

No. 719,203.

PATENTED JAN. 27, 1903.

W. DREYER.
VENTILATING WINDOW FOR ROOFS.

APPLICATION FILED NOV. 6, 1902.

NO MODEL.

Fig. 1.

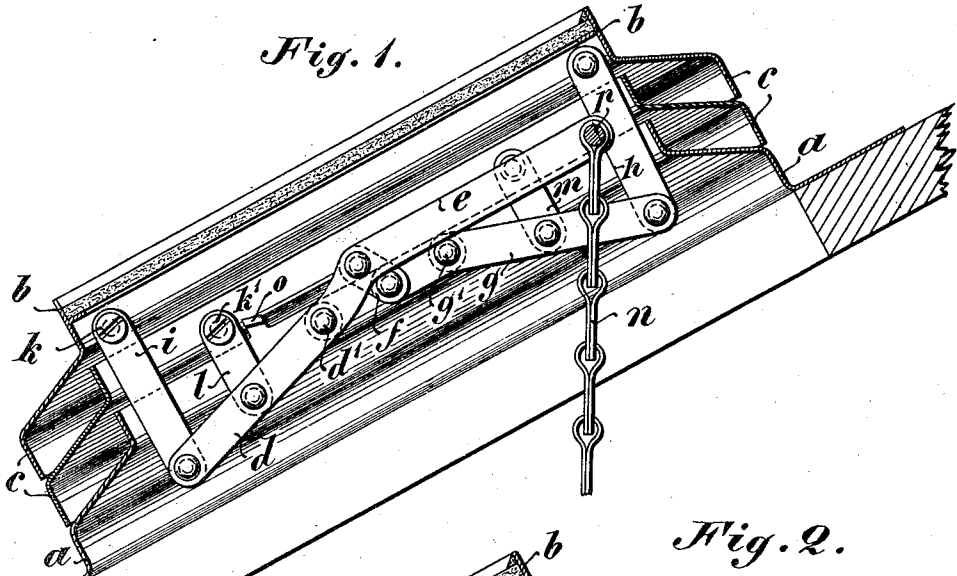
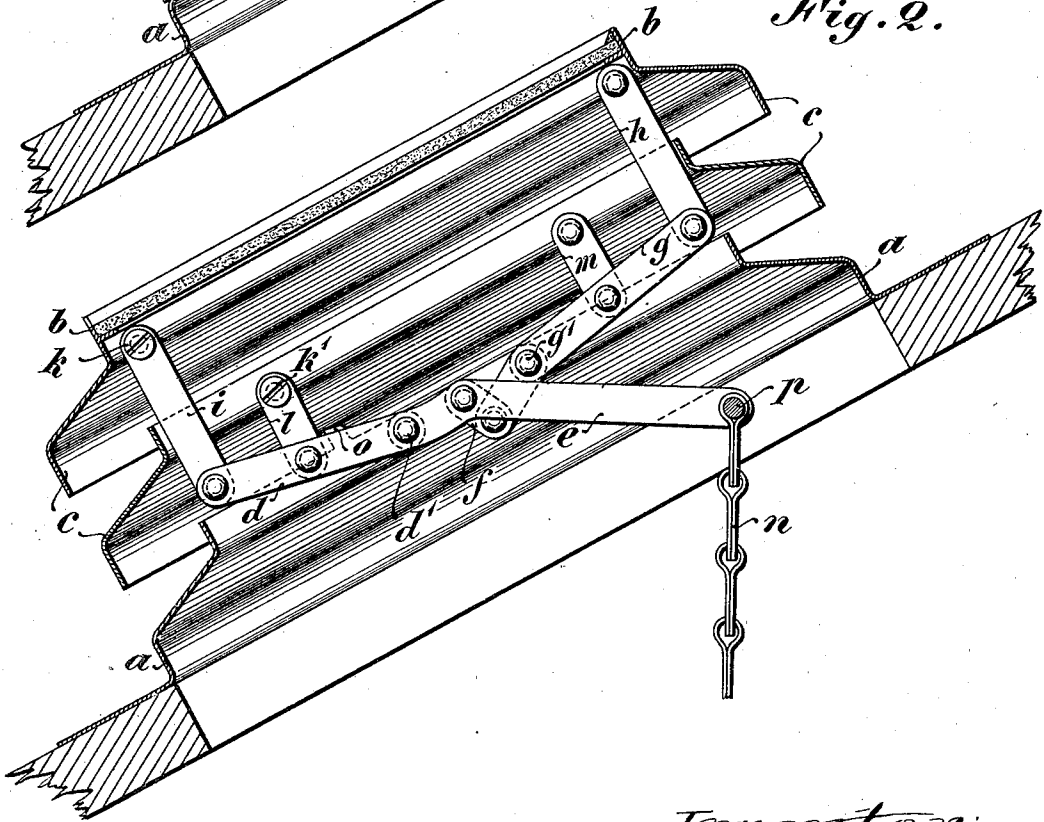


Fig. 2.



Attest:
O. F. Kehoe
Witness.

Inventor:
Wilhelm Dreier
by Philipp Janyo Rice Kennedy
Atty

UNITED STATES PATENT OFFICE.

WILHELM DREYER, OF WESSELING, NEAR COLOGNE, GERMANY.

VENTILATING-WINDOW FOR ROOFS.

SPECIFICATION forming part of Letters Patent No. 719,203, dated January 27, 1903.

Application filed November 6, 1902. Serial No. 130,228. (No model.)

