

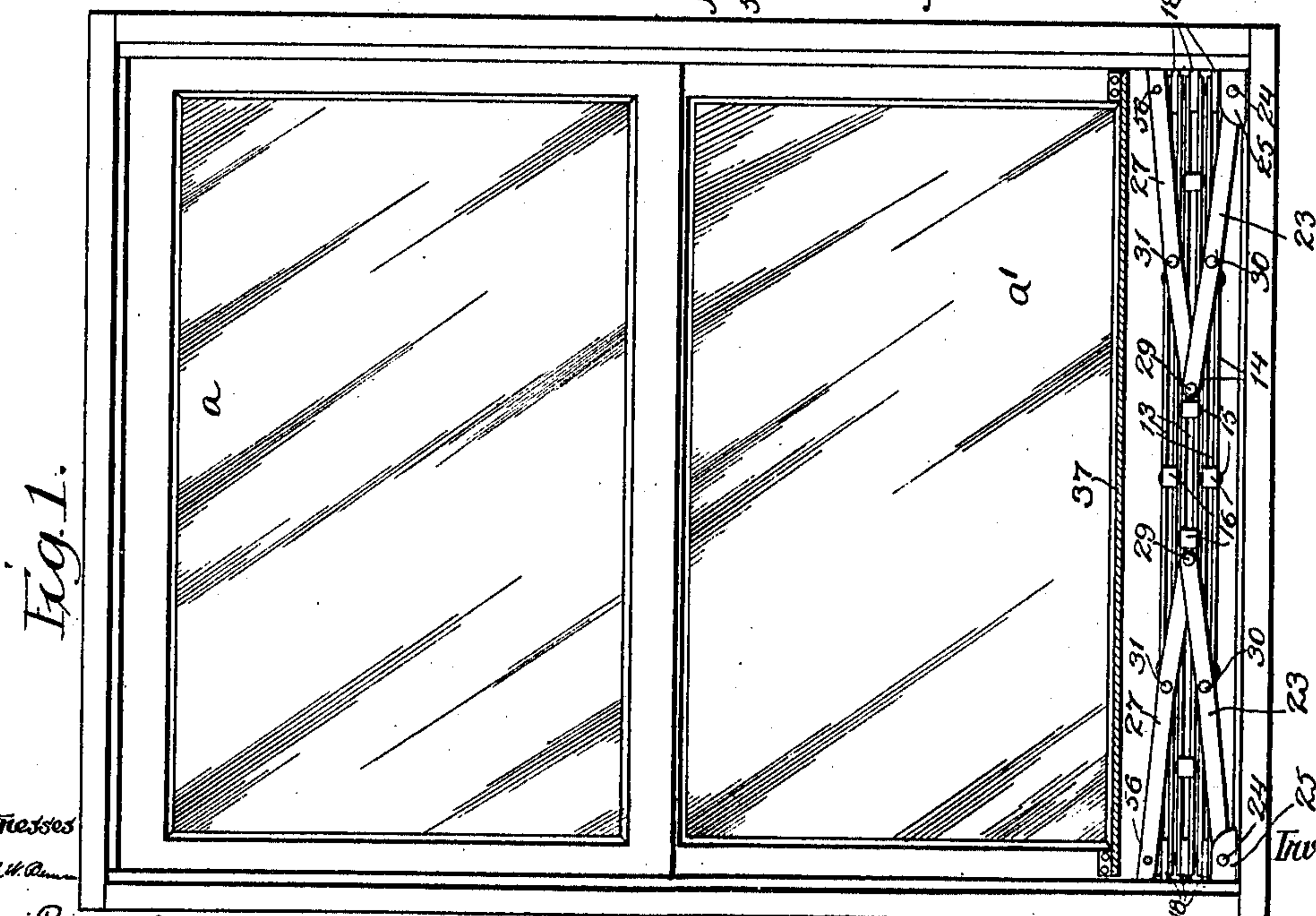
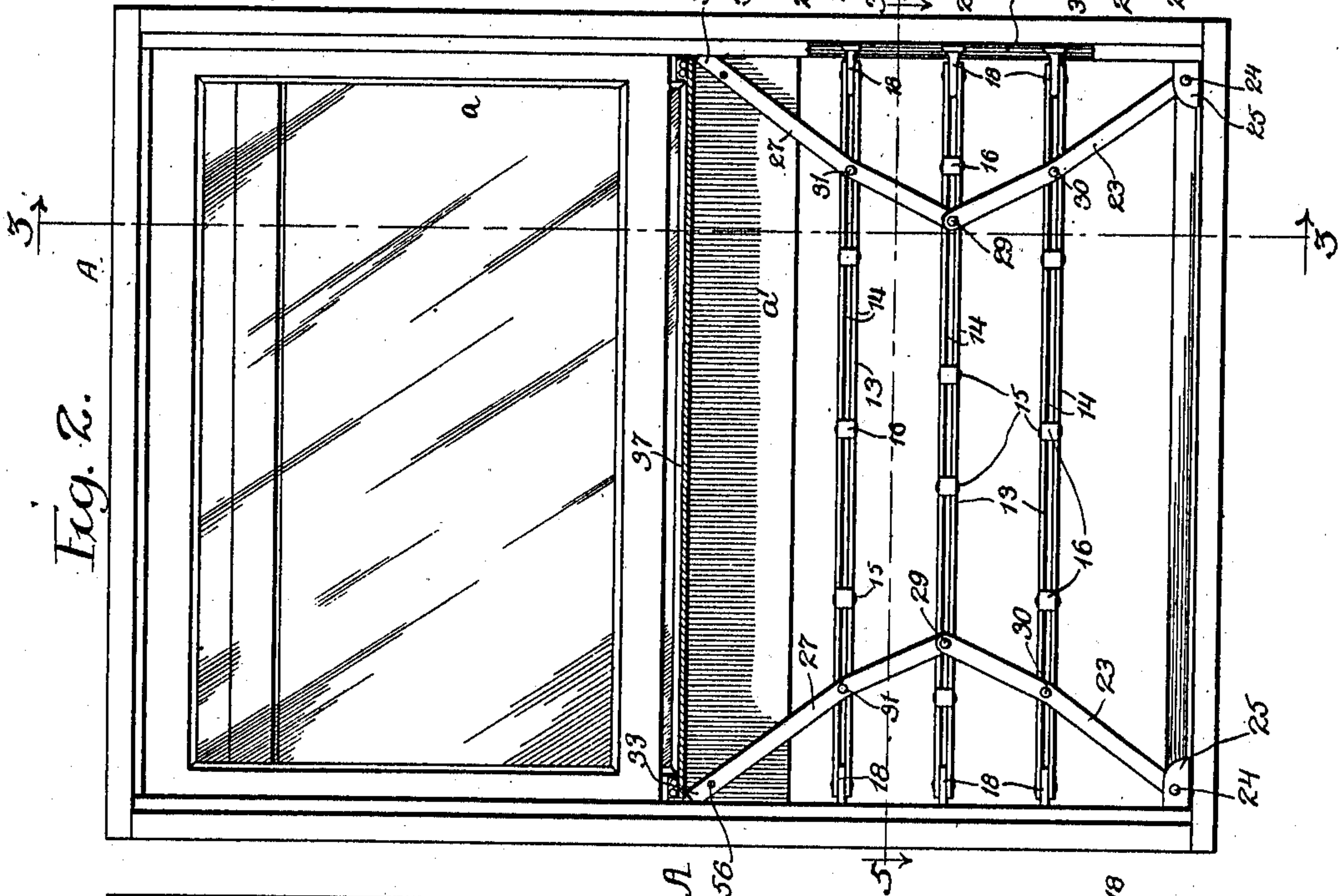
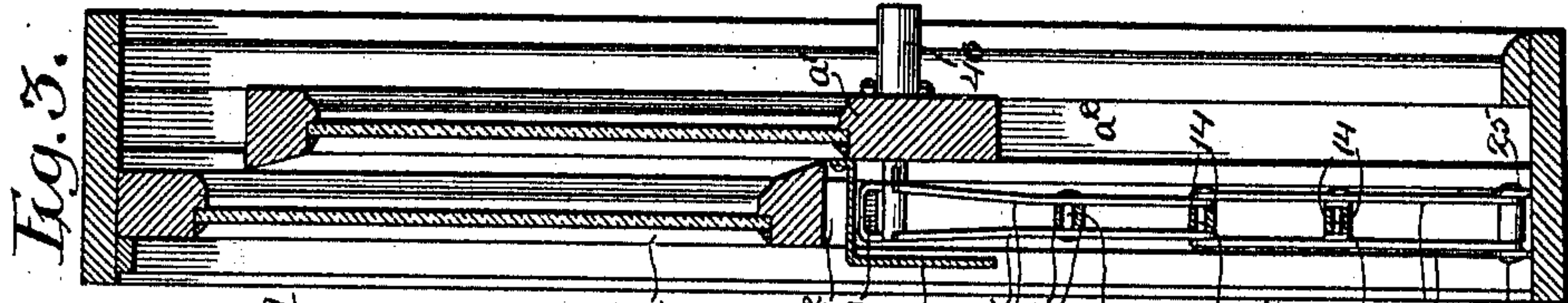
L. CONANT.
WINDOW GUARD.

