HEAVENS IN FEBRUARY

RELATIVE POSITIONS OF MAJESTIC ORBS IN EVENING SKIES.

Easy Rules for Star Gazers-Glittering Beauty of Orion, Capella, Taurus, the Pleiades, Angol and the Blinking Demon -The Planets in February.



EBRUARY is a delightful month for star gazing, particuarly if one can reinforce the naked eye with an opera glass. At 9 o'clock in the evening, at the beginning of the month, and by 8 o'clock near its close, the finest of the constellations and the most brilliant of stars are above the

horizon, while around and overhead is a host of interesting objects -star clusters, nebulae and double starseither visible to the naked eye or within the reach of an instrument of very moderate power.

At an hour named the constellation Orion, with its splendid setting of first magnitude stars—Betelgeuse, Rigel, Sirius, Procyon and Aldebaran-stands in midheaven, almost exactly in the south. Overhead is the constellation Auriga, the principal in which. Capella, ranks in splendor second only to Sirius.

In the north the two most striking of the eircumpolar constellations—the Dipper or the Plow, as our English cousins prefer to call this remarkable group of seven stars, and the W shaped figure of Cassiopeia, "The Lady in Her Chair"—may be seen at about equal altitudes above the horizon, the one to the right and the other to the left of the Pole stars.

In the east is the constellation Leo, containing the star Regulus, the sickle shaped group of stars which forms the head of the constellation being at about one-third of the distance from the horizon to the zenith. At about the same altitude in the west is noticeable a pair of second magnitude stars in the head of Aries.

The seven stars named above—all of the first magnitude—can easily be identified by noting their relations to one another, as indicated on the annexed planisphere. Capella will be found almost exactly overhead. Betelgeuse is the upper and Rigel the lower of the two bright stars in Orion. Sirius is situated below and a little to the left-the observer's left-of the constellation; its surpassing brilliancy renders its identity unmistakable. Procyon, still farther to the left and at a greater altitude, is at about the same distance from both Sirius and Betelgeuse, forming with these two stars a nearly equal sided triangle. Aldebaran is to the right of Orion. The three stars in the belt of the constellation lie about midway between this star and

Regulus, although usually reckoned among the twenty stars of the first magnitude, stands near the bottom of the list, its brilliancy being much inferior to that of any of the other stars here pointed out. Its position as the "jewel" in the handle of the sickle is easy to recognize.

Midway between Regulus and Capella—
a little below a straight line drawn from
one to the other—may be seen a pair of stars which are about the same distance apart as the two "pointers" in the bowl of the Dipper. Being very conspicuous they are easily recognized. These are the twins, Castor and Pollux—the Gemini of the almanac. Pollux, the more southerly of the two, is of the same brilliancy as Regulus, and is usually reckoned as a first magnitude star. Castor, a little less bril-

liant, is placed in the second class.

GOLDEN HORNS OF TAURUS. It will be noticed that these eight first magnitude stars-the only stars of that class now above the horizon-are bunched within an erea that might be included within a circle which would take in considerably less than one-fourth of the visible hemisphere of the heavens, a fact which strikingly illustrates the irregularity in the distribution of the bright stars

over the celestial sphere. There are but six other stars of this order of brilliancy visible in our latitude, and these are scattered somewhat at random over the hemisphere which is now below the horizon. Another point worth noting in this connection, is that, while among our northern circumpolar starsstars which never disappear below our horizon-there is not one of the first magnitude, there are among the southern circumpolar stars, which never appear above our horizon, no less than six of this class.

On a curved line drawn from Capella through Betelgeuse to Sirius, about midway between Capella and Betelgeuse, is a pair of stars which somewhat resemble the Twins, but are less brilliant. These stars form the tips of the 'a olden horns" of Taurus-the horns with which the great celestial bull was said anciently "to open the year," the rising of Taurus, in April. being formerly the signal for the farmer to begin the spring's work.

THE GREAT NEBULA.

Facing the west one may see a line of four stars of the second magnitude curving downward from near Capella to the horizon, with a slight inclination to the right. The uppermost of these stars (marked aP on the planisphere) is Alpha Persei, the principal star in the constellation Perseus. The three others belong to Andromeda, the uppermost of the three, Gamma Andromedae (gA) being in the left foot and the lowermost in the head of the constellation.

