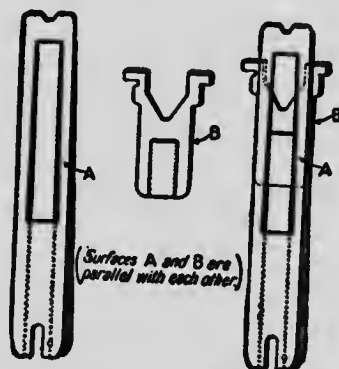


back of another, so that their outer boundaries were parallel. Wedges thus united, and slidden upon one another, serve to lift great weights. In small sizes they are the taper-parallels and taper-wedges of machinists. In a few small printing offices there still linger wedges in pairs used to secure type in its iron frame, called a chase. One



J. W. SCHUCKERS' DOUBLE-WEDGE JUSTIFIER

series of wedges is cast on the inner side of this chase; between these cast wedges and the type wooden wedges, or quoins, are driven by a shooting stick and a mallet. Here, indeed, Schuckers may have received a suggestion for double-wedges so refined as to conquer a field incomparably more important than any other to which wedges had ever before been applied.*

*Jacob William Schuckers was born in Philadelphia on March 18, 1831, of a German father and a Irish mother. In 1832 his parents removed to Wooster, Ohio, which became their permanent home. Jacob attended public schools until 1846, when he entered the composing room of the *Wooster Republican*, and learned the printer's trade. He remained there until 1859, when he went to Cleveland, Ohio, and worked as a printer on the *Leader* of that city. During the summer of 1860 he became a clerk in the United States Treasury at Washington. Next year, when the Hon. Salmon P. Chase, of Ohio, was appointed Secretary of the Treasury, he engaged Schuckers as his private secretary, always regarding him with im-