

it finally lay upon a bed on the very top of the keel. Then the port was closed up. The weather was good except for three days of the voyage. No danger at all was apprehended; in fact Mr. Gorrige considered that such a rigid body rather strengthened the ship.

#### NEW INVENTIONS.

An improvement in mowers has been patented by Mr. Peter P. Coler, of Clyman, Wis. The object of this invention is to furnish mowers so constructed that they may be readily adjusted as front cut or rear cut machines.

A vehicle spring, patented by Mr. Fred. Schelp, Jr., of Baldwin, Mo., consists in the combination with the side-bars and cross-springs of a side-bar wagon of a median longitudinal spring passing under the front and rear axles, and connected with the body by stay-rods, whereby a more elastic, easier running, and stronger spring gear is secured.

An apparently important improvement in well-boring apparatus has been patented by Mr. Edgar P. Watrous, of Moravia, N. Y. The invention relates to wells which are formed by sinking metal tubes. The tube is provided with a cutting edge at the lower extremity, and is made to penetrate the earth by rotation on its vertical axis, being fed to its work by means of a screw-feeding arrangement. The rotation is accomplished by a hollow crank joined to the top of a tube section through which water is forced, the water being discharged from the upper part of the tube section, to which is attached a small chamber and spout.

In a machine for packing bran, patented by Wm. L. Williams, of San Diego, Cal., a series of stamps are fitted within a vertical cylinder in which they are reciprocated, while at the same time the entire series is revolved on its vertical axis to pack the bran in a bag attached to the lower end of the cylinder which is open. The bran is fed to the bag through a feed-pipe obliquely joining the side of the cylinder.

By novel and very simple details of construction a reclining chair, patented by Mr. Phillip Herbold, of Galion, Ohio, may be adjusted in different positions.

An improved aerial apparatus has been patented by Mr. Frederick W. Brearey, of Maidenstone Hill, Blackheath, London, Secretary of the Aeronautical Society of Great Britain. The inventor makes use of a vessel or apparatus the body of which is long and narrow, with tapering ends, and of the greatest sectional area at or near the center of gravity, in order to present the least possible resistance to the air, and at the same time furnish suitable space for containing the motive power and other requisite machinery and also accommodation for passengers. Two or more lever arms are attached and jointed to the longitudinal body at or near the front thereof, and the said arms are vibrated by suitable power, and give motion to flexible fabric, whereby the apparatus is sustained and propelled. Mr. John F. Mackenzie, of 16 Hawley street, Boston, Mass., represents this invention in the United States.

In a speaking-tube, mouth-piece, and bell-lever patented by Mr. William R. Ostrander, of New York city, speaking-tubes and bell-levers for operating bell wires are combined in one apparatus, which effects economy in construction and convenience in use. The bell lever is pivoted on the mouth-piece, and both are secured to the wall by a single attachment.

Mr. William Winegar, of Chambersburg, Ill., has patented an invention which avoids the necessity of special supports for the wheels of grain drills, and provides that each wheel shall maintain a constant position relative to the bottom of its tooth for all changes in the position of the tooth by an automatic adjustment. He combines with the hollow drill tooth a pronged wheel attached directly to the side of the tooth and carried by the latter, which clears the drill tooth of straw or other obstructions instead of arranging such wheel between the teeth of the drill as has heretofore been done.

#### Correspondence.

##### A Remarkably Brilliant Meteor, as Seen at Bloomington, Ind., December 30, from 8 o'clock to 11 o'clock.

The night of the 29th and 30th was very cold ( $-15^{\circ}$  by Six's thermometer) and windy. The thermometer at 8 o'clock A. M.  $-6^{\circ}$ . The sky slightly hazy.