The great nebula in Andromeda can be seen well only through a large telescope, but it is so often referred to that it may be interesting to know where it is. To the right of the middle star of the three just noted may be seen two faint stars, which, in connection with the bright star, form the belt of Andromeda. The nebula is near the outer of these two stars, at the point marked by a small circle on the chart. It is said to be visible to the naked eye, and, in fact, it was discovered before the invention of the telescope. An opera glass will show it unmistakably as a blurred

The star Algol (marked on the planis phere) can readily be found from the fac that it forms with Alpha Persei and Gamma Andromedae a nearly right angled triangle. On a celestial chart this star is located in the head of Medusa, which Persues carries in his left hand.

ALGOL, THE BLINKING DEMON.

Algol, the "Blinking Demon," as it was called by the Arabs, is an exceedingly interesting variable star. After maintaining for about two and a half days its ordinary splendor as a star of the second magnitude it begins to lose its brilliancy and at the end of three and a half hours it has faded to a star of the fourth magnitude. In this condition it remains fifteen or twenty minutes and then begins to brighten, and

in three and a half hours it has again become a star of the second magnitude, thus to remain for another period of two and a half days. The generally accepted explanation of this singular behavior of Algol is that it is attended by a dark satellite which revolves around it, and at regular intervals passing between us and it cuts off a portion of its light. On three evenings of this month "minima" of Algol will occur at hours favorable for observing them. On the 16th it will begin to wane at about ten p.m. (Washington mean time) and will reach its minimum of brightness a half hour after midnight. On the 19th its minimum will occur at twenty-four minutes past nine p.m. and on the 22nd at

thirteen minutes past six p. m. Another remarkable variable star-so remarkable that it has been given the name Mira, the Wonderful-is in the constellation Cetus (the Whale), which at nine p.m. is now only partly above the horizon, a little south of west. Mira's period is much longer than that of Algol and its habits are more eccentric. Ordinarily it is a telescopic star away below the limits of the naked eye, but occasionally it takes a freak and begins to brighten. After a while it becomes visible to the naked eye and in about forty days thereafter it has attained its greatest brilliancy, which is usually that of a star of the second magnitude. Then it begins to wane and at the end of three months it is again lost to the naked

MIRA'S MELLOW SPLENDOR.

Mira runs the cycle of its changes in an average period of 332 days, although it may depart from this period one way or the other to the extent of nearly a month, so that its return to splendor cannot be predicted with certainty. A maximum of this very interesting star is due this month and it will therefore be well to keep an eye on the spot where it should be seen, as indicated on the planisphere. The best time for observing it will be early in the evening, while the constellation is well above the horizon. The star Menkar (Mk.), in the head of Cetus, is of the second magnitude and makes a good comparison star for Mira when in sight. Observe that Menkar is at about one-third of the distance from Mira to Aldebaran.

Mira's maximum of brilliancy is irregular as well as its period. Sometimes when at its brightest it is more brilliant than the star Menkar, but more often it is inferior to that star. On a few occasions it has failed altogether to make its customary appearance.

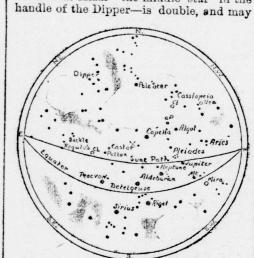
THE BEAUTIFUL PLEIADES.

The beautiful little cluster of the Pleiades, a short distance to the right of Aldebaran and above Jupiter, hardly needs to be pointed out as a fine object for an opera glass. Close beside Aldebaran is the V shaped cluster known as the Hyades. which is also a splendid object for that in rument. Another fine opera glass field is the region around Regulus, in the

About midway between the star Alpha Persel and the centre of Cassiopeia may be seen on a clear evening a little fleck of nebulous light, which a telescope of even moderate powers resolves into a beautiful star cluster. It is in the handle of the sword of Perseus. The cluster is double, there being in it two points at which the stars are particularly crowded. Seen through a good telescope this is undeniably the most beau-

tiful object of its class. At about one third of the distance Pollux to Regulus, in the constellation Cancer, is another fine telescopic star cluster, known as Praesepe, the Beehive. Both of these clusters may be seen with an opera glass, although to bring out their full beauty requires a more powerful instru-

There are now above the horizon many fine double stars which yield to an instrument of low power. A few of them, which may be found readily, may be pointed out. The star Mizar-the middle star in the



A PLANISPHERE OF THE HEAVENS FOR FEBRUARY.

(When compared with the heavens, this chart should be so held that the marginal letter indicating the point in the horizon which the observer faces is on the lower side.) be separated with a good field glass or, at

any rate, with an ordinary "spy glass." Its components are both white, one somewhat smaller than the other. Gamma Andromedae is a colored double. and it is not a very difficult object. Its

components are crange and green. It is one of the most beautiful of colored doubles for a small telescope. Castor is also a very fine "wide" double.