To all whom it may concern:

Be it known that I, WILHELM DREYER, a subject of the King of Prussia, Emperor of Germany, whose post-office address is Wes-
5 seling, near Cologne-on-the-Rhine, Prussia, German Empire, have invented new and useful Ventilating-Windows for Roofs, of which the following is a specification.

My invention relates to roof-windows adapt-
10 ed to be opened for purposes of ventilation by means of raising and lowering mechanism, and more especially to such which consist of a top frame capable of being lifted in a parallel direction and of one or more interme-
15 diate frames which are raised in like manner.

The invention has for its object by avoid-
ing all slots, guide-pieces, and the like to provide by aid of a simple system of levers an
20 easy and convenient means of opening and closing the window and at the same time the necessary security against wind.

Windows of this description which have the
purpose of ventilating and at the same time
preventing the ingress of rain, dust, &c., were
25 hitherto raised and lowered by means of various devices—as, for instance, the so-called “Nürnberg shears,” which were provided
with long slots and guide-pieces in order to
30 obtain a parallel movement, as well as the necessary security against the influence of
the wind. These guides and slots are, how-
ever, subjected to rust, soon accumulate dirt,
a certain objectionable friction being also
35 connected with the same, the said drawbacks necessitating a great expenditure of force to raise the window.

According to my invention two levers are
pivotaly fixed to the opposite sides of a rigid
light frame, the two levers being connected
40 together by means of a pivoted arm. From the ends of these levers pivoted carrying or supporting arms are connected to the top frame,
while between the ends and the pivots of the
said levers further carrying or supporting
45 arms are arranged, the same being attached to one or more intermediate frames. The
ends of two opposite levers pointing inward
are lengthened and connected by a cross-piece,
to which a chain, a cord, or the like is attached.

50 The pivots of the joint-piece which connect the facing parts of the levers are not both located in the vertical center line of the window,

the top pivot being laterally arranged with re-
gard to the under one for the purpose of ob-
taining a greater purchase and to facilitate
55 raising of the frame. The carrying-arms articu-
lately connected with the ends of the lever
are on the one side rigidly connected with
the top frame in order to obviate a shaking
of the intermediate frame or frames, as well
60 as to enable the same to better resist the ac-
tion of the wind.

The top frame may be provided with glass
or opaque plates of suitable material.

To enable the invention to be fully under-
65 stood, I will describe the same with reference
to a constructional example shown in the ac-
companying drawings, of which—

Figure 1 is a vertical section showing the
window in closed position, while Fig. 2 rep-
70 resents, also in vertical section, the raised po-
sition of the same.

In the drawings, *a* represents the light
frame secured to the roof.

b is the top frame, which may, as herein-
75 before indicated, be provided with glass or
opaque plates. The number of intermediate
frames is, however, as hereinbefore indicated,
optional.

The levers *d* and *g* are pivoted at *d'* and *g'*
80 upon the facing sides, the arms or supports
i and *h*, carrying the top frame *b*, being arti-
culately connected to the outer ends. The
arms *h* and *m* are pivotaly connected to the
top frame *b* and intermediate frame *c*, while
85 the arms *i* and *l* are rigidly connected to the
top frame and intermediate frame by means
of bolts *k* and *k'* in order to afford greater
stability against the action of the wind when
the window is open. The said levers *d* and
90 *g* are connected by a joint-arm *f*, the pivots
of which are so located with reference to the
center line that the most favorable leverage
for the raising and lowering movement of the
top and intermediate frames is obtained.

95 The joint-arms *l* and *m*, carrying the inter-
mediate frames *c*, are attached at a point be-
tween the outer ends and the pivots of the
levers *d* and *g*. When several intermediate
frames are employed, the number of joint-
100 arms must be increased in proportion. The
lever of the one side of the lifting device—
for instance, the lever *d*—is lengthened, as
shown at *e*, and the extended arms connected

by a cross-piece *p*, to which a chain *n*, a rod, or the like is attached, which serves to open and close the window.

If now in the position shown in Fig. 1 the chain *n* be slightly drawn down, the window will assume the position shown in Fig. 2, the length of the movement of the lever being, for instance, limited by the levers *d* striking against a fixed stop or projection *o*.

The chain *n* or other suitable device may be secured at any optional opened or closed position of the window.

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

1. In a roof-window, the combination of the light frame secured to the roof, the top frame and one or more intermediate frames with a lever system consisting of two pairs of levers of which the ends facing each other are pivotally connected by a joint arm or link, supports or arms connecting the outer ends of the levers with the top frame and like supports connecting a point or points of the levers between their outer ends with one or more intermediate frames, substantially as and for the purpose described.

2. In a roof-window, the combination of the light frame secured to the roof, the top frame

and one or more intermediate frames with a lever system consisting of two pairs of levers of which the ends facing each other are connected by a joint arm or link the ends of one pair of the levers being provided with extended arms connected by a cross-piece, substantially as and for the purpose described.

3. In a roof-window, the combination of the light frame secured to the roof, the top frame and one or more intermediate frames with a lever system consisting of two pairs of levers of which the ends facing each other are pivotally connected by a joint arm or link, supports or arms connecting the outer ends of the levers with the top frame and like supports or arms connecting a point or points intermediate between the ends of the lever with the intermediate frame or frames, the connections between such supports and the said frames being rigid on one side of the window, substantially as and for the purpose described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WILHELM DREYER.

Witnesses:

CARL SCHMITT,
JOH. SCHULZ.