

(No Model.)

A. H. DODD.
SHUTTER WORKER.

No. 316,131.

Patented Apr. 21, 1885.

Fig. 2.

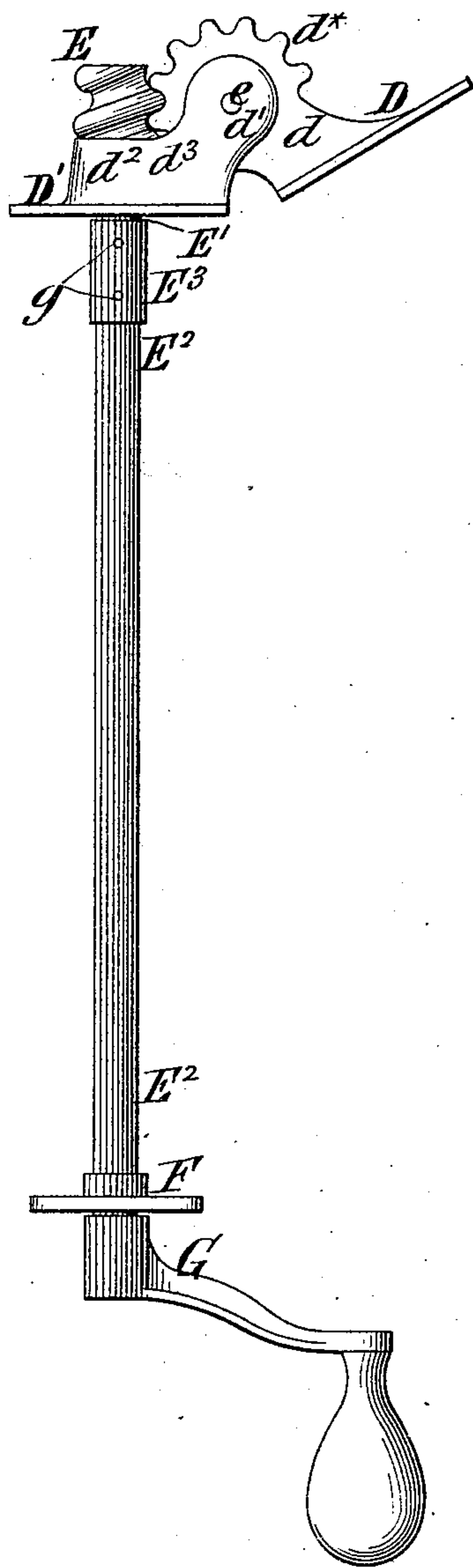


Fig. 1.

