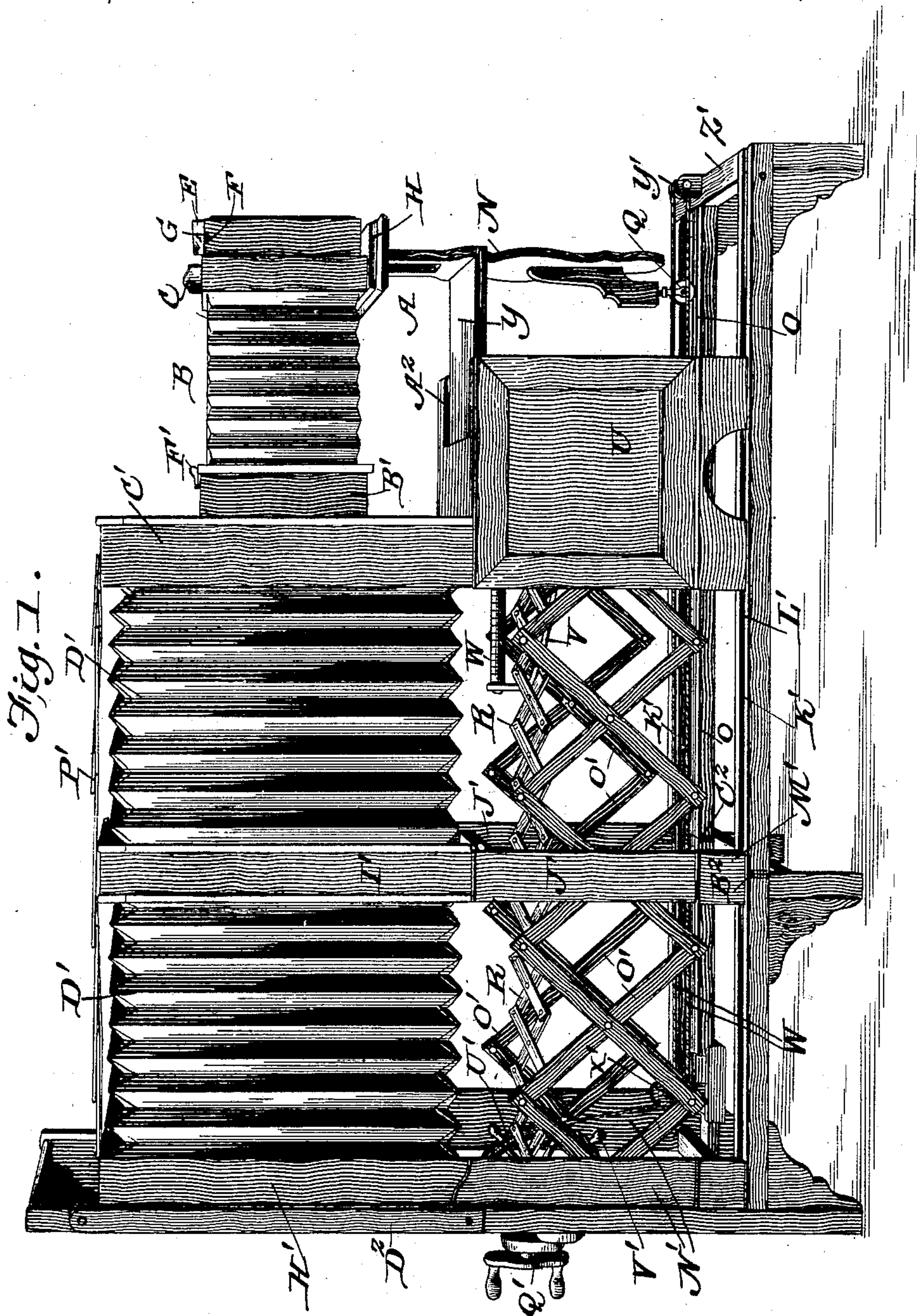


S. S. PECKINPAUGH & G. M. OTTO.
PHOTOGRAPHIC CAMERA.

No. 552,259.

