

J. L. WATERBURY.  
HOT AIR REGISTER.  
APPLICATION FILED DEC. 7, 1908.

915,133.

Patented Mar. 16, 1909.

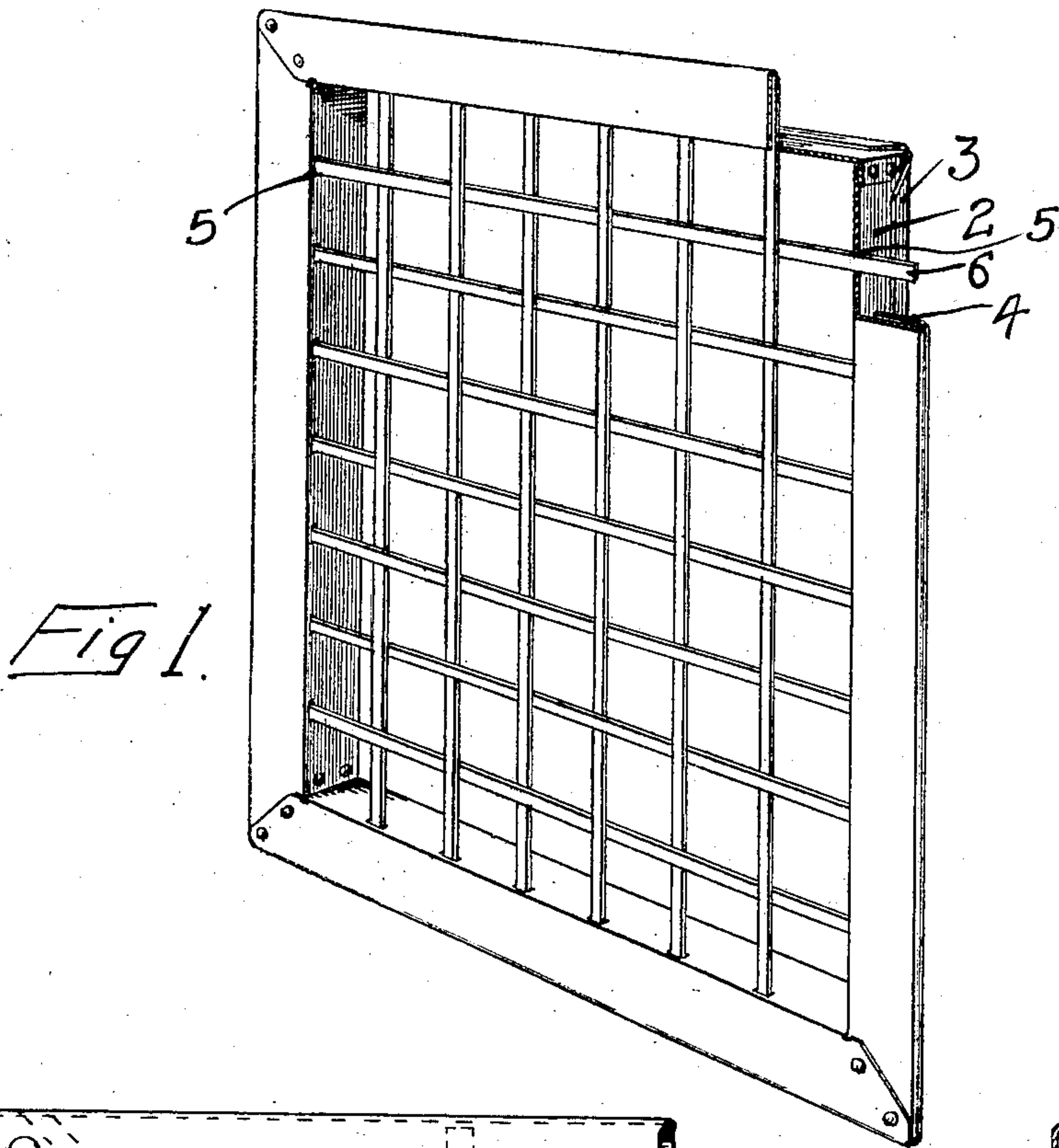


Fig 1.