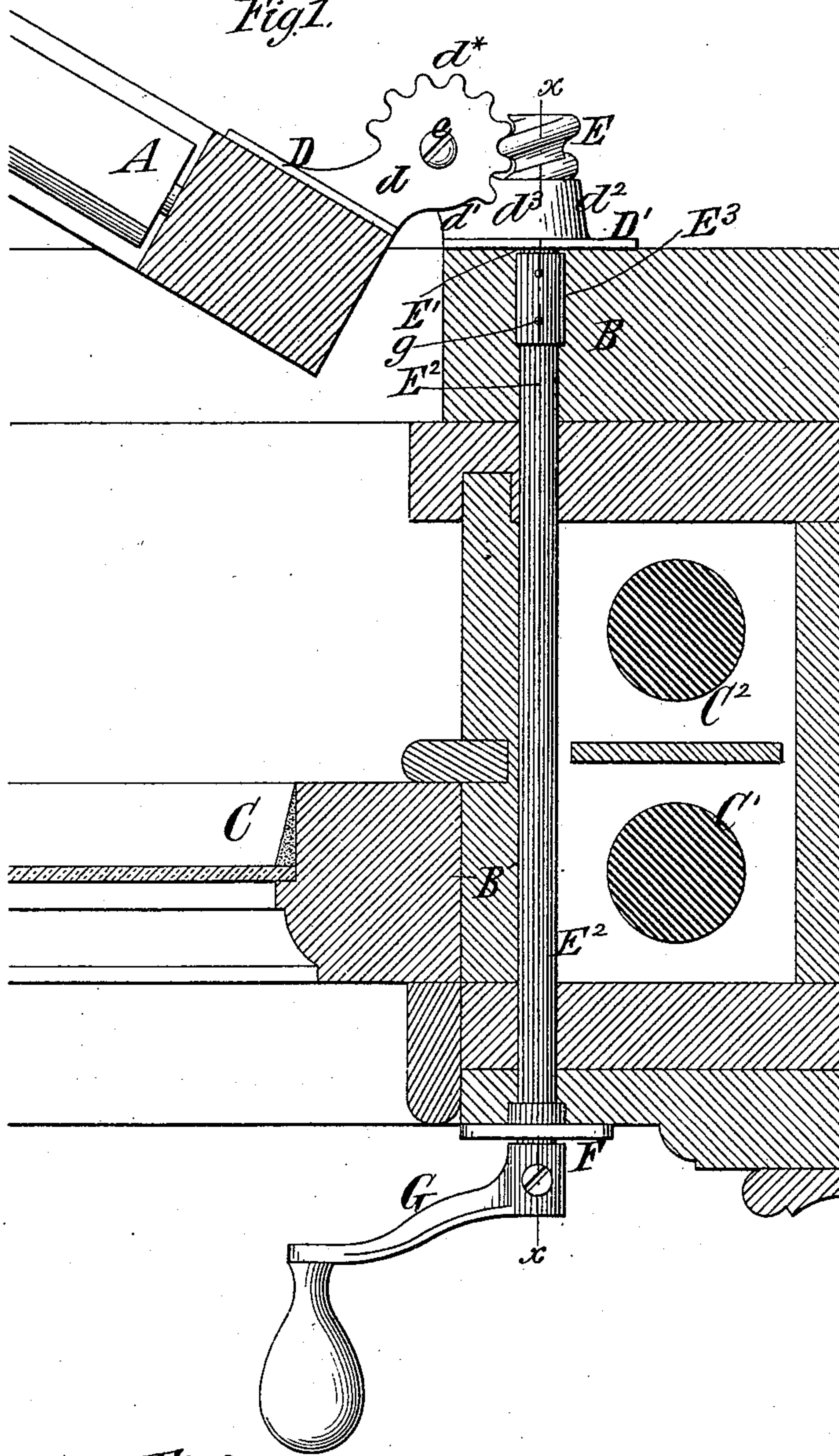


Fig. 3.



Witnesses:

C. C. Perkins.
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Inventor:

Alvin H. Dodd
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Brown Hall

UNITED STATES PATENT OFFICE.

ALVIN H. DODD, OF HUDSON, NEW YORK.

SHUTTER-WORKER.

SPECIFICATION forming part of Letters Patent No. 316,131, dated April 21, 1835.

Application filed December 29, 1834. (No model.)

To all whom it may concern:

Be it known that I, ALVIN H. DODD, of Hudson, in the county of Columbia and State of New York, have invented a new and useful
5 Improvement in Shutter-Workers, of which the following is a specification.

My invention relates to those shutter-workers in which one member or leaf of the blind or shutter hinge has formed upon or connect-
10 ed with it a toothed segment or wheel, and the other member or leaf has journaled in it a worm or screw which engages with the toothed segment, and has a shaft which extends to the inside of the window, and may be there operated
15 by a crank or handle. The operation of the crank or handle turns the worm or screw, and the latter by its engagement with the toothed segment or wheel, opens and closes the blind or shutter and holds it in any position to which
20 it is adjusted.

My invention consists in novel details of construction and combinations of parts in a shutter-worker of the kind above described, whereby its construction is cheapened, and it is rendered more easy of application to various window frames, casings, and shutters or blinds, in connection with which it is desired to use such a shutter-worker. These features of novelty are hereinafter particularly described, and
30 pointed out in the claims.

In the accompanying drawings, Figure 1 is a horizontal section of a portion of a window-casing and frame and a shutter, showing my improved shutter-worker applied thereto.
35 Fig. 2 is an inverted plan of the parts of the worker; and Fig. 3 is a vertical section of the parts of the worker on the plane of the dotted line *x x*, Fig. 1.

Similar letters of reference designate corresponding parts in all the figures.

A designates the shutter or blind. B designates the window frame and casing, which is constructed with the usual weight-box, B', and C is the sash. All these parts are of ordinary
45 construction, and C' C² are the weights which are applied to the lower sash, C, and the upper sash, not here shown.