Patented Dec. 31, 1895.



WITNESSES:

Edwin L. Bradford
Chas. W. Boyle.

INVENTORS

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J. R. Little,
their ATTORNEY.

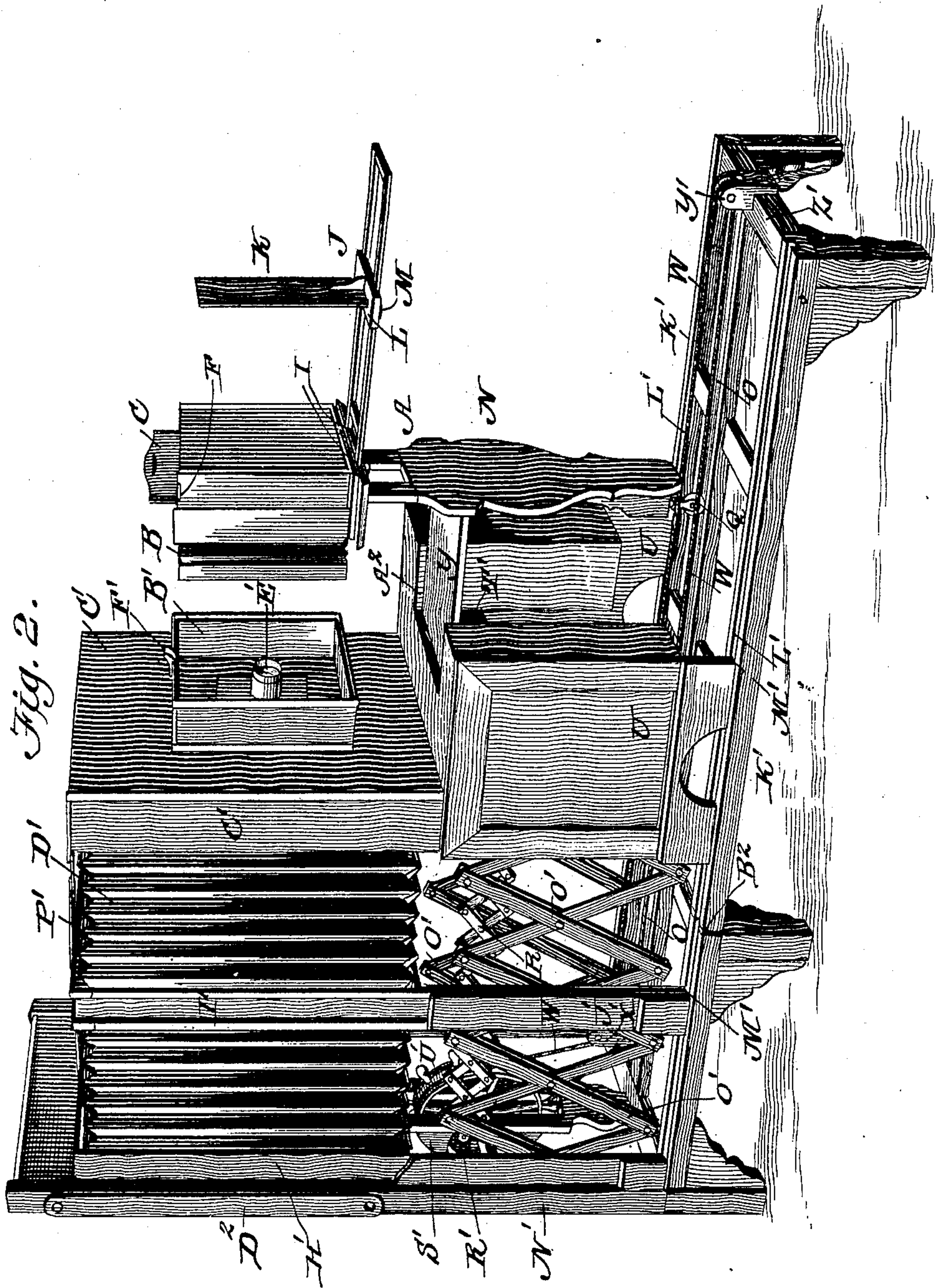
(No Model.)

