream of himself last summer—stripped to the skin of his lean little racer-body bowed over the edge of the grassy, daisy-snowed bank, grimy little hands pressed tight, a rooster of hair dripping water behind, taking a header right into the ole swimmin' hole! "Gosh, how could I have done it?" chatters the ungrammatical shiverer! And the swimmin' hole is froze over tight now!

Mid-winter's day dreams! NELL BRINKLEY.

## THE DIAMONDS BY LOUIS TRACY

A THRILLING STORY OF A MODERN MONTE CRISTO

You Can Begin This Great Story To-day by Reading This First

Philip Anson is a boy of 15 years, of fine education and good breeding, but an orphan and miserably poor. The story opens with the death of his mother. Rich relatives have deserted the family in their hour of need, and when his mother's death comes Philip is in despair. He looks over his mother's letters and finds that he is related to Sir Philip Morland. A few days later a terrific thunderstorm brews over London. At the height of the storm a flash of lightning strikes a team attached to a coach standing in front of a West End mansion. Philip, who has become a newsboy, rescues a girl from the carriage just before it turns over. A man with the girl trips over Philip in his excitement. He cuts the boy and calls a policeman. The girl pleads for Philip and he is allowed to go after learning that the man was Lord Vanstone. Philip then determines to commit suicide. Just as he is about to hang himself a meteor flashes by the window and crashes into the flagstones in the yard. The boy takes this as a sign from heaven not to kill himself. He then goes to the yard to look at the meteor. Philip picks up several curious looking bits of the meteor and Isaacstein, who causes his arrest. At the police station he gives his name as Philip Morland. Isaacstein tells the judge that the diamonds are worth \$50,000 (\$250,000). Philip refuses to answer questions and is committed for a week. Lady Morland, dining in a restaurant, reads about "Philip Morland" and is puzzled. In the police court he succeeds in convincing the magistrate, Mr. Abingdon, that he came into possession of the diamonds honestly, and in winning the friendship of the magistrate, who sends him back to make an arrangement with Isaacstein to the amount of 250,000 pounds a year for a term of years, for a commission of 10 per cent, and to place at his disposal a safe in the bank. The restaurant next door was open. Philip approached quietly. "Good evening, Mr. Judd," he said, holding out his hand. "Good evening, sir," said the grocer, his eyes revealing not the re-

motest idea of the identity of the smart young gentleman who addressed him so familiarly. "Don't you know me, Mr. Judd?" "Well, sir, I can't exactly bring to mind."

"I suppose the good fare you provided for me at Holloway has so altered my appearance that you fail to recognize me again."

"Well, you don't mean to say—'Ere, Eliza, this young gent is the lad I was atellin' you of. Remanded till Saturday, was I. I saw in the paper last night. Well, there, I'm done!"

By this time Philip was inside the shop, and the stout greengrocer and his equally stout spouse were gazing open-mouthed at this well-dressed youth who had supplanted the thin tatterdemalion so much discussed by them and their neighbors. Judd and the restaurant keeper were the only men in the locality who could claim acquaintance with the boy whose strange proceedings as reported in the newspapers made London safe. Indeed, both men had been interviewed by police and reporters many times. They were living links with the marvellous, a pedestal of common sense for an aerial phantasm.

And now, here he was, back again, dressed like a young gentleman, and hailing Judd as a valued friend. No wonder the green grocer lost his breath and his power of speech.

But Philip was smiling at him and talking. "You were the one man out of many, Mr. Judd, who believed in me, and even stuck up for me when you saw me led through the street by a policeman to be imprisoned on a false charge. I did not know until an hour ago that I was indebted to you for an abundance of excellent food while I was remanded in prison. I will not offer to refund you the money you spent. My gratitude will take another form, which you will learn in a few days. But I do want to pay you the ninespence I borrowed. Would you mind asking the proprietor of the restaurant to step in here for a moment? Don't say I am present. I wish to avoid a crowd, you know."

Judd had time to collect his scattered ideas during this long speech.

"Blow the ninespence!" he cried. "Wot's ninespence for the treat I've had? People I never set eyes on in my life afore ken ere an' bought cabbage, or taters, or mebbe a few plums, an' then they'd stave! 'Mr. Judd, wasn't it you as stood a dinner to the Boy King of Diamonds?' That's wot they christened yer, sir. Or it's 'Mr. Judd, can't yer tell us w'ere that young Morland lives? Sure-ly yer know summat abah't 'im or yer wouldn't hev paid 'is bill. Oh, it 'as bin a bean. Hasn't it Eliza?"

"But we never let on a word," put in Mrs. Judd. "We was close as wax. We told none of 'em as how Mr. Judd went to 'olloway that night, did we Willyum?"

"Not us. Ye see, I took a fancy to ye. If ahr little Johnnie 'ad lived 'e'd ha' bin just your ize. Fifteen, aren't ye?"