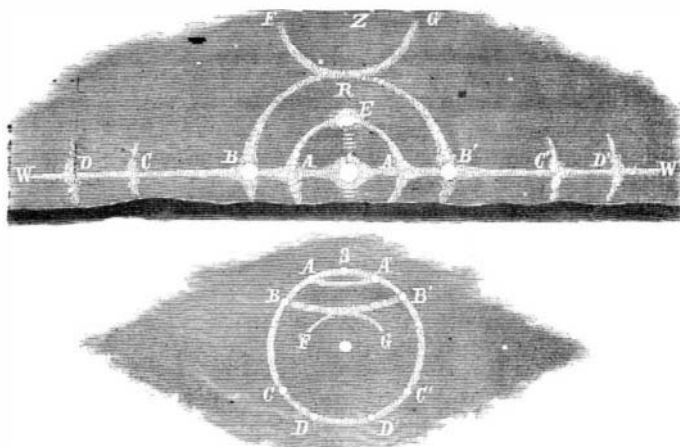
The mock suns, A, A', were very large and bright, rivaling the sun in splendor, and they cast into the room well defined shadows, and their light on the wall was rather yellowish compared with the white light of the sun. These parhelia were at the intersection of the inner halo, A E A', and the horizontal circle, W W'. This halo was very distinct, somewhat brighter at its summit, E, than on each side of it. The diameter of the inner halo, as roughly estimated from the shadows cast by the sun and one of the parhelia, was  $42^{\circ}$  or  $43^{\circ}$ . The second halo, B R B', was not so bright; it was surmounted by a brilliant colored arc of about  $120^{\circ}$ , with its convexity toward the sun. We could easily distinguish the red, orange, yellow, and blue colors. The center of this arc was in the zenith. The parhelia at the intersection of this halo and the horizontal circle were perfectly distinct—as bright as those usually seen on the inner halo. The parhelia, C C', were perfectly white and somewhat fluctuating, C' the brighter of the two. D and D' were

mere blurred and faint patches of light, apparently about as far from a point diametrically opposite the sun, as A and A' were from the sun. The cross in the inner halo, as represented in the figure, added much to the beauty of the phenomenon. The haloes were seen till nearly noon, when they disappeared, then they appeared again between 2 and 3 o'clock P. M., nearly as splendid as in the morning, but lasting only a short time.

T. A. WYLIE.

Bloomington, Ind., Dec. 30, 1880.

[In addition to the above, we have received letters and sketches from other correspondents widely separated from Mr. Wylie and from each other, who observed this splendid



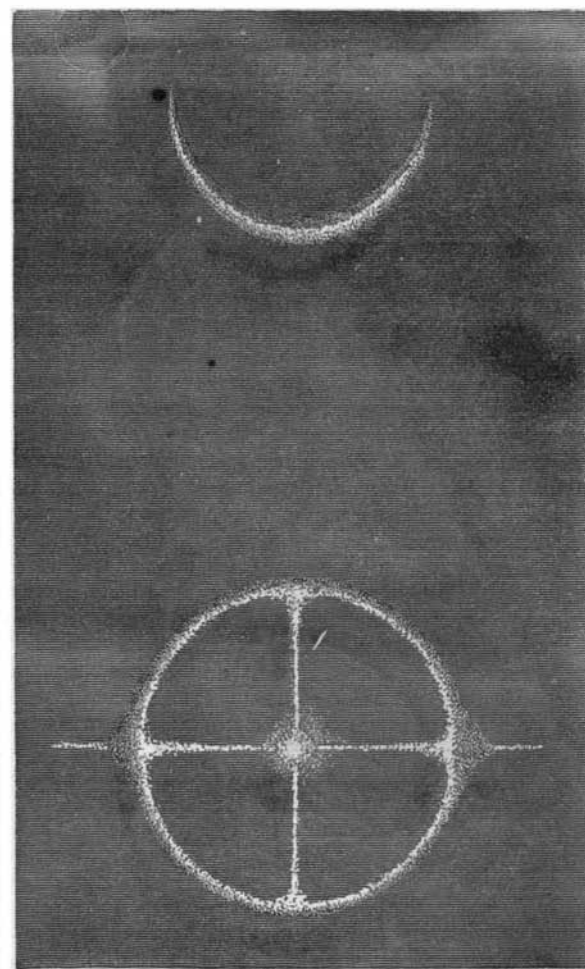
METEOR SEEN AT BLOOMINGTON, DEC. 30, 1880.

phenomenon. Mr. J. Mahr, of Suel, Minn., saw it first at noon, and says it was visible throughout the greater portion of the afternoon. Mr. C. Petri, of Hannibal, Mo., saw it. Rev. W. M. Richards, of Berlin, Wis., writes that he observed a similar phenomenon on the 26th ultimo, which surpassed anything he ever witnessed of the same nature; and to assure us of the correctness of his dates has written a second letter stating that the display observed by him should not be confounded with that seen on the 30th ultimo.]

#### The Parhelia.

To the Editor of the Scientific American:

On the morning of the 30th ult., at about 10 A. M., a very beautiful atmospheric phenomenon was observed at this



PARHELIA AS SEEN AT JERSEYVILLE, ILL.

place, such as I never before witnessed, or ever found wholly described in any written work on the subject. I made a sketch of it on the spot, as faithfully as possible, and herewith send you a rough though true copy thereof, the relative dimensions and distances being preserved as correctly as possible. The night preceding was intensely cold, the mercury falling to  $20^{\circ}$  below zero.