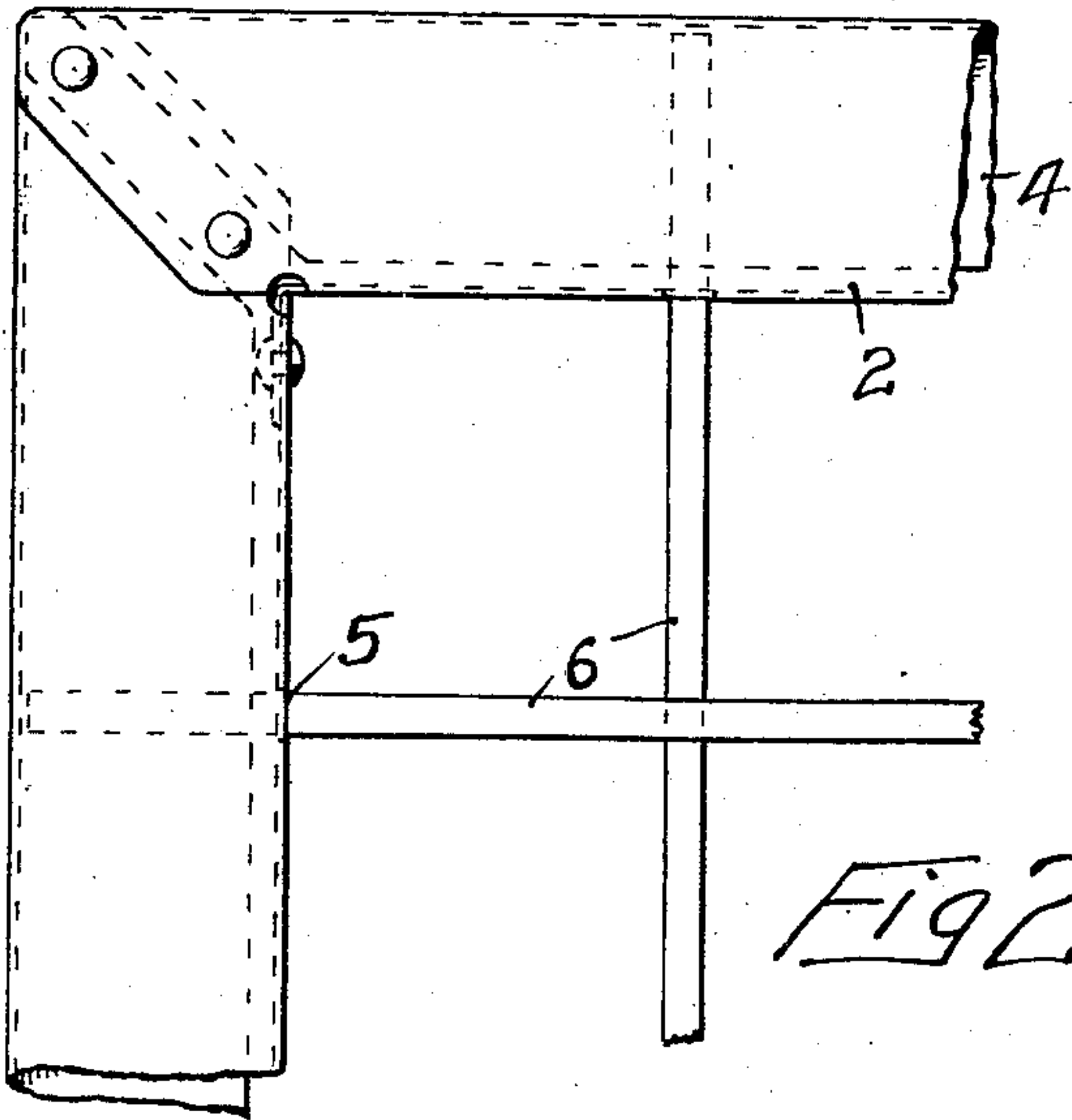


Fig 2.