APPLICATION FILED MAR. 25, 1909.

Patented May 30, 1911.

3 SHEETS-SHEET 1

993,654.



Witnesses
L. H. Russell.
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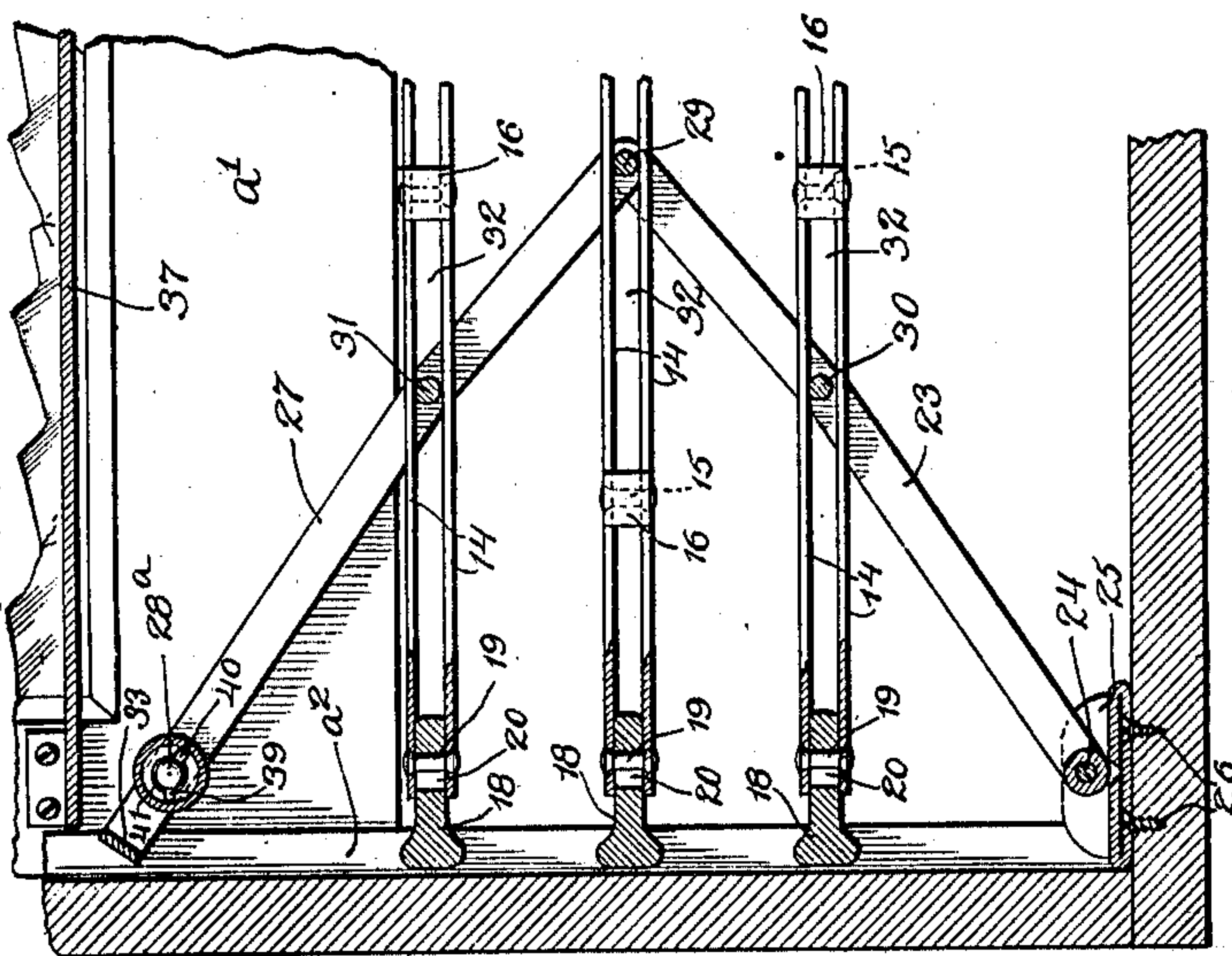
