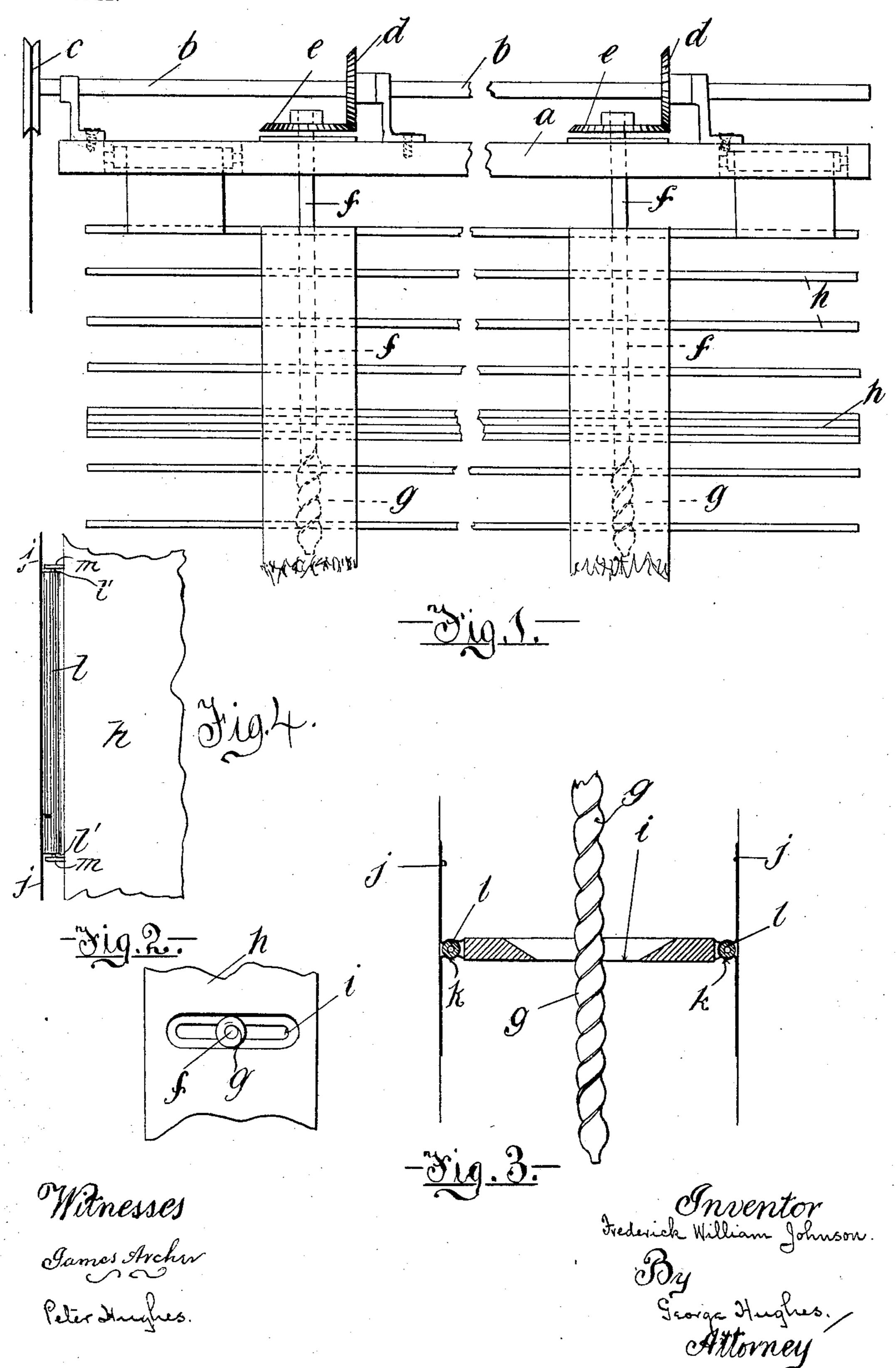
## F. W. JOHNSON. VENETIAN BLIND.

APPLICATION FILED AUG. 17, 1903.

NO MODEL.



## United States Patent Office.

## FREDERICK WILLIAM JOHNSON, OF BRIGHTON, ENGLAND.

## VENETIAN BLIND.

SPECIFICATION forming part of Letters Patent No. 771,370, dated October 4, 1904.

Application filed August 17, 1903. Serial No. 169,812. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK WILLIAM JOHNSON, a subject of the King of the United Kingdom of Great Britain and Ireland, residing at Herbert House 8, Upper Hollingbury Road, Brighton, in the county of Sussex, England, have invented new and useful Improvements in Connection with Venetian Blinds, of which the following is a specification.

This invention relates to improvements in connection with Venetian blinds, the object being to provide for the gathering of the laths at the top instead of at the bottom of the blind and without the use of the usual cords which pass through the slots in the laths.

In carrying my invention into effect I proceed in or in about the following manner, making reference to the accompanying drawings, wherein—

Figure 1 is a side view of a blind fitted according to my invention. Fig. 2 is a plan showing hole in lath, and Fig. 3 a section through the width of a lath and through the tapes attached thereto. Fig. 4 is a plan of part of a lath and the mode of attaching the tapes thereto.

Above the top board a, from which the blind is suspended, I provide a spindle b, which can be rotated by an endless cord working over 30 a pulley c or by toothed gearing. To this spindle b are fastened two bevel-pinions d, which gear with two other bevel-pinions e, the vertical spindles f of which are continued below the lath and at their lower ends 35 joined with a spiral g, like that of a twistdrill, an untwisted part of sufficient length to hold nearly all the laths h when raised (say twelve inches for an ordinary blind) being provided above the spiral, which may be about 40 three inches long and have a pitch of fiveeighths of an inch at the bottom of the spiral and one-quarter of an inch at the top.

In the laths h are slotted holes i, similar to those in the usual laths, and these holes are

metal-bound and lined and slope outward 45 from the under face of the lath to the upper face, their bottom width being less than the outer diameter of the spiral g.

The webbings or tapes j are made without the usual "steps" to connect those in front 50 of and those behind the laths.

The front and back tapes j are, however, provided with piping k across their width and woven with the tapes or stitched thereto, and through these are threaded small rollers l, the 55 spindles of which run in small bearings or ears on the laths, and these bearings or ears may form part of the metal bindings of the slotted holes in the laths.

The operation of raising the laths is as follows: On rotating the spindle b above the top board a by the means provided for the purpose the bevel-gearing will rotate the vertical spindles f, the screw-twists g on which, working in the slotted holes in the laths h, will 65 gather up these laths one after another until all or nearly all of them have been placed above the spiral a.

What I claim as my invention, and desire to secure by Letters Patent, is—

In Venetian blinds the combination of a top board: tapes hanging from the said top board and having pipings across their width: slotted laths having rollers at their edges inserted in the said pipings: rotatable spindles depend-75 ing from the top board and terminating at their free ends in spirals which engage with the sloping sides of the slots in the slotted laths and means for rotating the said spindles, substantially as hereinbefore described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FREDERICK WILLIAM JOHNSON.

Witnesses:

FRANK KEMP, GEO. BAILEY.