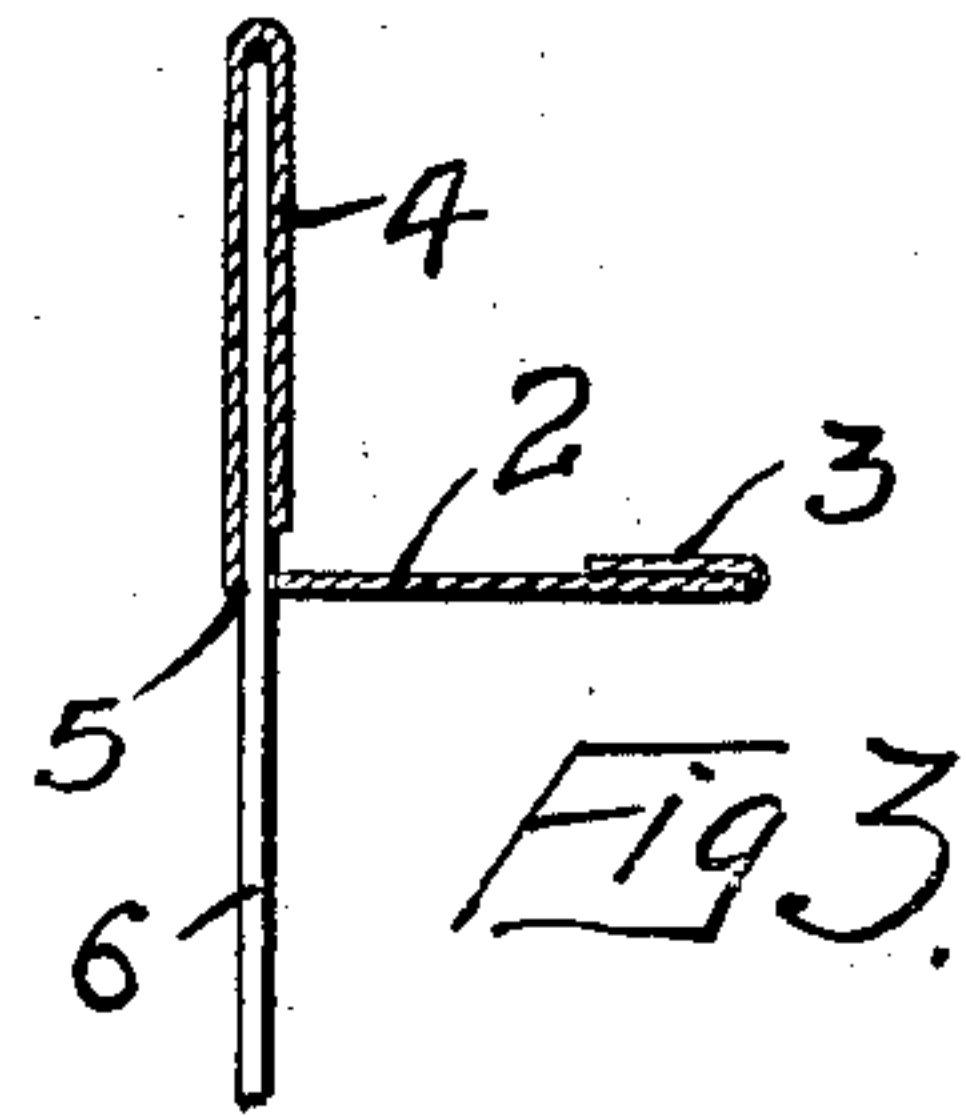


Fig 3.