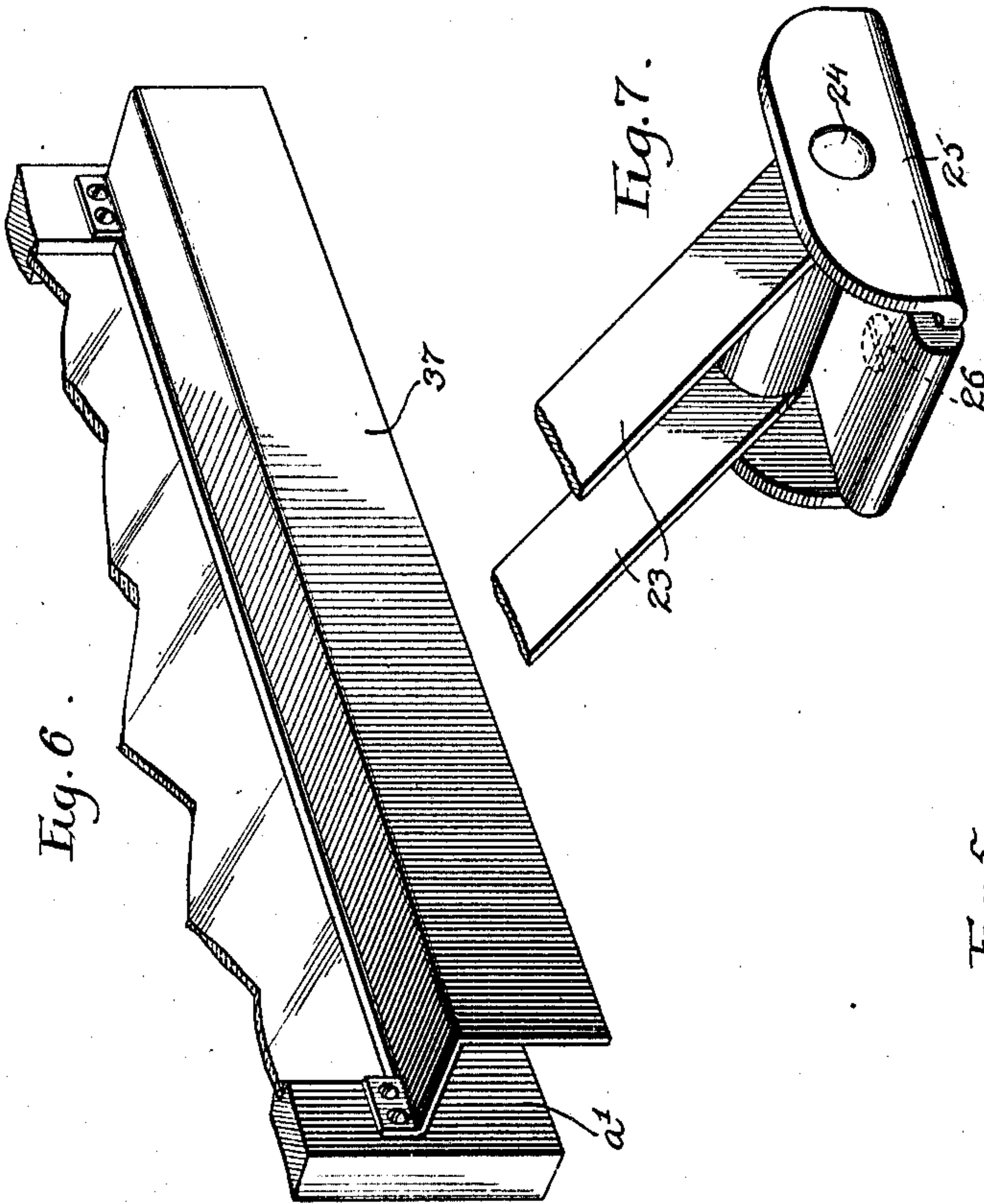
By his Atty. Luther Conant
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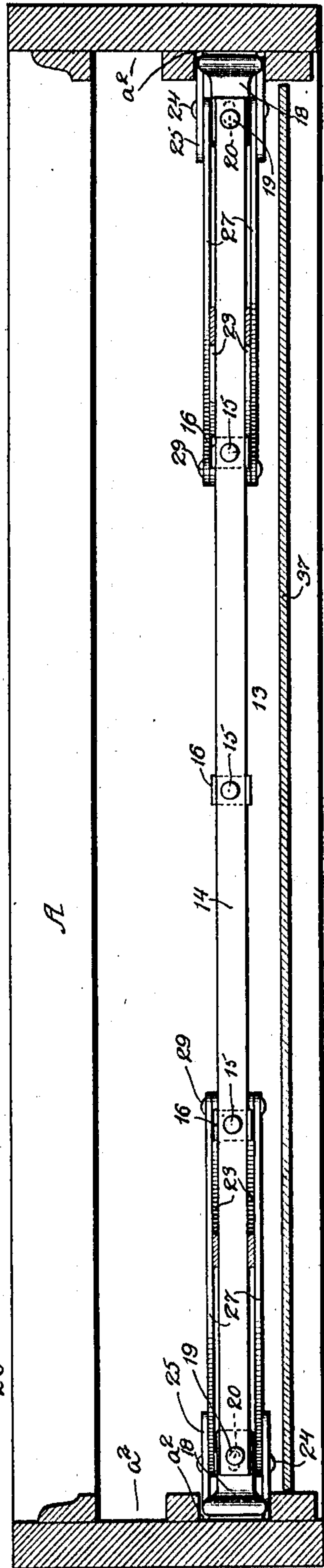
3 SHEETS-SHEET 2.