D D' designate the members or leaves of the hinge, the former, D, being secured to the shutter A, and the latter, D', to the window-frame
50

B. These leaves have bearers *d d'*, which are connected by a pivot or pintle, *e*. The bearer *d*, on the member or leaf D, is cast with a gear or worm segment or wheel, *d**, upon it, and in the member or leaf D is journaled a worm or
55 screw, E, which engages with the gear or worm segment or wheel *d**. The worm or screw E has a stem or journal, E', which is fitted to a bearing in a hub, *d²*, projecting outward from the leaf or member D', thereby leaving the inner side or face of the said leaf or member flat,
60 and requiring no cutting away of the frame. As most clearly shown in Fig. 2, the hub *d²* is connected with the bearer *d'* by a brace or web, *d³*, formed integral with them in casting, and
65 both the hub or bearing *d²* and the bearer *d'* are thereby strengthened. The worm or screw E should have at least three threads to the inch, because if it has less the angle of obliquity of the threads will be such that the shutter may
70 be turned by force applied directly to it, and hence may be opened by any one outside the building. The worm or screw E and its stem or journal E' may be made in one piece, either by casting or as a drop-forging.

E² designates the worm or screw shaft, which extends to the inner side of the window casing and frame B. This must obviously be of a length adapted to the depth of the casing and frame, and hence a shaft of definite length cannot be provided for all situations. To provide for this I make the shaft E² of a separate rod joined to the worm-stem or journal E' by a sleeve, E³. As shown in Figs. 1 and 3, the stem E' and shaft E² enter opposite ends of the
85 sleeve E³, and are held therein by pins *g* inserted through them, or in any other suitable way. This sleeve E³ may be of cast metal.

F designates a flanged bearing, in which the inner end of the shaft E² is journaled, and which
90 may be secured to the inner side of the frame and casing B by screws or other means. To the inner end of the shaft E², adjacent to the bearing F, is secured or may be applied a handle or crank, G, for turning the shaft and worm
95 to open and close the shutter or blind.

I am aware that it is not new to employ in connection with the two leaves of a shutter-hinge a toothed segment on one hinge-bearer, and a worm or screw journaled in the other
100

leaf, and a shaft for turning the worm or screw
extending inward to the inner side of the win-
dow-casing, and there provided with a crank.
Hence I do not claim, broadly, such a shutter-
5 worker as of my invention, and only seek to
include those features of construction and com-
binations of parts which are hereinabove de-
scribed, and which enable me to produce a
very cheap and simple device, which may be
10 applied to window-casings of different depths
or thicknesses, and which will not require cut-
ting away or recessing the casing.

The construction of the leaf D' with a flat
inner side and an outwardly-projecting hub,
15 d^2 , and the combination therewith of a worm
extending outside of and beyond the hub, and
having a stem journaled in the hub and pro-
jecting inward of the inner face of the leaf, en-
ables me to apply the leaf to the casing with-
20 out any cutting away thereof, and to employ
the shortest possible length of worm, and still
have an adequate bearing in the leaf.

The construction of the worm with its stem
and the crank separate from the shaft E^2 , and
25 the connection of the shaft and stem by a sleeve
and pins, enables me to employ for the shaft
a heavy wire or light iron rod of any suitable
length adapted to the thickness of the window-
casing.

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

1. The combination, with the hinge composed
of two leaves, $D D'$, with their bearers, one of
said bearers having the toothed segment d^* , of
the worm E , projecting outside of and beyond 35
the leaf D' , and its stem E' , projecting inward,
through, and beyond said leaf, and having a
bearing therein, the shaft E^2 , made separate
from the worm and its stem, and the sleeve E^3 ,
made separate from the shaft and worm-stem, 40
and connecting them together, substantially
as herein described.

2. The combination, with the leaf D , with its
bearer d and toothed segment d^* , of the leaf
 D' , with its bearer d' and outwardly-project- 45
ing hub d^2 , the worm E , outside the said hub,
and its stem E' , journaled in said hub, and pro-
jecting inward beyond the inner face of the
leaf D' , the operating-shaft E^2 , and the sepa-
rate sleeve and pins $E^3 g$, for connecting said 50
shaft and the stem E' , the bearing F , for the
inner end of the shaft E^2 , and the crank or han-
dle G , made separate from the shaft and se-
cured thereto inside the bearing F , all sub-
stantially as herein described.

ALVIN H. DODD.

Witnesses:

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MATTHEW POLLOCK.