5 Sheets—Sheet 2.

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Fig. 3.

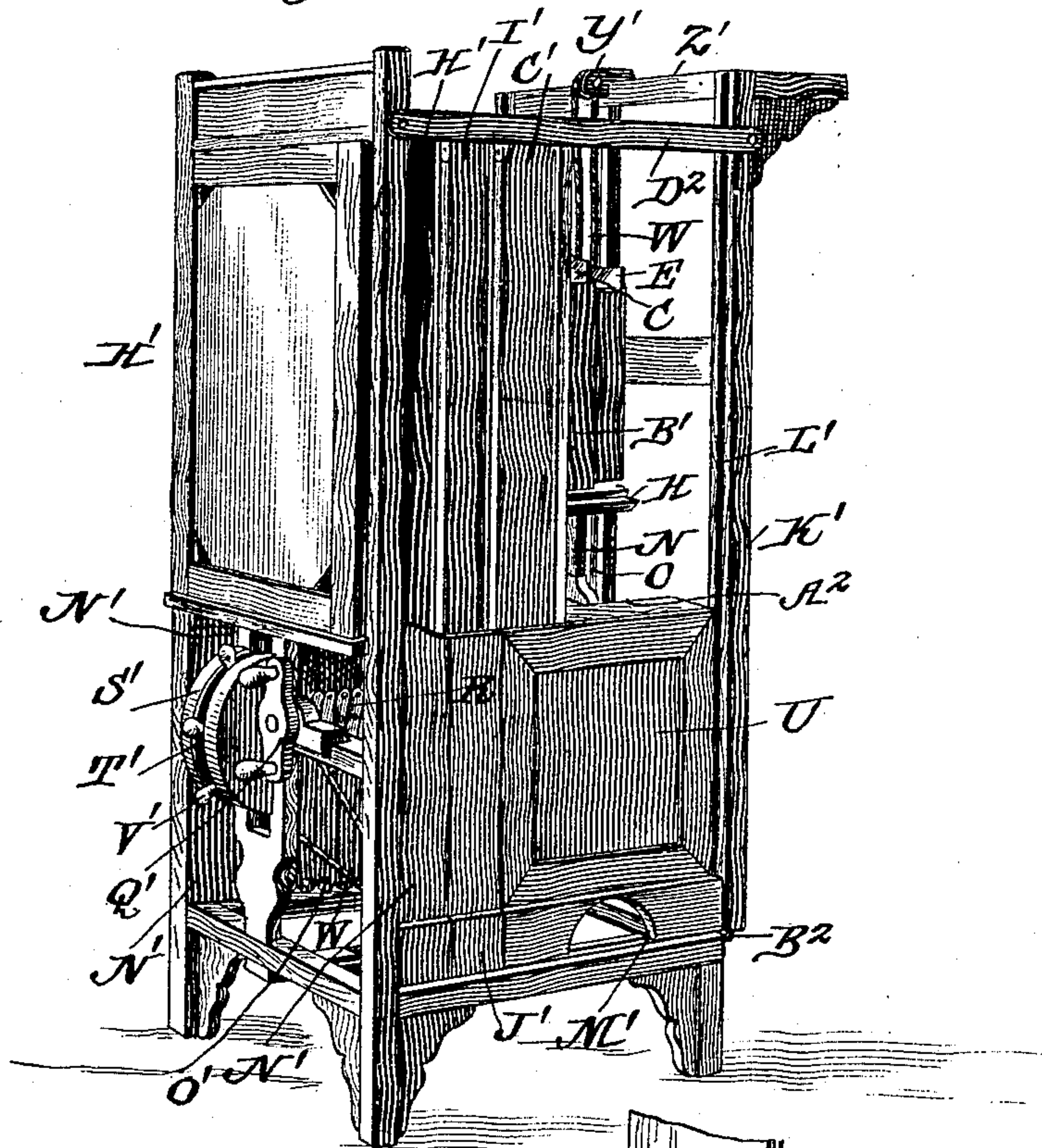
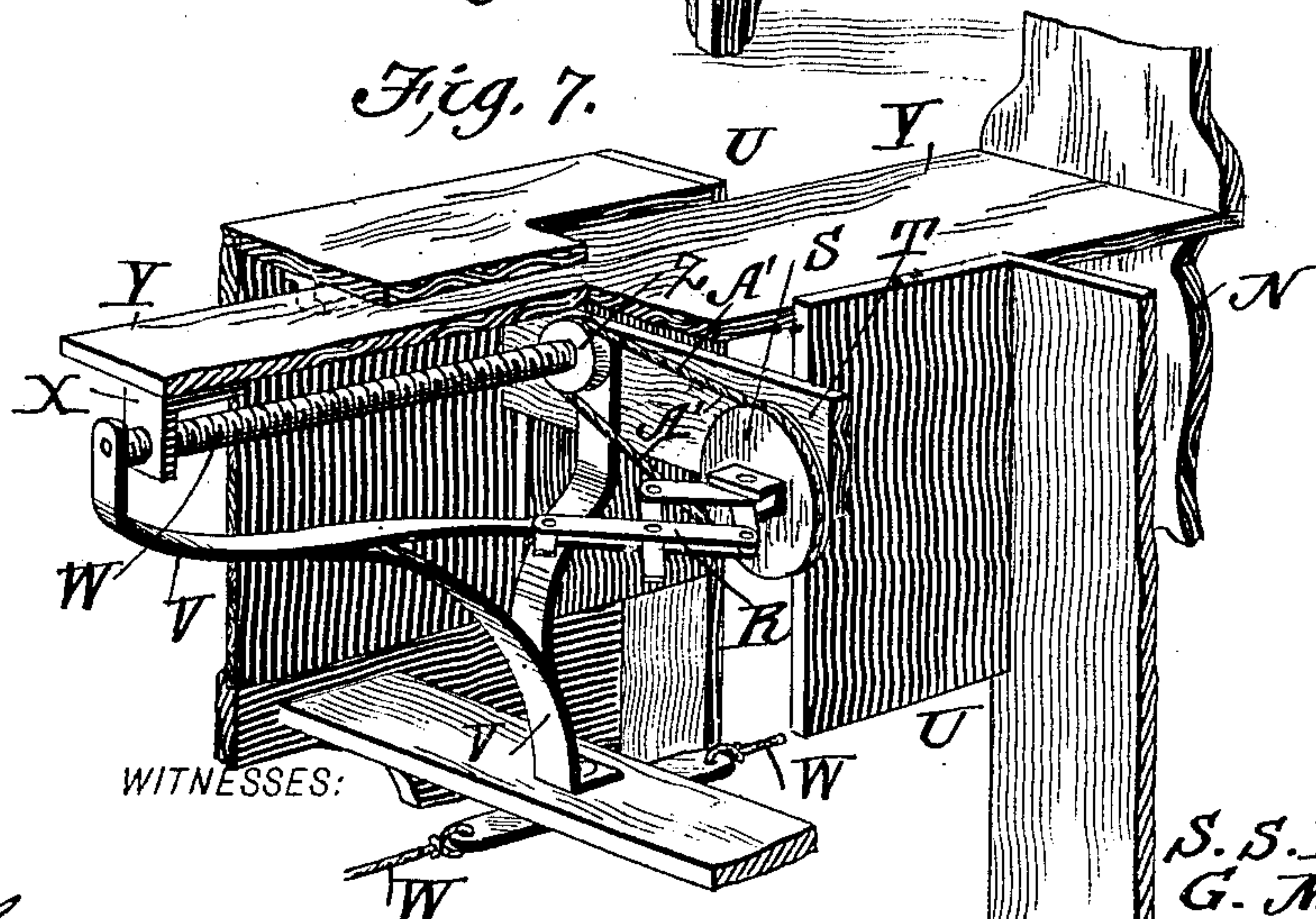


Fig. 7.