There appeared, at the hour above stated, two very brilliant mock suns intersected by a well defined, slightly iris colored, bright circle, having the sun at its center. This circle was divided into quadrants by four brilliant rays of white light, radiating apparently from the sun, two horizontally and two vertically; the horizontal rays intersecting the mock suns, and extending some distance beyond, as shown in the diagram.

The most remarkable part of this interesting phenomenon was the appearance of a brilliant inverted crescent near the zenith, subtending from cusp to cusp an angle of about  $14^{\circ}$ . The colors were disposed in prismatic order and as brilliant as those of the most beautiful rainbow I ever saw; the red outside, toward the sun; the violet inside. The mock suns were also strongly tinged with red on that side farthest from the sun.

This beautiful celestial spectacle, which almost every one turned out to see, reached its maximum brilliancy about noon, and gradually disappeared about 3 P. M.

I am aware that the crossed circle and mock suns are not new, for I remember having noticed a description of an appearance of this kind in either the SCIENTIFIC AMERICAN or its SUPPLEMENT, some years ago, but the beautiful and brilliantly colored crescent that so much enhanced the splendor of the spectacle is, to me, new.

I should be pleased to know whether this phenomenon was seen from other places, and whether the like has been before observed.

F. S. DAVENPORT.

Jerseyville, Ill., January 1, 1881.

#### Magnificent Parhelia.

To the Editor of the Scientific American:

At about 10 o'clock this forenoon quite a number of our citizens observed a very strange, magnificently grand spectacle, never before seen by any of the spectators. It consisted of two mock suns, an arc of a rainbow inverted, and a halo of wonderful beauty.

The wind last night was nearly northwest. Yesterday morning the thermometer indicated  $25^{\circ}$  below zero, and averaged  $15^{\circ}$  all day yesterday; to-day, at the time of seeing the parhelia, it indicated  $2^{\circ}$  below. The sky this morning was clear, and the air sharp and crisp, with quite a slight breeze.

The parhelia or mock suns were bright and distinct and in the usual places, namely, in the two intersections of a strong and large portion of a halo, with an imaginary circle parallel to the horizon passing through the sun. Each parhelia had its tail of a varied yellow, red, and white color, and in apposition to the true sun, that toward the east being 20 degrees long and that toward the west 15 degrees, both narrowing to a point at the remote ends.

The mock suns were quite red toward the sun, but pale or whitish at the side, as was the halo also. Still higher in the heavens was an arc of a curiously inverted rainbow about the middle of the distance from the top of the halo and the vertex. The arc was as marked and distinct in its colors as the common rainbow, yet somewhat wider.

The red color was on the convex and the blue on the concave of the arc, which seemed to make 180 degrees in length, its center being in or near the vertex. On the top of the halo was a kind of an inverted bright arc. This brilliant scene was visible for more than half an hour.

Although it is recorded that quite a number of parhelia have been seen, both in ancient and modern times, yet I can find an account of but one similar in its appearance to the one seen here to-day, from which I have copied largely in my description, as they seemed so nearly alike.

The other spoken of is found on page 329, of volume ii., of the *Family Magazine*, published in New York in 1835, by Redfield & Lindsay. It is there stated that they were seen at Lyndon, in the County of Rutland, England, at 11 o'clock in the morning on the 22d day of October, A. D., 1721, and were seen the following day, and again on the 26th.

J. IVOR MONTGOMERY.

Sandwich, Ill., December 30, 1880.

#### Restoring the Dead.

Professor Fort has presented the question of premature interments to the French Academy in a paper on artificial respiration. One fact he mentions is, that he was enabled to restore to life a child three years old by practicing artificial respiration on it some four hours, commencing three hours and a half after apparent death. A similar case is reported by Dr. Fournol, of Billancourt, who reanimated a nearly drowned person after four hours of artificial respiration. This person had been in the water ten minutes, and the doctor arrived one hour after asphyxia. Professor Fort advocates also the utility of artificial respiration in order to eliminate the poison from the lungs and glands. The length of time it is desirable to practice artificial respiration in any case of apparent death from asphyxia may be said to be several hours.

#### A Case of Leucoderma.

Dr. J. H. Thompson, of Goshen, N. Y., writing to the *Medical and Surgical Reporter*, states that there is a negro of quite advanced age living in that village, whose case gives an affirmative answer to the question, "Can the Ethiopian change his skin?" He furnishes a unique example of the rare skin affection known as *leucoderma*, or *achroma*. The transformation has been in gradual progress for several years, until, at the present date, the man, formerly of typical negro blackness, has become of fair Caucasian whiteness in at least half extent of surface. He is, as always happens in leucoderma, piebald as regards transformation. As an extraordinary specimen of a dermatological lesion the individual is a decided curiosity.