SUNBEAMS.

which it resembles in appearance. A little piece cut off and laid in the hand had so much the look of lead that we should certainly have called it that if we had not been told otherwise.

Indium was afterward discovered by the two lines in the indigo from which it takes its name.

Thallium is the only one of the new metals which has been put to any practical use. It has been employed to make green thame in fireworks. As it costs immensely more than gold, this may not be thought very practical.

It was a great advance in spectrum analysis when it was found that substances absorb the light which they give out. If a note be sung near a piano, the wire corresponding to that note may be seen to vibrate, and the same note may be heard coming from it, showing that it has in a manner absorbed the waves of sound before giving them out. A sodium flame held before a brighter sodium flame looks opaque, but before any other flame transparent, showing that it absorbs only its own kind of light. Liquids also absorb each its own kind of light. If a tube containing some diluted arterial blood is held before the slit of a spectroscope so that the light entering the slit must first pass through the solution, the spectrum shows two dark absorption bands toward the red end of the spectrum; venous blood gives only one band. These bands are different from the absorption bands of a solution of magenta or any red solution looking like blood, so that the spectroscope gives a sure test of blood. Blood containing a very small quantity of carbon monoxide gas in solution exhibits a very peculiar set of bands. The poisoning effect of burning charcoal is chiefly due to this gas, and can therefore be readily detected. By means of a train of prisms fitted to a microscope, the one-thousandth part of a grain of the red coloring matter in a blood stain shows the bands. The spectroscope has already several times given important evidence in murder cases.

The earth's atmo phere has been suspected of making the Fraunhofer lines by absorption, since in the evening, when the sun's rays have to pass through a greater thickness of air,

1884]