WITNESSES:

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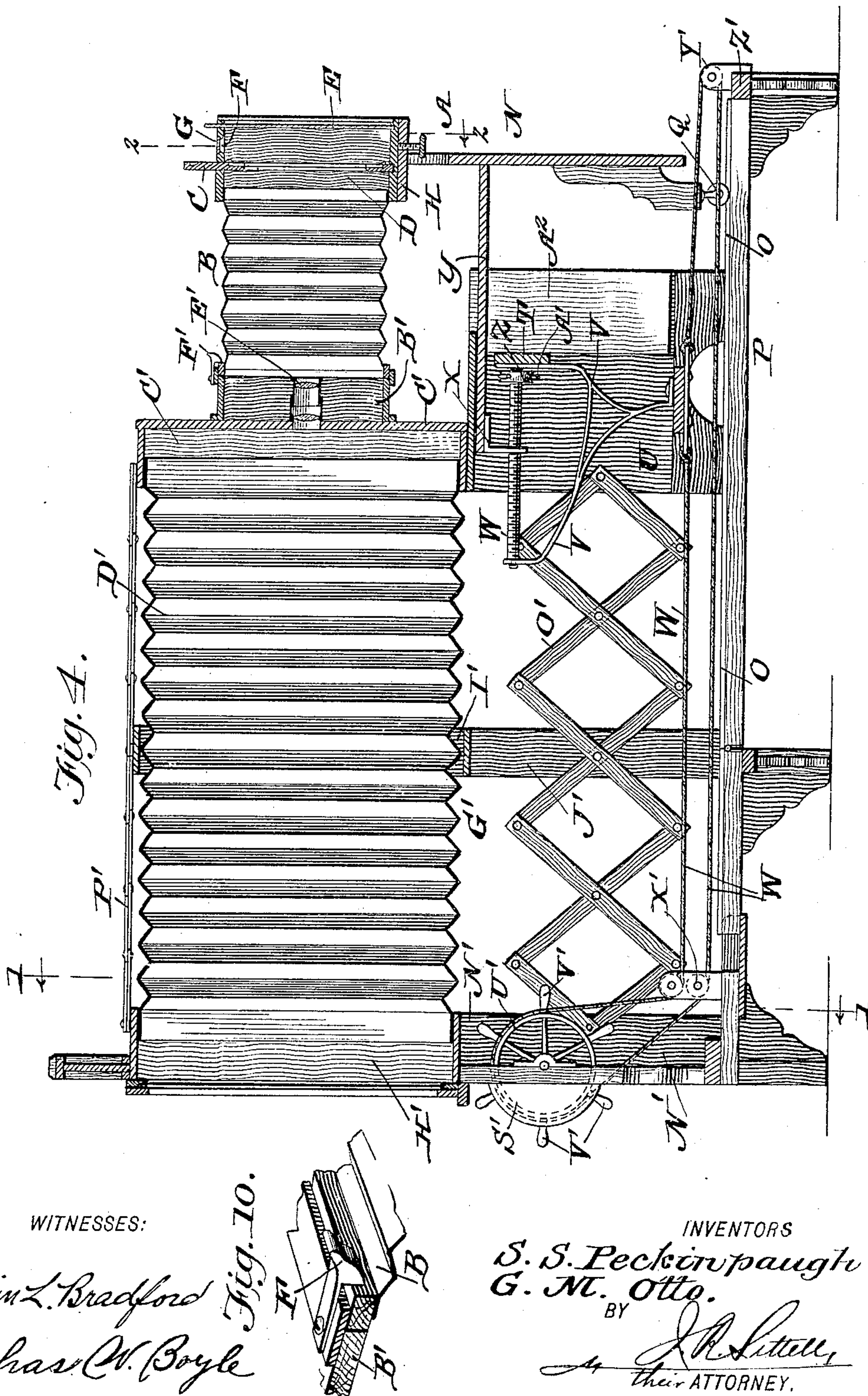
BY