At last Philip cut him peremptory to summon his neighbor. Judd did so with an air of mystery that caused the bald-headed restaurateur to believe that a burglar was bottled up in the greengrocer's cellar.

Once inside the shop, however, Mr. Judd's manner changed. "Wot did Hell yer, Tomkins?" he cried, slyly. "Wot price me as a judge of kark-ter! 'Ere Mr. Morland come back to 'is me that 3 pence. Eh, Tomkins!"

Philip solemnly counted out the money, which he handed to his delighted baker. "There was a bet, too," he said. "Ra-ther!" roared Judd. "Two bob, w'ich I've p'de. Out w' four bob, Tomkins. Lord lumme, I'll stand treat at the George for this!"

"There's something funny in the case," growled Tomkins, as he unwillingly produced a couple of florins. "I was sure you would see the joke at once," said Philip. "Goodby, Mr. Judd. Goodby, ma'am. You will hear from me without fail within a fortnight."

He was gone before they realized his intention. They saw him skip rapidly up the steps leading into Holborn, and London had swallowed him forever so far as they were concerned.

THE CLOSE OF ONE EPOCH. Before retiring to rest, Philip ascertained Mr. Abingdon's London address, and wrote asking for an appointment the following evening. He also interviewed the manager. "I want the help of a thoroughly reliable solicitor," he said. "I wish to purchase some property—not valuable property, but of importance to me. Can you give me the address of some one known to you?" M. Foret named a reputable firm in the locality. "They may refer to you," added Philip. "Of course, I do not ask you to say more

than I am staying here, but the point is, I do not wish you to mention my case."

"Will you not see them then?" "No, I will endeavor to conduct the whole business by post."

The manager laughed. "You certainly are the coolest young gentleman I ever met. However, Mr. Anson, if you please you to know that your bank gave you the best of recommendations. I will say so to anybody."

So Philip first drafted and then copied the following letter:

"Dear Sirs—M. Foret of this hotel, has given me your names as a firm likely to transact negotiations for me. I want to purchase a small property in the Mile End Road, known as Johnson's Mews; also a shop near the entrance to the mews, tenanted by a marine store dealer named O'Brien. The mews is owned by the Cardiff and Havre Coal Company, Ltd. I do not know who owns the shop. I wish to acquire these properties for a philanthropic purpose, but I am most desirous that my name should not figure in the transaction. I propose, therefore, when you have ascertained the price, which should be at the earliest possible moment, to pay to your credit the requisite amount. You can have the properties transferred to any nominee you choose, and again transferred to me. Kindly add your costs, etc., to the purchase price. My movements are somewhat uncertain, so please send all communications by letter. It will be an obligation, and tend to future business, if you attend to this matter tomorrow morning. Yours, faithfully,

"PHILIP ANSON."

He did not compose this letter without considerable trouble. The "philanthropic purposes" he had already decided upon, but he thought it was rather clever to refer to the possibilities of "future business."

As for the double transfer, he distinctly remembered copying letters dealing with several such transactions at the time of the coal company's conversion into a limited liability concern.

He was early to bed, and his rest was not disturbed by dreams. He rose long before the ordinary residents. Deferring his breakfast, he walked to Fleet street and purchased copies of morning and evening papers for the whole of the week.

He could thus enjoy the rare luxury of seeing himself as others saw him. He read the perfervid descriptions of the scene in court and found himself variously described as "bert," "masterful," "imperious," highly intelligent, endowed with a thin veneer of education" and "affected."

Philip could afford to laugh at the un-

Now Read On

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There was some excuse for this, but the boy's abounding good nature would admit of none. He hastened to Farringdon road with the utmost speed and found his fat friend putting up the shutters of his shop. The restaurant next door was open. Philip approached quietly. "Good evening, Mr. Judd," he said, holding out his hand. "Good evening, sir," said the grocer, his eyes revealing not the re-

motest idea of the identity of the smart young gentleman who addressed him so familiarly. "Don't you know me, Mr. Judd?" "Well, sir, I can't exactly bring to mind."

favorable epithets. Up to the age of 15 he had been trained in a private school, and his work was supervised by his mother, a woman of very great culture. He spoke French as well as English, and spoke both admirably. He knew some Greek and Latin, was well advanced in arithmetic, and had a special penchant for history and geography.

This plan makes a pint of better cough syrup than you could buy ready made for \$2.50. A few doses usually conquer an ordinary cough—relieves even whooping cough quickly. Simple as it is, no better remedy can be had at any price.

This is Guaranteed to Stop Your Cough. Make this Family Supply of Cough Syrup at Home and Save It.

You can feel this take hold of a cough in a way that means business. Has a good tonic effect, braces up the appetite, and is slightly laxative, too, which is helpful. A handy remedy for hoarseness, spasmodic croup, bronchitis, bronchial asthma and whooping cough. The effect of pine on the membranes is well known. Pinex is a most valuable concentrated compound of Norwegian white pine extract, and is rich in guaiacol and other natural healing pine elements. Other preparations will not work in this combination.