Witnesses:

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Leone S. Russell.

Fig. 4.



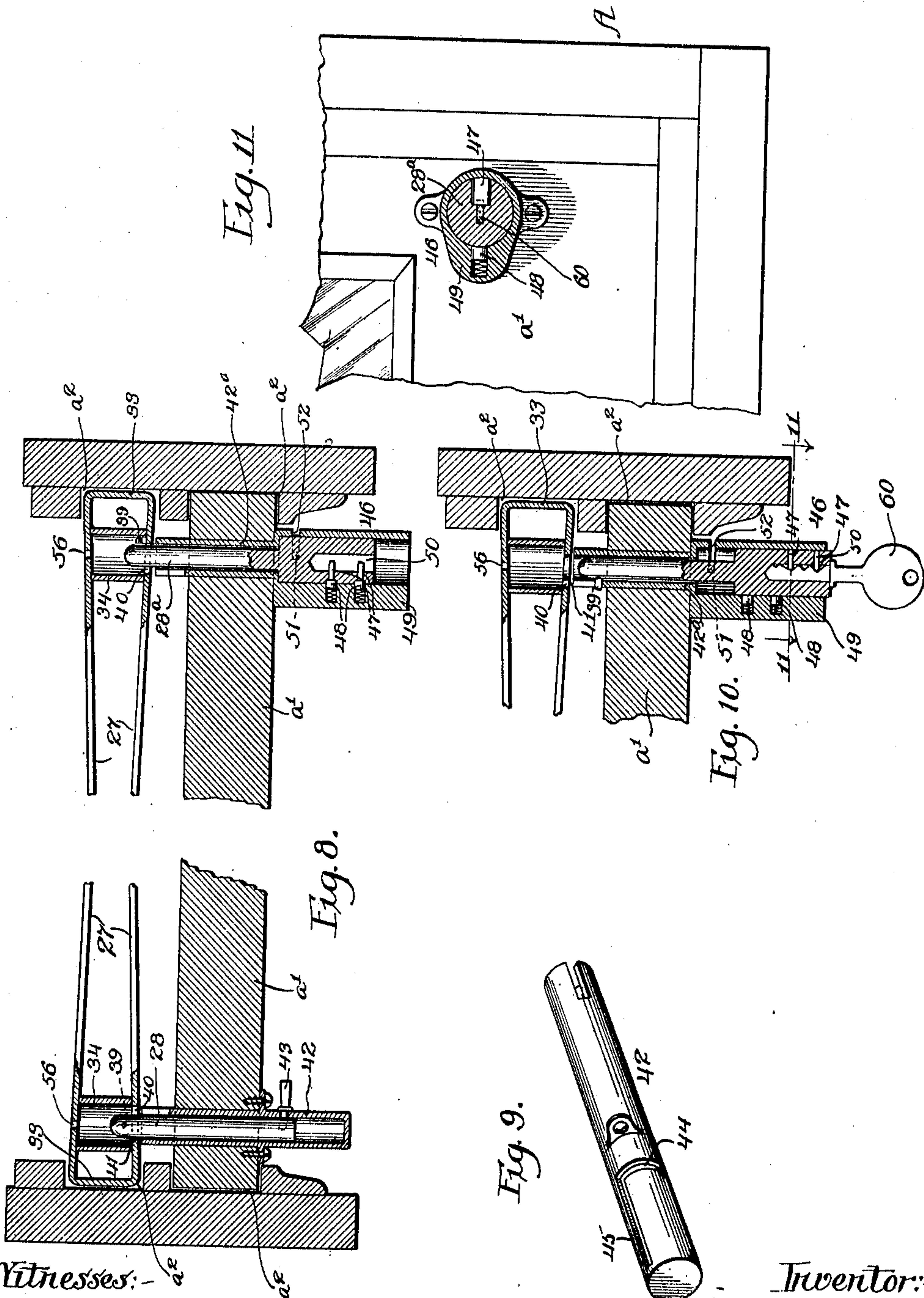
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993,654.

