carried at the rate of half an inch per hour from right to left by a clock.

There is a third steel spring of the same length and strength as those on the reservoir, stretched by a weight to a distance equivalent to 30 inches on the barometer scale. The object of this spring is to give the correction of temperature for those sustaining the reservoir. The register paper should always be set to the same line on which the pencil of this spring marks.

The movements of the mercury on the register can be magnified to any required extent by increasing the length of the spiral springs. In this instrument it is multiplying twice.

DESCRIPTION OF INSTRUMENT.

The tube marked *a b* is of glass; the upper part is of a larger diameter than the stem, *a* being ¾ of an inch internal diameter and 10 inches long, while the stem, *b*, is ⅛ of an inch bore and 26 inches long. The total length of the tube is therefore 36 inches. The reservoir, *c*, is suspended from a brass frame, *d*, fastened to the back of the case. This frame also holds the upper ends of the steel springs, *e*, *e*, *é*. The glass reservoir, *c*, is of the same diameter and length as the upper part of the tube, *a*; on its open end is turned a flange to hold it in a brass frame, *f*, to which are fastened the lower ends of the steel springs, *e e*; it also carries an ink pencil, *g*, that touches the ruled paper on the board *h h*, which is drawn aside by the clock, *i*. The spring, *é*, is for the correction of temperature on the other springs. Heat has a slight effect on them, causing them to lengthen about $\frac{1}{16}$ of an inch from 90 degrees Fahr.; to allow for this, the third spring, *é*, is weighted with a lead weight and pencil, it marks its fluctuations on the upper line of the register sheet. In this manner this instrument gives the correction for temperature (or reduction to 32°) from the fact that it weighs the mercury instead of measuring its length, which is affected by heat.

Ink pencils of the barometer and other instruments are made by drawing narrow glass tubing to a fine point, which lightly touches the paper register, leaving a mark of red ink that has been diluted with about one quarter of its volume of glycerine. The glycerine prevents the ink from drying too rapidly. The advantage of this form of pencil over lead ones is that it requires little or no pressure to produce a mark.

To receive the atmospheric fluctuations a suitable ruled paper is fastened by means of small brass clamps, *k k*, to the board, *h h*, which is hung by rollers to the thick steel rod fastened to the sides of the case, on which the paper is carried from right to left by the clock, *i*, at the rate of ½ an inch per hour, by means of the pulley on the hour arbor of the clock. The wire that connects the register board to the clock is soft steel, number 28 wire gauge; having only one turn round the pulley it readily slips so that the board can be pushed sideways for the adjustment of time, or for the renewal of the sheet of paper."

ON AN OCCURRENCE OF GOLD IN MAINE.*

By M. E. WADSWORTH.

The gold under consideration here is found on Seward's Island, a small island in the town of Sullivan, Hancock County. The gold is found in quartz veins cutting an eruptive mass of diabase. This diabase forms a dike of about forty feet in thickness, lying approximately parallel to the bedding of an indurated fine-grained argillaceous mica schist; all dipping nearly S. 30° W., 24° to 42°. The dip averages about 35°, and the strike is far from being uniform. Crossing the diabase at various angles, but generally from north to south, are segregated quartz veins. In some places the rock is a confused reticulated mass of these veins, with patches of diabase lying between them. The veins vary in width from a mere seam to even a foot in breadth. Starting where only one or a few of them are visible, they gradually increase in number, until they become quite numerous, while they will doubtless be found to fade away as they began. The diabase and schists are cut by several dikes of diabase running approximately at right angles to the strike of the schist, or parallel to the veins. The vein stone is quartz, together with some calcite, tremolite and chlorite, and carries tetradymite and gold.

So far as examination has been made, the veins in the diabase carry gold, and the decomposed diabase immediately adjacent to the quartz veins also contains that metal to a greater or less extent. The gold occurs principally in small grains in the vein in conection with the tetradymite, bits of decomposed diabase, and in the cavernous portions, but not in the compact quartz of the vein itself. The tetradymite is in irregular grains and masses, showing a brilliant metallic lustre, and a well-marked basal cleavage. The locality is worked for it gold, and was visited by the writer in December last

CAMBRIDGE, Mass.

*From the *Bulletin of the Museum of Comparative Zoology*.—Harvard College.

ELEMENTS AND EPHEMERIS OF COMET (*c*), 1881.—SCHÆBERLE.

The elements and ephemeris of the comet, given below, are those computed at the observatory of Lord Crawford, at Dun Echt, Scotland, and cabled to the *Science Observer* by means of the code adapted by S. C. Chandler, Jr., and John Ritchie, Jr.

ELEMENTS.

Perihelion Passage, 1881, Aug. 21^d .50. Greenwich Mean Time.

Long. Perihelion	=	218	45	Eq. 1881. o.
Dist. Perihelion from Node	=	121	9	
Long. Node	=	97	36	
Inclination	=	140	37	

log. Perihelion Distance, 9.8069.

EPHEMERIS.

Greenwich midnight 1881.	R.A. h.	m.	s.	Decl. °	′
Aug. 3	6	43	4	+ 47	46
7	7	11	24	50	11
11	7	54	56	52	20
15	8	59	24	52	57

Computed by Drs. Copeland and Lohse, at Dun Echt Observatory, from observations at Vienna and Dun Echt.

The following elements have kindly been furnished by Prof. Ormond Stone, of Cincinnati:—

T = August 19.202.

	°	′	″
ω =	122	30	21
Ω =	98	42	41
i =	141	35	2

log. q = 9.79590.

Science Observer Special Circular No. 16

THE following simple electrical experiment is described in *L'Electricien*. A small box of pasteboard is closed with a lid of fine glass, on the upper surface of which collodion is applied several times (but not so much as to render the lid opaque). In the box are placed insect forms, made of sponge or cotton. On rubbing the collodion surface with dry fingers, in dry weather, the insects move about in a curious manner.