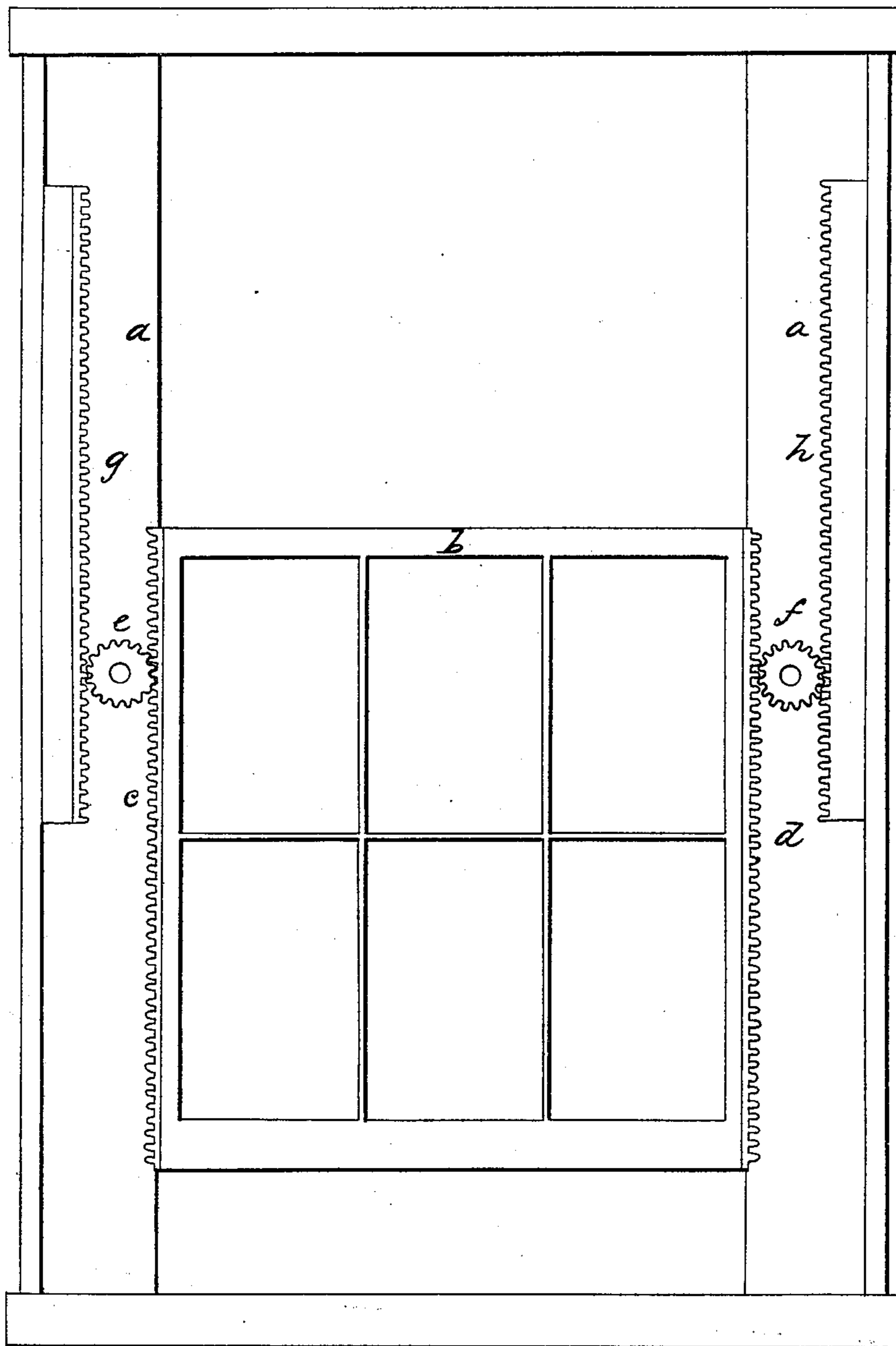


*W. Maguire,
Sash Balance.*

N^o 7,003.

Patented Jan. 8, 1850.



UNITED STATES PATENT OFFICE.

WM. MAGUIRE, OF CINCINNATI, OHIO.

METHOD OF COUNTERBALANCING SASH BY MEANS OF A HEAVY WEIGHT.

Specification of Letters Patent No. 7,003, dated January 8, 1850.

To all whom it may concern:

Be it known that I, WILLIAM MAGUIRE, of Cincinnati, in the county of Hamilton and State of Ohio, have invented new and
5 useful Improvements in the Mode of Sus-
pending Sashes; and I do hereby declare
the following to be a full, clear, and exact
description of the same, reference being had
to the annexed drawing, making a part of
10 this specification, in which a view of the in-
side of the window frame is given, showing
the pinion wheel and system of racks by
which I effect my purpose.

The nature of my invention consists in
15 attaching to each side of the sash, a metal-
lic rack into which a pinion wheel works,
the pinion being placed within the window
frame at about the height that allows it to
catch in the teeth of the rack on the sash,
20 when the sash is flush down. Back of said
pinion and within the window frame an-
other rack works also into the pinion, the
said rack being the exact length of the rack
on the sash, and in weight, half the weight
25 of the sash.

The same system of racks and pinion is
attached to the other side of the sash, and
within the other side of the window frame,
and thus the two racks within the frame
30 constitute a complete balance to the sash
and the sash can therefore be raised to and
maintained at any height within the range
of the racks.

To both top and bottom sashes, and with-
35 in the window frame, the same system of
racks and pinions should be appended and
thus both sashes be counterbalanced and
suspended at any desired height simply by
throwing the sashes up and down at pleasure.
40

In the annexed drawings (a) is the inside

of the window frame, a portion of the same
being removed for the purpose of showing
the parts inclosed in the frame. (b) is a
sash hung according to my invention. (c) is
a rack attached to the sash in the whole of 45
its length from top to bottom. (d) is a
similar rack and similarly attached. (e) is
a pinion turning on a shaft fastened in the
window frame. (f) is a similar pinion and
similarly arranged. (g) is a counterbal- 50
ancing rack, traversing the hollow window
frame from top to bottom according as the
sash is lowered or raised, its line of travel
being in a direction contrary to that of the
sash by which it is operated. (h) is a simi- 55
lar counterbalancing rack and similarly ar-
ranged and counterbalanced.

The window frame is divided into two
chambers from top to bottom for the racks
to play in. 60

Having thus fully clearly and exactly de-
scribed and represented the nature and con-
struction of my invention, what I claim
therein as new, and desire to secure by Let-
ters Patent, is— 65

Counterbalancing the sash (and conse-
quently enabling it to be suspended at any
desired point) by means of metallic racks
within the window frame, these racks being
operated by pinions rotating on fixed shafts 70
within the window frame and these pinions
being driven by other racks attached to the
sides of the sashes throughout their entire
length, the whole being constructed and ar-
ranged in the manner and for the purpose 75
set forth.

WILLIAM MAGUIRE.

Witnesses:

THOS. G. CLINTON,
GEO. H. KNIGHT.