L. CONANT.
WINDOW GUARD.
APPLICATION FILED MAR. 26, 1909.

Patented May 30, 1911.

3 SHEETS-SHEET 3.



Witnesses:-
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UNITED STATES PATENT OFFICE.

LUTHER CONANT, OF OAK PARK, ILLINOIS.

WINDOW-GUARD.

993,654.

Specification of Letters Patent.

Patented May 30, 1911.

Application filed March 25, 1909. Serial No. 485,634.

To all whom it may concern:

Be it known that I, LUTHER CONANT, a resident of Oak Park, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Window-Guards, of which the following is a full, clear, and exact description.

The invention relates to window-guards which are designed to obstruct a window-opening when the window is open, and to prevent ingress from the outside so that intruders may be kept out, or in sanatoriums and hospitals to prevent patients or inmates from escaping or falling out through the window opening.

The invention designs to provide an improved window guard comprising essentially a series of parallel cross-bars and linkages which are effective in guarding the window-opening.

The invention further designs to provide a window-guard which is simple in construction and effective in operation.

A further object of the invention is to provide an improved guard which can be disconnected from the sash when necessary, for cleaning purposes and can be easily and securely reconnected.

The invention further designs to provide an improved detachable connection between the guard and the sash which is controlled by a key so that disconnection cannot be made by a person in the room in which the window is located without the use of the key, thus adapting the guard for use in sanatoriums and hospitals for preventing patients or inmates from escaping through the window-opening.

The invention further designs to provide an improved window-guard which is simple in construction, may be readily installed, and cannot be removed or broken with ordinary force.

The invention consists in the several novel features hereinafter set forth and more particularly defined by claims at the conclusion hereof.

In the drawings: Figure 1 is an outside elevation of a window provided with the improved guard, the lower sash being shown in closed position. Fig. 2 is a similar view showing the sash in raised position and the guard extended. Fig. 3 is a section taken

on line 3—3 of Fig. 2. Fig. 4 is a partial vertical section taken through the cross-bars upon a larger scale. Fig. 5 is a horizontal section on line 5—5 of Fig. 2, on a larger scale. Fig. 6 is a perspective of the lower part of the lower sash of a window and the apron for covering the guard secured thereto. Fig. 7 is a detail perspective of one of the brackets for securing the operating linkages to the window-frame. Fig. 8 is a horizontal section taken on the line of the bolts for connecting the linkages to the sash. Fig. 9 is a perspective of the sleeve in which one of said connecting-bolts is held. Fig. 10 is a horizontal section taken through one of the connecting-bolts, the latter being shown in position assumed when it was withdrawn to release the guard. Fig. 11 is a section taken on line 11—11 of Fig. 10.

A denotes a window-frame of usual construction, in which an upper sash a and a lower sash a' are sustained. Each sash is vertically slidable in channels a^2 formed by the frame sides and strips.

The guard is disposed outside of and connected to the lower sash of the window, and comprises a series of cross-bars 13 which, when the window is closed, lie close together in close proximity to the sill of the window, and when the window is open are separated to effectively prevent passage of a person through the window-opening, either from the inside to the outside, or vice versa. Each cross-bar is formed of strips 14 of wrought metal or other suitable material, secured together so they will effectively resist attempt at breakage. Each cross-bar comprises a pair of parallel strips 14 which are secured together by rivets 15, spacing blocks or washers 16 being interposed to separate the strips and form slots therebetween for a purpose hereinafter set forth. The ends of these cross-bars are mounted to travel in the sash-channels a^2 for the companion or upper sash, so that the strips will effectively prevent the cross-bars from being forced outwardly or displaced laterally. To permit these cross-bars to be nicely fitted to travel in said channels and be disposed between the guide-strips of the window-frame, each cross-bar is made of the standard length to fit the window-frame, and so it may be adjusted or extended at installation if there is

variation in width of the window-frame. Each end of the cross-bars is provided with a shoe 18 which is connected to the cross-bar by a rivet 19, and a slot 20 in the shoe.

5 By providing this adjustable connection, each cross-bar may be fitted to slide in the window-frame and so it will be confined at each end in the sash-channels. In practice rivets 19 may be left slightly loose when assembling the cross-bars, so each bar can be

10 fitted in the window-frame and then the rivet is tightened or hammered so that the shoe will be snugly held in proper position to travel smoothly in the channels. By providing for this elongation or adjustment of

15 the cross-bars, they may be fitted to windows despite variation in size, which usually exists, and so that the bars will always travel smoothly in the frame. By forming these

20 cross-bars of strips and spacing-blocks they are rendered capable of withstanding severe stresses and are effective in resisting torsional strains. By having them travel between the channel-strips each bar will be

25 guided in the window-frame and secured against lateral movement by said strips.

The cross-bars are operated into and out of operative position by linkages respectively connected to the window-frame and to the

30 movable sash. A linkage is provided for each side of the cross-bars to operate them in parallel relation. Each linkage consists of a lower link 23 which is pivoted as at 24 in a bracket 25 which is rigidly secured to

35 the window-frame or sill by screws 26, and an upper link 27 which is pivotally connected at its upper end to the movable sash and at its lower is connected by a pivot 29 to the

40 upper end of the link 23. When the sash is lowered, as illustrated in Fig. 1, the links will be in closed relation, the pivots 29, 30, and 31 being free to move outwardly in the slots in the cross-bars as the window is raised so the linkages will be extended.