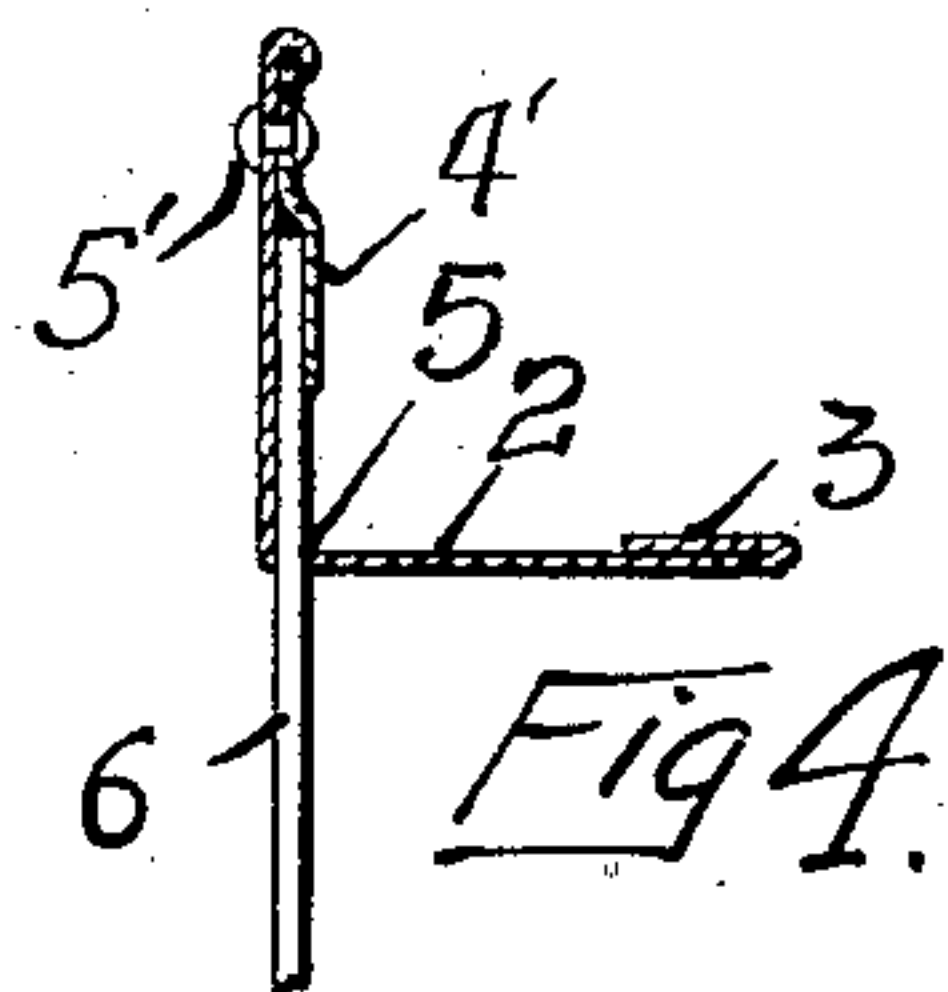


Fig 4.

WITNESSES  
M. Walstrom  
J. A. Berington.