Its components are white and are of about equal splendor. Another very pretty double, but one which requires a somewhat higher power

for separating it, is Gamma Leonis, the third star in the Sickle, reckoned from Mercury will be an evening star through-

out the month. It reaches its greatest eastern "elongation" on the 25th, and for a few days about that time it may be looked for low in the west a half hour or so after sunset.

Venus shone with her greatest brilliancy on the 10th of last month, and since then has been rapidly drawing in toward the sun. On the fourth of this month she will be but one hour to the eastward of the sun and will be too low at sunset to be visible. Her inferior conjunction with the sun occurs on the 15th. After that date she will be a morning star.

Mars is now a morning star, rising at about one a.m. Jupiter is still a splendid evening star. remaining above the horizon until after one a.m. On the 14th he will be in qua-

drature with the sun. Saturn is an evening star, rising now at about eleven p.m. Uran's, in the constellation Virgo, rises at about midnight. Neptune is in Taurus, about one hour and twenty minutes in advance of Jupiter, but, of course, invisible to the naked eve.

Prince Bismarck's Terseness. Prince Bismarck was once urged by an official of the court to recommend his son for a diplomatic post. "He is a very remarkable fellow," said the proud father; "he speaks seven languages." "What a wonderful head waiter he would make," said Bismarck, who has not a very high opinion of linguistic acquirements.

POSTAL SHINPLASTERS.

A PLAN FOR ISSUING THEM FOR SMALL AMOUNTS.

They Might Be Sold by All Postmasters and Would Prove a Great Boon in the Business World - How the Scheme

An absolute necessity of the business world is a safe and convenient way to send a small sum of money through the mail. The money order system is a good one, but, besides involving a lot of red tape, it many times causes great inconvenience.

Some men resort to a piece of pasteboard, if coin is to be sent, the coin being placed in holes cut in the pasteboard. of the proper size. This cunning de-



HOW A POST CHECK WILL LOOK.

vice is expected to deceive the wily mail clerk, who is supposed to be on the outlook for spoils that may be going through

the mails. Some men keep a large stock of postage stamps, and when they wish to remit a small sum of money the equivalent is counted out in stamps. makes a lot of detail. After writing his letter and taking a copy of it the stamps are enclosed in the wet letter sheet, quickly folded up and mailed. The receiver, of course, knows some way of getting those stamps separated from the letter paper. If he doesn't it is not the

fault of the sender. Many men know that they can send a bank note with comparative safety, and prefer to take the risk rather than to expend the time necessary to secure money orders, postal notes or express orders. Neither of these expedients is in keeping with the modern conveniences of the

The Finance and Postoffice Departments might consider the idea herewith submitted, which is to issue fractional currency, somewhat after the plan of the old time shinplasters." The new notes would be called "Post Cheques," and it is proposed to issue them directly through the Post-

office Department. The accompanying illustration gives an idea of the new money. In place of the vignette, large engraved figures could be used to denote at a glance the value of the cheque. It is intended to preserve a uniform size; the \$5 cheque being of exactly the same dimensions as the one for five

In issuing a "Post Cheque," the person desiring to remit a small sum of money by mail would take the required amount out of his pocketbook, or secure it in any store, or of a friend, as he would a bank note that has been passing as a legal tender at par. He would write the name of the person to whom he desires to send the money on the first line, that person's city and province on the succeeding lines, and sign his name on the line which reads "Sent by."

The value of that piece of currency would be instantly destroyed to all persons except the one whose name is written on the first line. It is as safe as a bank draft, and the one who receives it is paid the value at the postoffice upon being identified as the person whose name is written on the first line. He thereupon signs his name on the last line and the note is stamped "paid" by the Postmaster and filed away as a voucher.

It is proposed to issue these notes in the same form as ordinary postage stamps. They are to be sent to the Postmasters throughout the country in the quantity they require, The postmaster pays them out over his counter, and is not required to punch, stamp or sign them. While the spaces remain blank they circulate at par, until someone chooses to use them for mailing purposes; thereupon the value of the note is destroyed as above indicated, and the note passes out of circulation for-

It is calculated that trade throughout the country would be largely increased if there were a simple and convenient way by which mail orders could be sent safely. The scheme is to issue post cheques without a fee, redeemable at the postoffice named on the cheque. The right is reserved to redeem them at the Postoffice Department at Ottawa, to avoid embarrassment in case too large an amount should be made payable at small offices at

Theosophy Growing.

one time.