45 Each cross-bar is connected to one of the links of each linkage so that the several cross-bars will be simultaneously separated or brought together as the window is raised or lowered. To effect this simultaneous

50 movement of the cross-bars 13, the lower cross-bar is connected to each of the links 23 by a pin 30, the connecting pivot 29 is extended through the central cross-bar and the upper cross-bar is connected to the up-

55 per link 27 by a pin 31. Each cross-bar is formed of a pair of spaced or separated strips to leave slots 32 therebetween, which provide sliding-connections for the pins between the links and cross-bars, to permit

60 these connections to move inwardly or outwardly when the sash is raised or lowered, and the linkages are extended or contracted. In operation, the linkages to which the cross-bars are slidably connected will simultaneously and progressively spread or close the

cross-bars and maintain them in parallel relation and the cross-bars will then be confined against lateral movement in the window-frame. To provide a rigid and stout construction for these links, each comprises

70 a pair of parallel members secured together in spaced relation by the cross-pins carried thereby, and the cross-bars are disposed between said members. The members of the

75 upper link 27 are formed of a strip of metal bent to form integral inner and outer members and a connecting-end 33 which is disposed to travel in one of the sash-channels. A bolt 28 pivotally connects the upper end

80 of one linkage to the lower rail of the lower sash and a bolt 28^a similarly connects the other linkage to the sash. These bolts pass through the sash and are removably held in

85 socket-members 34 so that if it is desired to raise the window without operating, or independently of, the guard, the latter may be disconnected from the sash, this being desirable in some instances where access to the

90 outer side of the window is desired for cleaning or other purposes.

To prevent the brackets 25 from being detached from the frame and the guard from being raised when the window is open, by removal of screws 26, they are formed with

95 tongues which can be folded to underlie the ends of the link 23 and cross-pin 24 so that the screws will be inaccessible for removal. Thus provision is made for preventing removal of the brackets which connect the

100 linkages to the window-frame.

If desired, an apron 37 may be secured to the lower sash to conceal and protect the guard when the window is closed, this cover being formed of sheet-metal and extending

105 outwardly from the sash and then downwardly to house the guard when the latter is closed.

In some instances it is desirable that the guard should be capable of being disconnected from the sash to permit the sash to

110 be raised independently of the guard for access to the outside of the window for cleaning. Ordinarily the connecting-bolts 28 and 28^a may be operated from the inside

115 when the window is closed, to disconnect them from the guard. In some instances it is also desirable to have the guard detachable from the window but locked thereto

120 so that it will be impossible to disconnect the guard from the inside without unlocking the bolt, this feature being of utility more particularly in sanatoriums or hospitals where

125 preventive devices are necessary, so that an inmate or patient cannot manipulate the guard to leave the window unprotected when it is open. To attain these objects, one of the connecting-bolts is capable of being manually manipulated when the window is

130 closed and the other is provided with a key-operated lock, as shown in Fig. 8 of the

drawings. The outer end of each connecting-bolt 28, 28^a is provided with a stud 39 which is adapted to interlock with the toggle-link 27 through a notch 40 formed in the edge of the bolt-opening 41 in the inner member of the link. When the bolt is turned to bring stud 39 co-incident with the notch 40, the bolt can be withdrawn or inserted to disconnect the bolt from, or connect it to, the linkage. Bolt 28 is slidably and revolvably mounted in a sleeve 42 secured in the sash and extending there-through.

The inner end of bolt 28 is provided with a handle 43 whereby the bolt may be manipulated and this handle extends through an angular slot comprising a segmental portion 44, and a longitudinally extending portion 45 in which the handle is guided to permit the bolt to be pushed longitudinally to slip the stud 39 through the notch 40 in the link 27 and then turned to lock the bolt in the lever against withdrawal. The slot 45 for the handle 41 is arranged so that the stud cannot be brought co-incident to the slot 40, except when the window is closed, because the link 27 when raised, is in such angular relation to the stud 39, that it will be impossible to turn the bolt 28 into position to permit the stud 29 to pass through notch 40, and therefore the bolt cannot be manipulated to disconnect the guard and sash except when the window is closed.

When provision is to be made for preventing disconnection of the guard and sash in sanatoriums or hospitals, so that the window cannot be raised without the guard by a patient or an inmate, the bolt 28^a is controlled by a key-controlled lock 46 comprising pins 47 adapted to operate spring-pressed locking-pins 48 which are slidably mounted in a barrel 49 formed at the inner end of sleeve 42^a. When a proper key is inserted into a key-slot 50 formed in the bolt, the locking-pins 48 will be brought into position to permit the bolt to be turned and withdrawn. This bolt is mounted so it can slide and turn in the barrel 49, being guided by a stud 51, extending through a slot 52 of the same shape as the slot 44 45 in the sleeve 42 of the manually-controlled connecting-bolt 28. Resultantly, when the bolt 28^a is locked as illustrated in Fig. 8 of the drawings, and a key 60 is inserted, the locking-pins 48 will release the bolt so the latter can be first turned to bring the stud 39 at the outer end of the bolt, co-incident with the notch 40 and then withdrawn longitudinally to release the toggle-link to which it is connected. A protecting-sleeve 34 is secured in each of the links 27 and between the members thereof, to prevent access to the outer end of the bolt. A small hole 56 is formed in the outer member of each of the links 27 to facilitate the installation of the guard.

When the latter is in lowered position, a marker or small bit can be extended there-through to mark the point on the sash at which the holes should be bored for the sleeve 42 and 42^a so that the bolts will be positioned correctly in the sash for connection with the links.