INVENTOR  
JAMES L. WATERBURY  
BY Paul & Paul  
HIS ATTORNEYS

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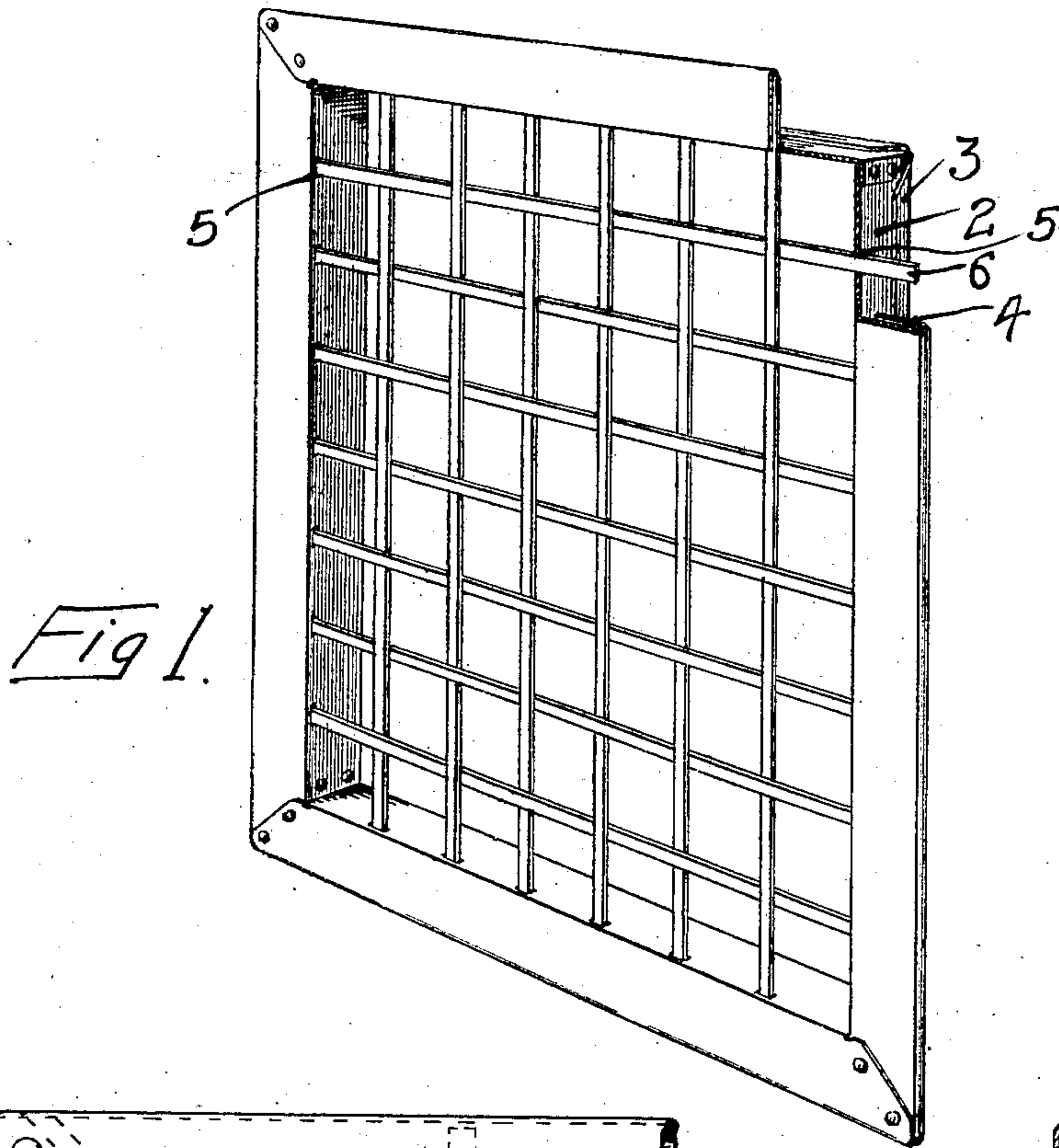


Fig 1.

