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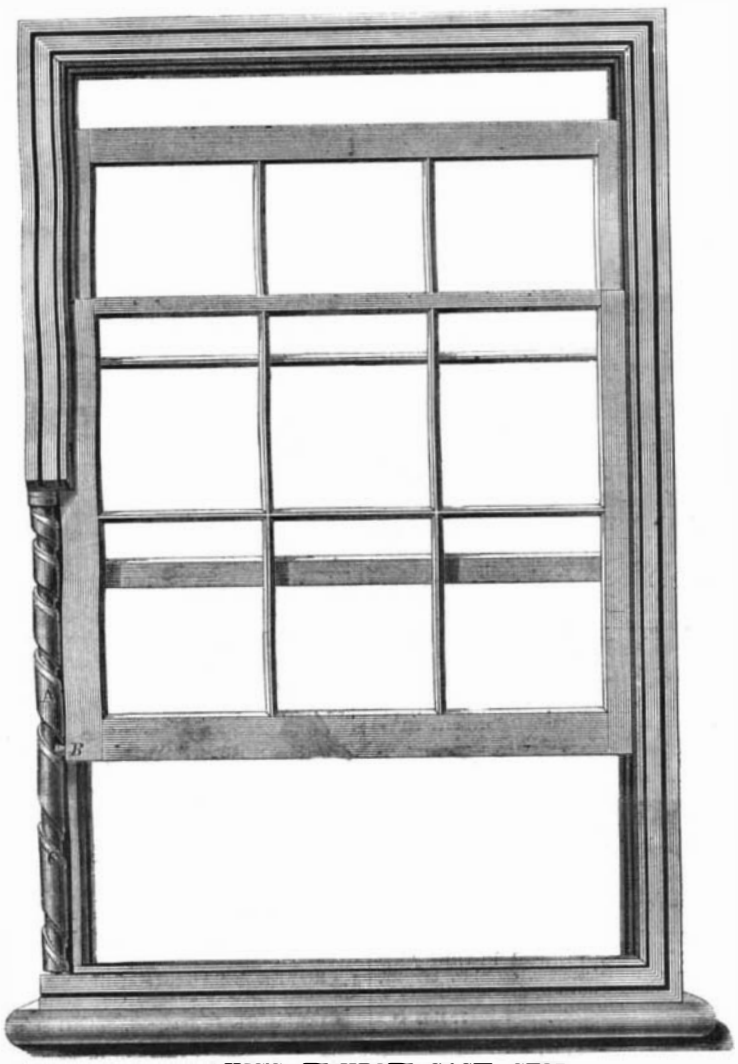

DAVIS'S WINDOW SASH STOP.

.y. There is also a vertical slot between the two frames of the window in which a roller attached to the sash works; so that the lateral impulse, which is given to the sash by the spiral groove in moving the sash up and down, will not tend to make it work hard or draw out of place. The operation of this device is very easi y seen: when the sash is down, the spring is wound up, and the act of raising it causes the cylinder to revolve and aid the upward movement. It will be seen that the spiral on the cylinder is not of the same pitch throughout its length, but that near the top it becomes quicker; this is to compensate for the relaxed power of the spring as it becomes weaker the pitch is slower, and the cylinder revolves with more ease. When the sash is checked at any point it remains there supported by the cylinder and cannot possibly get away. There is nothing visible outwardly, the appearance of the frame being uninjured by fixtures of any kind. The invention was patented through the Scientific American Patent Agency on Oct. 6th, 1863, by John Davis, of Council Hill Station Ill.; further information can be had by addressing him at that place.

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A drawing is made with a greasy ink on a steel plate, and the plate is then plunged into a saturated solution of sulphate of copper containing 10 per cent of nitric acid. By the action of the steel the copper is reduced from the sulphate, and all portions of the steel plate not protected by the ink are instantly covered with a coating of metallic copper, which protects the steel from the action of the nitric acid. The acid soaks away the ink, and dissolves the steel, forming channels beneath the lines. But as the acid soaks away the ink it is followed by the copper solution, and a coating of metallic copper is deposited within the lines, protecting them from the further action of the acid. As the copper is deposited first at the edges of the lines, all action of the acids upon the sides of the channels is prevented, and as the acid continues its work longest towards the middle of the line, the channels are made of "V" form, which is precisely the form desired by the engraver.

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