In installing the guard, the brackets 25 are first secured to the window-frame by screws while the guard-strip is in the form indicated by dotted lines Fig. 4 of the drawings. Next, the tongues 26 are forced under the lower ends of the links 23 to prevent access to the attaching-screws. The connecting-bolts are then mounted in the sash. In order to cause the ends of the cross-bars to travel smoothly in the sash-channels, the shoes 18 may be adjusted and the rivets 19 then hammered and tightened either before or after installation, to cause the shoes to be securely held in proper position after they have been adjusted.

In operation, assuming the bolts 28 and 28^a to have been connected to the linkages respectively, the cross-bars will be separated to close the window-opening whenever the lower sash is raised, because, as the linkages are extended, these bars having a pivotal and sliding connection with the links respectively will be simultaneously separated to guard the window-opening, the separation depending upon the extent to which the window is opened. When the window is closed the bars will be lowered and brought into close parallel relation outside of the lower rail of the sash to leave the view through the window unobstructed. Whenever it is desired to disconnect the guard from the sash, the bolt 28 is first turned to bring stud 39 into position so it can be withdrawn through notch 40 in link 27 and then withdrawn therethrough to disconnect one side of the guard from the sash, and the bolt 28^a may be similarly operated by the key 60. The guard will then be entirely disconnected from the sash so that when the sash is raised access to the outside of the window may be had for cleaning.

The invention thus provides a guard employing cross-bars operated by linkages to simultaneously and gradually spread them as the window is raised and to fold them into close relation as the window is closed. By employing cross-bars of the construction shown, they are rendered rigid and capable of withstanding severe strains and the sash-channels are utilized to hold them in operative position. By providing the adjustable end-shoes, the cross-bars are rendered adjustable in length so they will travel smoothly and fit snugly in the channels. The construction of the cross-bars and linkages is simple so that the guard can be manufactured at a low cost. By forming the cross-bars of a plurality of members they

can be secured together to leave slots there-
between for the sliding-connection between
the toggle-links and the bars. By employing
connecting-bolts which are capable of being
5 disconnected from the guard, the window
may be raised independently of the guard
when desired. By providing a key-con-
trolled lock for the connecting-bolts the in-
vention may be utilized in asylums and hos-
10 pitals, to make it impossible for a patient or
inmate to escape through a window.

The invention is not to be understood as
restricted to the precise details shown and
described since these may be modified with-
15 in the scope of the appended claims without
departing from the spirit and scope of the
invention.

Having thus described the invention, what
I claim as new and desire to secure by Let-
20 ters Patent, is:

1. In a window-guard, the combination of
a plurality of cross-bars, mechanism oper-
ated by the sash for spreading and support-
ing the bars, means for connecting the
25 spreading-mechanism to a window-sash,
and a pivotal and sliding connection be-
tween said mechanism and each of said bars.

2. In a window-guard, the combination of
a plurality of cross-bars each having slots
30 therein, a linkage for each side of the cross-
bars connected to the sash and to the win-
dow-frame, and a pin-connection between
each of the linkages and said cross-bars, said
connections extending through the slots in
35 the bars respectively.

3. In a window-guard, the combination of
a plurality of cross-bars, a linkage at each
side slidably connected to the cross-bars for
spreading them, each linkage comprising a
40 pair of links, the lower end of one of the
links being pivotally connected to the win-
dow-frame, and means for connecting the
upper ends of the upper links to a sash.

4. In a window-guard, the combination of
45 a plurality of cross-bars, a linkage for each
side slidably connected to the cross-bars for
spreading them, each linkage consisting of
a pair of links, the lower end of each lower
link being pivotally connected to the win-
50 dows-frame and means for detachably con-
necting the upper ends of the upper links to
a sash.

5. In a window-guard, the combination of
55 a plurality of cross-bars, a linkage for each
side of the cross-bars for spreading them,
each linkage consisting of a pair of links,
the lower end of each lower link being piv-
otally connected to the window-frame and
the upper end of the upper link of each
60 pair being pivotally connected to the sash, a
pivotal connection between the links of each
pair, each of said cross-bars having slots
therein and pins carried by the linkages and
extending into the slots of the cross-bars to
65 slidably connect the linkages and the cross-

bars, there being a pin and slot for connect-
ing each of the cross-bars with each of the
linkages.

6. In a window guard, the combination
of a linkage at each side of the window con- 70
nected to the window sash, each linkage
comprising a pair of links pivotally con-
nected together, a plurality of cross-bars and
pivotal and sliding connections between each
linkage and each of the cross-bars, said 75
cross bars being connected to the links inter-
mediate their ends.

7. In a window guard, the combination of
a linkage at each side of the window connected
to the window sash, each linkage compris- 80
ing a pair of links pivotally connected to-
gether, a plurality of cross-bars and pivotal
and sliding connections between each link-
age and each of the cross-bars, one of said
cross-bars being connected to the linkage at 85
the point where the links are pivoted to-
gether, and other cross-bars being connected
to the links between the ends of the links.

8. A window-guard comprising a plu-
rality of cross-bars each formed of a pair of 90
strips secured together in separated relation
to form slots therebetween, and spreading-
mechanism comprising means extending into
said slots to form a sliding-connection be-
tween the spreading-mechanism and the 95
cross-bars.

9. In a window-guard, the combination of
a plurality of cross-bars each formed of a
plurality of strips secured together and
spaced apart to form slots, spreading-mecha- 100
nism for the cross-bars having cross-pins
sliding in said slots, and means for connect-
ing said mechanism to a window-sash.

10. In a window-guard, the combination
of a plurality of cross-bars, each formed of 105
a plurality of strips secured together in
separated relation and having means at
their ends for extending into the sash-chan-
nels in a window-frame, spreading-mecha-
nism for the cross-bars having cross-pins 110
slidably connected to said bars, and means
for connecting said spreading-mechanism to
a window-sash.