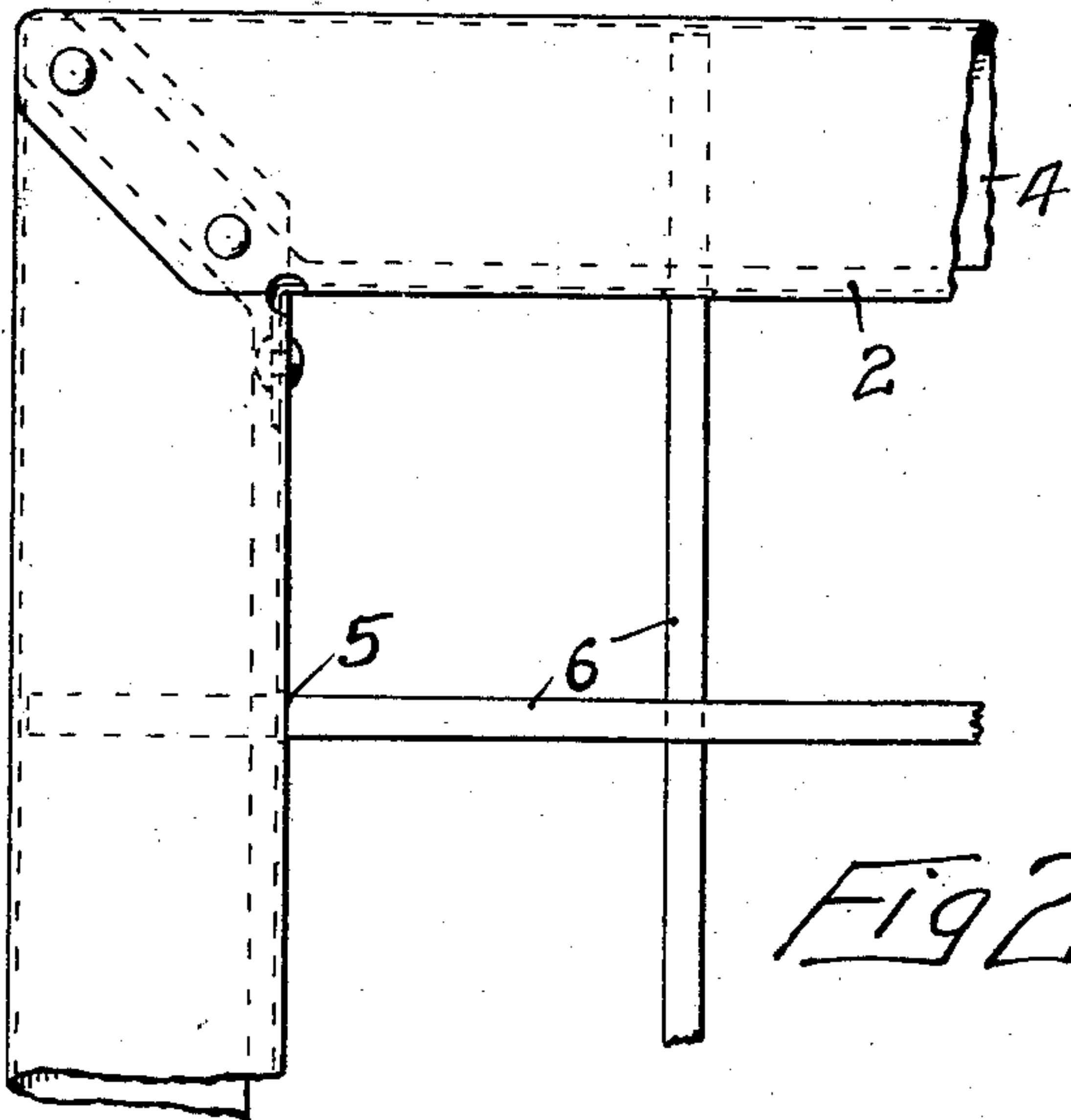


Fig 2.