Theosophy is by no means an obscure religion. But like many others that are or were obscure, it received an impetus from a representation at the Parliament of Religions. Since that series or congresses it has been brought more prominently than ever before the public. The strength of this faith, numerical and inficential, is not generally known. The society to-day has 80 branches in America, 150 in India and 50 in Europe. In India the society maintains schools, like our Sunday-schools, where children are taught the principles of Theosophy and trained in the translation of ancient sacred works. In the far East Princes and others of high easte number among the members of the society. The Theosophists are actively represented in nearly all the large cities of America. The society was organized in 1875. Since the death of Mme. Blavatsky Mrs. Annie Besant has been the chief exponent of the doctrines. The society in Toronto has likewise felt the impetus, and now has bublic headquarters of its own at 365 Spadina avenue. It distributes a great deal of literature free.

Apt and Poetical. Sierra means a saw, and its application to a range of pointed mountain peaks is very apt and poetical.

THE HUMAN RACE.



A NEW YORK PASTEL.

The scientist sat alone in his study in a fit of gloomy abstraction. He had given the better years of his life to arduous research; and now, just as a glorious demonstration of his theory seemed within his grasp, he was to be thwarted, apparently by a caprice of Fate. The world had been incredulous when he told it that he, following in the footsteps of his master, Darwin, had learned that many of the lower orders of animal life have languages of their own which may be mastered by man. The world had bid him bring it his proofs. Full of confidence, he had plunged into the African jungle in the hope that daily association with its hairy denizens would yield him the secret of their talk. When he emerged after many months, his heart was light, for triumph was his. Back to the great city of New York he had come, bringing with him two fine specimens of the genus Troglodytes niger, better known to common minded people as the Chimpanzee. Not only had he assured himself that they held speech together; but, greatest achievement of all, he had mastered a portion of their strange vocabulary, and was now able to chat with them in a halting and fragmentary way. Hardly had he become settled in New York, however, when his new-found friends refused to speak further with him. Worse yet, they had become sullen and taciturn even toward each other, speaking only such few words as would insure the barest civility. They had remained thus for many days. Each succeeding day found them still more reticent and morose.

Well might the patient savant bow his head in dejection! Science was balked on the eve of a mighty discovery. "If I could only get them into some place where they would feel at home!" he mused; "if I could but surround them with congenial companions!" At that moment a servant brought him a thick envelope bearing his address. He opened it listlessly, and took out a stiff, white card. A second's glance at it, and his fingers quivered with sudden excitement. With animation in every line of his face, he glanced quickly up at one of his charges. Perched on the top of a book case, it held a tennis racquet in its hands defiantly. Then he shouted that one word which is uttered by all great discoverers, whether of worlds or stove polishes: "Eureka!"

Half-past five o'clock on the afternoon of a pleasant day, in the drawing-Mrs. T. Swellington Crullers. the chief ornament of New York's most exclusive circle. The elegantly appointed rooms are thronged by the other ornaments of that exalted circle, and our friend, the Scientist, is also here helping to throng. His manner is blithe, and a look of conscious power adorns his brow. An expert in social matters would at once perceive the nature of this function without the aid of a catalogue. It is known as the five-o'clock" or "afternoon tea." Here are Society Persons who have been so for years. They lend solid decorum to the scene, and munch three-cornered lettuce sandwiches between whiles. Then there is a younger element. society buds - of both sexeswho quaff fragrant oolong from dainty cups, and have lively conversation with one another. Only upon a closer examination of the assemblage, succeeding his first casual survey, would the social expert detect the presence of two guests oddly at variance with the others. Not by word or action-only in appearance—is their oddity displayed. They are the Chimpanzee friends of the Scientist,-no longer morose and silent, but gay, animated and talkative. The smaller of the two stands carelessly turning the leaves of "Society as I Have Found It," and listening delightedly to the chatter of a large, impressive man, with gray mustache and imperial. The larger Simian, a Chrysanthemum in one hand, at which he nibbles delicately from time to time, is delighting those present by displaying with each newcomer his proficiency in The Scientist gazes proudly at his

the last London handshake. charges. Now they meet and exchange amiable greetings in their native patois. He listens eagerly for their words. He hears a sentence which he knows to mean: "It's the first time we've felt at home since we left the jungle; hey, old man?" His heart gives a glad bound. Straight before him lie all of honor and glory that the world is ever ready to accord to Genius. "It's all plain sailing now," he mutters; "with this sort of thing every day, and a box at the opera, I'll have those fellows talking good English and leading cotillions before the season's over-if this S.P.C.A. doesn't get on to me.'