11. In a window-guard, the combination
of a plurality of cross-bars having slots 115
therein, double linkages disposed inwardly
and outwardly of the cross-bars and cross-
pins connecting the links of said linkages
and extending through the slots in the cross-
bars, a connection between the linkages and 120
the sash, and a connection between the link-
ages and the window-frame.

12. In a window-guard, the combination
of a plurality of cross-bars, each formed of
a plurality of strips secured together in 125
separated relation to form slots in the bars,
double linkages for each side of the cross-
bars connected to the sash and to the frame
respectively, the links of each linkage being
disposed inwardly and outwardly of the 130

cross-bars, and cross-pins connecting said links and extending through said slots.

13. In a window-guard, the combination of a plurality of cross-bars, linkages for operating the cross-bars, each linkage comprising a link formed of a strip of metal bent to form inner and outer members, and a connecting end, said connecting-end being disposed to travel in a channel in the window-frame, and means for connecting the linkages to a window-sash.

14. In a window-guard, the combination of a plurality of cross-bars each formed of a pair of strips secured together, linkages for spreading the cross-bars, the links comprising inner and outer members disposed at the sides of the cross-bars, cross-pins in the links extending between the strips of the cross-bars to provide a sliding connection therewith, and means for connecting the linkages to a window-sash.

15. In a window-guard, the combination of a plurality of cross-bars, mechanism for spreading the cross-bars connected to the sash, brackets for connecting said mechanism to the frame, means for securing the brackets to the frame, and means capable of being bent to underlie the operating mechanism to prevent access to the securing-means.

16. In a window-guard, the combination of a plurality of cross-bars, linkages for operating the cross-bars, pivotal connections between the linkages and the window-frame comprising brackets, means for securing the brackets to the frame, means underlying the links to prevent access to the securing-means, and means for connecting the linkages to a sash.

17. In a window-guard, the combination of a plurality of cross-bars, linkages for operating the cross-bars, brackets to which the linkages are pivoted, means for securing the brackets to the window-frame, parts secured to the frame by said brackets, and capable of being bent to prevent access to the securing-means, and means for connecting the linkages to the sash.

18. In a window-guard, the combination of means for obstructing a window-opening, disposed at the outside of sash, and bolts detachably and pivotally connected to said means and extending through the sash so as to be accessible from the inside of the window and projecting outwardly from the sash, said obstructing-means being connected to the projecting portions of said bolts.

19. In a window-guard, the combination of means for obstructing the window-opening at the outside of the sash, and means for detachably connecting said obstructing-means to the sash, said connecting-means being extended through the sash and operable from the inside of the window and means for preventing disconnection of the

connecting means when the window is opened.

20. In a window-guard, the combination of a plurality of cross-bars, means for spreading the cross-bars connected to the window-frame, and bolts movably mounted in the window-sash and extending to the outer side thereof and for detachably pivotally connecting the spreading-means to the sash.

21. In a window-guard, the combination of a plurality of cross-bars, spreading-means for the cross-bars connected to the window-frame, and bolts slidably mounted in the window-sash and extending to the outer side thereof for detachably pivotally connecting the spreading-means to the sash.

22. In a window-guard, the combination of a plurality of cross-bars, spreading-means for the cross-bars connected to the window-frame, and bolts slidably and rotatably mounted in the window-sash for pivotally and detachably connecting the spreading-means.

23. In a window-guard, the combination of means at the outside of the sash for obstructing the window-opening, said means being connected to the window-frame, and a connection between said means and the sash comprising a bolt slidably and rotatably mounted in the sash and provided with means disposed at the outer side of the sash for detachably connecting it to the obstructing-means.

24. In a window-guard, the combination of means at the outside of the sash for obstructing the window-opening, said means being connected to the window-frame, and a connection between said means and the sash comprising a bolt slidably and rotatably mounted in the sash and provided with means at the outer side of the sash for securing it against withdrawal from the obstructing-means.

25. In a window-guard, the combination of means for obstructing the window-opening at the outside of the sash, spreading-means comprising a link, and a connection between the link and the sash comprising a bolt slidably and rotatably mounted in the sash and having a stud, said link having a hole to receive the bolt and stud to secure the bolt against withdrawal when the bolt is rotated.

26. In a window-guard, the combination of means for obstructing the window-opening at the outside of the sash, levers for operating said means, spreading-means comprising a link, a connection between the link and the sash comprising a bolt slidably and rotatably mounted in the sash and having a stud, an opening in the link adapted to receive the bolt and stud and to secure the bolt against withdrawal, and means for guiding the bolt for rotation and for longi-

tudinal movement when the stud is in position to be withdrawn from the link.

27. In a window-guard, the combination of means for obstructing a window-opening, 5 means for detachably connecting the obstructing means to the sash, comprising a bolt slidably and rotatably mounted in the sash and a key-controlled lock for securing the bolt against disconnection from the ob- 10 structing means.

28. In a window guard, the combination of means for obstructing the window opening, at the outside of the sash, spreading means connected to the window frame and 15 means for pivotally connecting the spreading mechanism to the sash, comprising a longitudinally movable bolt for pivotally

connecting the spreading mechanism to the sash, the spreading mechanism having a hole therein alined with the bolt. 20

29. In a window guard, the combination of means for obstructing the window opening, at the outside of the sash, spreading means connected to the window frame and means for pivotally connecting the spread- 25 ing mechanism to the sash, comprising a longitudinally movable bolt for pivotally connecting the spreading mechanism to the sash, said spreading mechanism being provided with a sleeve for receiving said bolt. 30

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