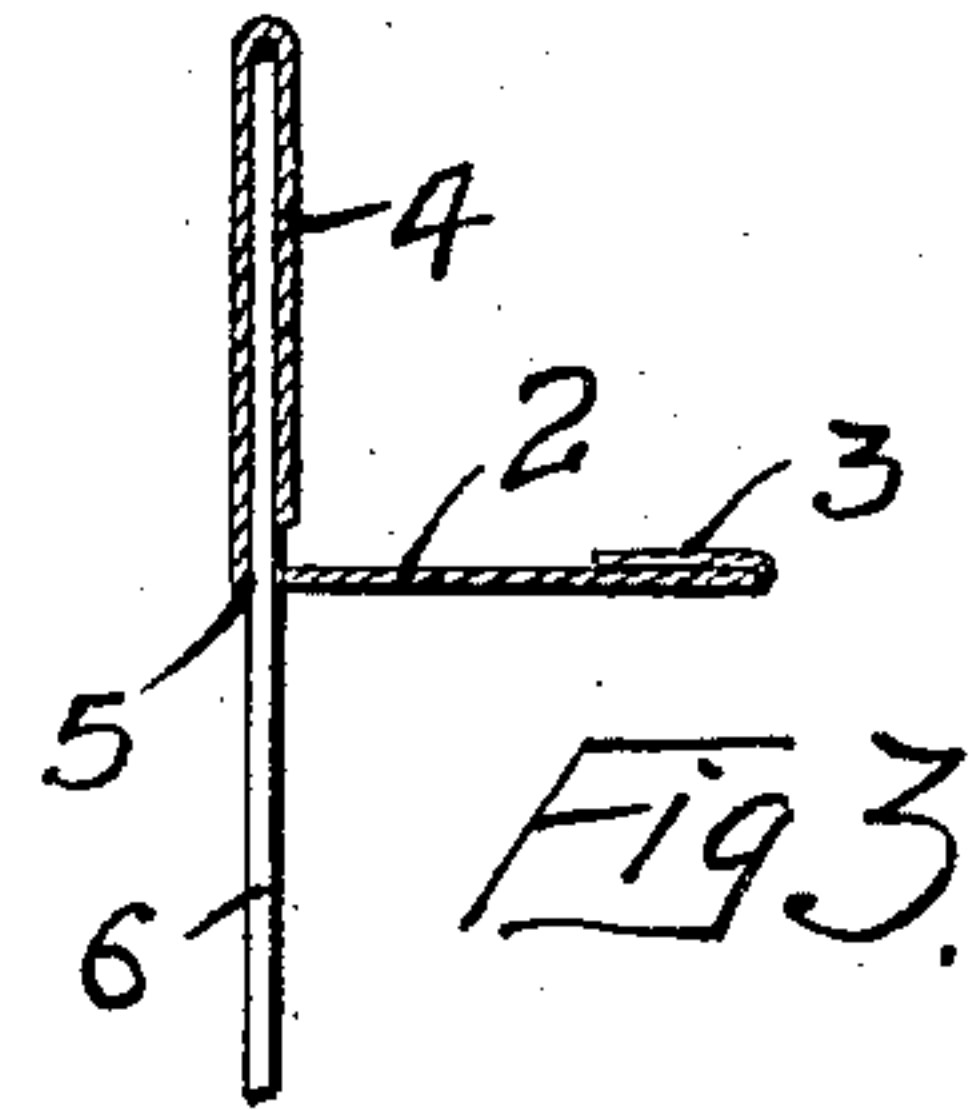


Fig 3.

