

columbium, tantalum and titanium with rubidium and cesium a difference in solubility of the salts would be found which would afford a better separation of these metallic oxides under discussion. This hope has not been realized.

5. Heating the oxides of columbium and tantalum in sealed and vacuous tubes with phosphorus pentachloride yields the pentachlorides of these metals and phosphorus oxychloride.

I take pleasure in acknowledging the kindness shown, and the interest taken in the preceding work by Dr. Edgar F. Smith, of this University, in whose laboratory it was carried out.

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AN IMPROVED GAS PIPETTE FOR THE ABSORPTION OF ILLUMINANTS.

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IN the use of the apparatus for this purpose ordinarily furnished by the dealers, difficulty has always been experienced in sucking the gas back from the pipette, owing to the moist beads and the glass wool entrapping some bubbles.

To obviate this, the writer has, for the past two years, made use of the modification shown at one-fourth size in the sketch. The round bulb filled with beads and glass wool in the usual form, is replaced by a cylindrical one about two inches long and an inch and a quarter in diameter, filled with tubes standing vertically, after the manner of the Orsat pipettes. The surface presented is nearly the same and no trapping of the gas can take place.

The stand is the one already described,¹ and the whole apparatus may be obtained of the Ziegler Electric Co., of Boston.

¹ Gill: *Am. Chem. J.*, 14, 231.