Tea and sandwiches continued ion their ways; conversation continued to sparkle. The two foreigners, for we must now so designate them, mingled easily and gracefully with the giddy throng. Presently they approached their benefactor. "We must thank you for such a pleas-

ant afternoon!" they said. New York's 400 was now 402. Science, too, had scored its victory.—Judge.



Elder sister—"Why don't you improve your mind, Belle, instead of coninually dawdling about the house?" Belle-"What's the use? I am enKNOW MANY TRICKS.

Dogs That Hail From England and Have A World-Wide Reputation.

There were six of them, and they sat on overturned wooden tubs and regarded their audience with a calmly discriminating eye. Mustard, who was the only one who had no clothes on, seemed desirous of explaining the circumstance, but Baldy, who wore a new blue satin gown, with a lace frill, distracted his attention every time he had the flower, by breaking in with a few remarks of his own, which were entirely irrelevant.

Pepper, in flesh-colored tights and cherry satin trunks, seemed ill at ease and desirous of assuring the audience that he didn't usually look so like a fool.

Cigarette, a beauty, named after one of Baron Adolph Rothschild's canine pets, wore a yellow satin dress, profusely spangled and rather decollete. She seemed inclined to put on airs. Lily, the oldest of the lot, was attired

only in a blue sash and her own fleecyfluff of curls, from which her inquisitive eyes peered out like shadowed stars. The master of the ceremonies stood in the centre of a circular bit of carpet that was stretched over the cleared space of an

attic floor. He carried a long whip in his

hand and spoke with the tones of one born to be obeyed. The six occupants of the wooden thrones were Mme. Marcart's famous trained dogs, known all over Europe for their phenomenal tricks.

Sarah was a baby monkey, whose heel was lifted against mankind in general, always excepting her master and mistress, whom she adored.

First, Baldy descended from his tub, gave a flirt to his gown to shake out its magnificent train and began to waltz. He held his head well back, dangled his front paws most delicately, and circled around the ring in perfect measure.

"Faster!" cried the master, with a crack of his long whip, and the dainty feet accel erated their speed to double quick. "Swing partners!" rang the command, and like a flash down dropped Pepper from his seat and swung the waltzer to place. With

a low bow the two then resumed their "Cigarette, could you give us a few somersaults?" quaried the master.



CORBETT AND MITCHELL.

but consented to try. Over and over she went like a revolving wheel, and seemed to fairly laugh with glee when the madam handed her a crumb of biscuit as a reward of merit. She resumed her seat and Musard immediately went through the "fig are 8" with a short, incoherent yelp of

'Fetch Saran out," directed the master, which madam proceeded to do. Oh, what a fuss! The air was full of chatter like chips of flying paper. The monkey had on an old-rose dress and wore a velvet cap. She was disagreeably inclined and the audience was atraid of her. "Sarah won't hurt you," said madam,

"without you try to play with her." "Come, Sport, called the master, and the big, auburn-haired dog got down off his tub and commenced to gallop around the ring. "Catch him, Sarah!" again shouted the master, and the uncanny monkey scrabbled on Sport's back and clung there like a burr. Around and around they went, faster and faster, Sarah turning summersaults in the air and resuming her place on poor Sport's padded back with a smirk and a squeal of satisfaction. After a while hurdles were brought and a high ring, through which the monkey vaulted. "Talk about the relative intelligence of

dogs and monkeys!" exclaimed the madam. You can teach the former in one-half the time you can the latter. Dogs rank next to men, in my opinion.'

The next trick proved the funniest of all. Baldy and Pepper put on the gloves, or allowed them to be put on, with low growls of fury.
"Time!" called the master, and the two

leaped into the center of the ring and began pummelling each other like prize fighters. Around and around they went, snarling and spapping most humanly. Baldy was cool and nervy, holding his head well back and dealing his blows with accuracy and precision. Pepper was more excited and lost his advantage.

"Time!" called the master again, and the round was finished. They went at it again and again, but just at the close of the third



round Cigarette jumped into the ring and parted the contestants. She received a biscuit for her valor, and showed a desire to roll with it behind her throne. Being sharply assured by the madam that if she soiled her gown she wouldn't get another, she resumed her seat and whispered something to the well-behaved Lily, which greatly affronted the latter. Lily, however, took her place in the centre of the ring ready for duty.

"Could you give me a few steps of the latest dance?" asked the master. The young lady thought she could and pranced through a few measures of a gay whirl. "Most wonderful! I trust that your success is commensurate with their talents," she added. "In England, my dogs are most popular," remarked the madam. "I have played them before the Prince of Wales again and again, and Baron Rothschild's box was always occupied whenever 'Mme. Marcart's dogs' were billed. But in this country you people take little interest in this smart, intelligent animal."

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