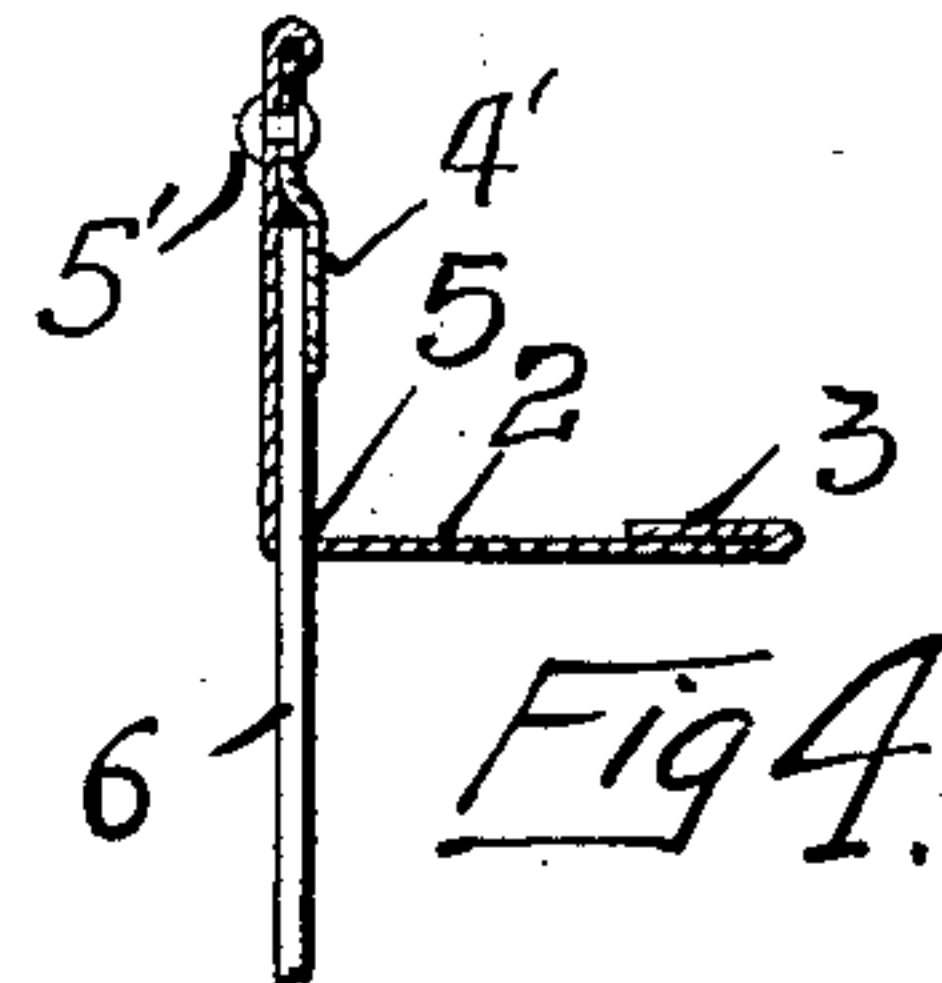


Fig 4.

WITNESSES  
*W. Walstrom*  
*J. A. Bejington*

INVENTOR  
JAMES L. WATERBURY  
BY *Paul & Paul*  
HIS ATTORNEYS



# UNITED STATES PATENT OFFICE.

JAMES L. WATERBURY, OF MINNEAPOLIS, MINNESOTA.

## HOT-AIR REGISTER.

No. 915,133.

Specification of Letters Patent.

Patented March 16, 1909.

Application filed December 7, 1908. Serial No. 466,281

*To all whom it may concern:*

Be it known that I, JAMES L. WATERBURY, of Minneapolis, Hennepin county, Minnesota, have invented certain new and useful Improvements in Hot-Air Registers, of which the following is a specification.

The object of my invention is to provide a register or grille, designed for use in a perpendicular wall, for introducing warm air into the room to be heated.

A further object is to provide a register of simple, durable construction and one which will be comparatively light in weight.

Other objects of the invention will appear from the following detailed description.

In the accompanying drawing, forming part of this specification, Figure 1 is a perspective view of a register embodying my invention, Fig. 2 is a detail view of one corner of the device, Fig. 3 is a sectional view, showing the manner of securing the ends of the register bars in the frame of the register, Fig. 4 is a detail, sectional view of a modified construction.

In the drawing, 2 represents a frame composed of angle bars riveted together at the corners. The flanges of the bars form a casing adapted to fit within the opening provided in the wall for the insertion of the register. The inner flange has an outwardly turned lip 3 formed thereon and the outer flange has a comparatively wide lip 4 formed by bending the edge of the outer flange downwardly and inwardly until it is in a plane substantially parallel with the plane of the outer flange. The inner flange has a series of holes 5 therein to receive the ends of the bars 6 inserted therein and extending across the register. These bars are interwoven with one another to form a grille work and may be made of flexible material and when inserted, will be rigidly held by the lips 4 against accidental movement in either direction. I am thus able to produce a lighter register than those

generally used and one that will be very materially cheaper to manufacture. The outer exposed portions may be finished in any suitable manner to present a neat, ornamental appearance in the room. Instead of forming the lips 4 integrally with the flange, I may provide a lip 4' and secure it to the flange by rivets 5' or other suitable means.

I claim as my invention:

1. A hot air register, consisting of a rectangular frame composed of angle bars secured together at the corners of the frame, the outer flanges of said angle bars having their edges downwardly and inwardly turned, the inner flanges of said angle bars having openings therein near the junction of said flanges with one another and bars connecting the opposite angle bars and having their ends inserted through the openings in said inner flanges and secured and concealed by the downwardly and inwardly turned edges of said outer flanges.

2. A sheet metal register, consisting of a frame formed of angle bars, the outer flanges of said bars having backwardly and inwardly turned edges and cross bars passing through said inner flanges and having their ends concealed by said outer flanges and said backwardly and inwardly turned edges, substantially as described.

3. A metal register consisting of a frame formed of angle bars, the inner flanges of said angle bars having openings therein near the junction of said flanges with one another, and bars connecting the opposite angle bars and having their ends inserted through the openings in said inner flanges and concealed by said outer flanges.

In testimony whereof, I have hereunto set my hand this 30th day of Nov. 1908.

JAMES L. WATERBURY.

Witnesses:

RICHARD PAUL,  
J. A. BYINGTON.