J. R. Littell.
his ATTORNEY.

S. S. PECKINPAUGH & G. M. OTTO.
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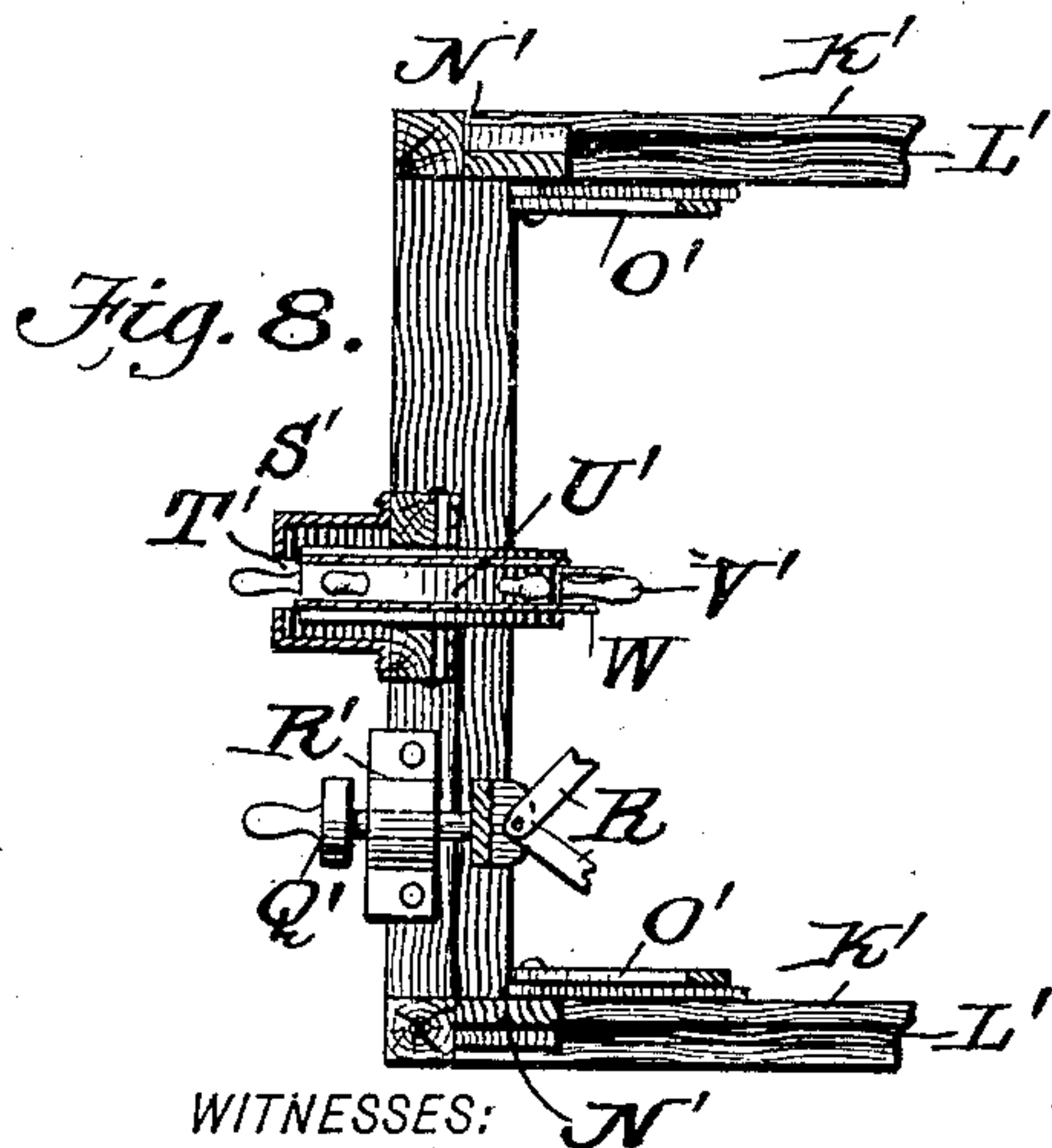
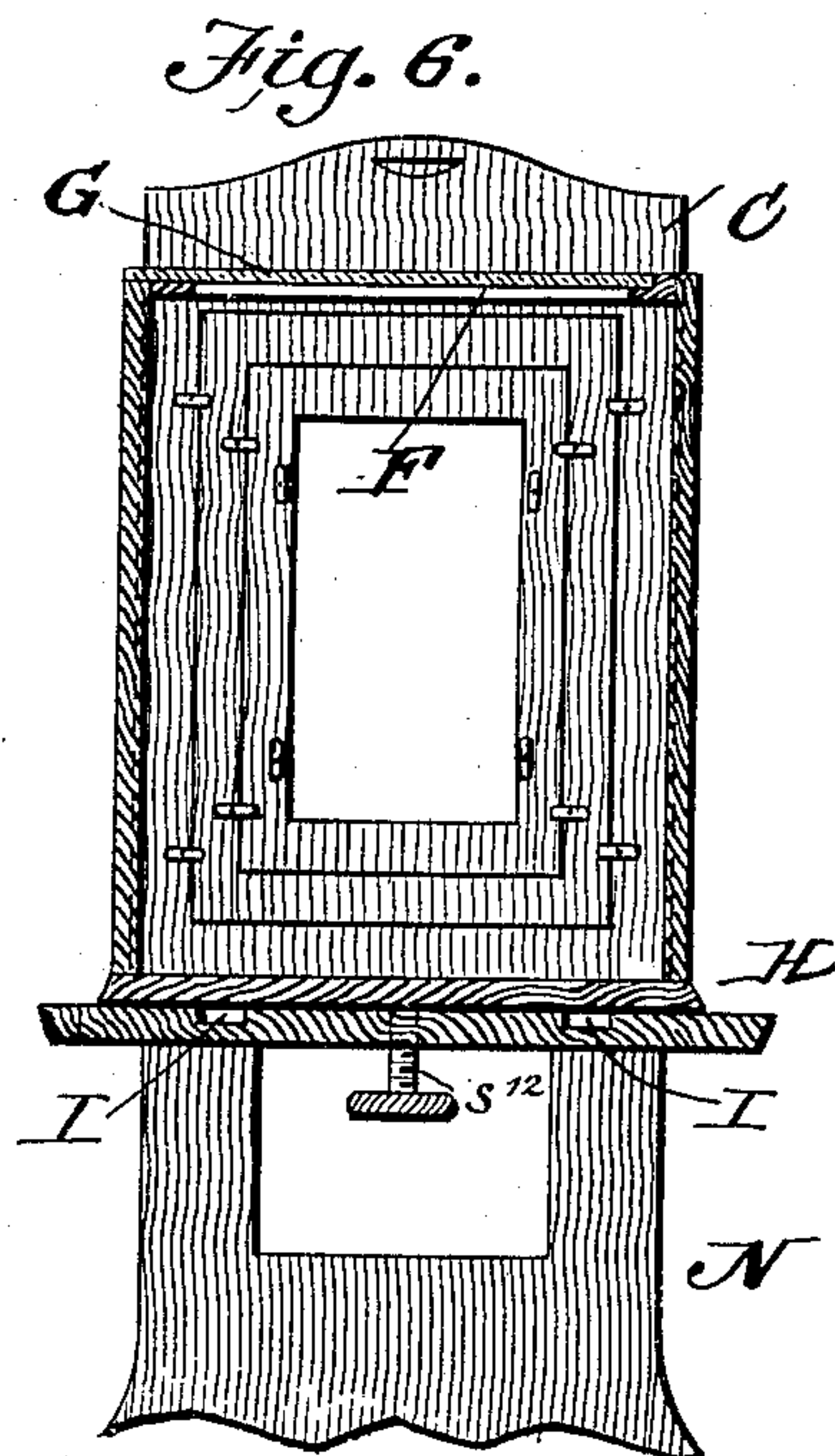
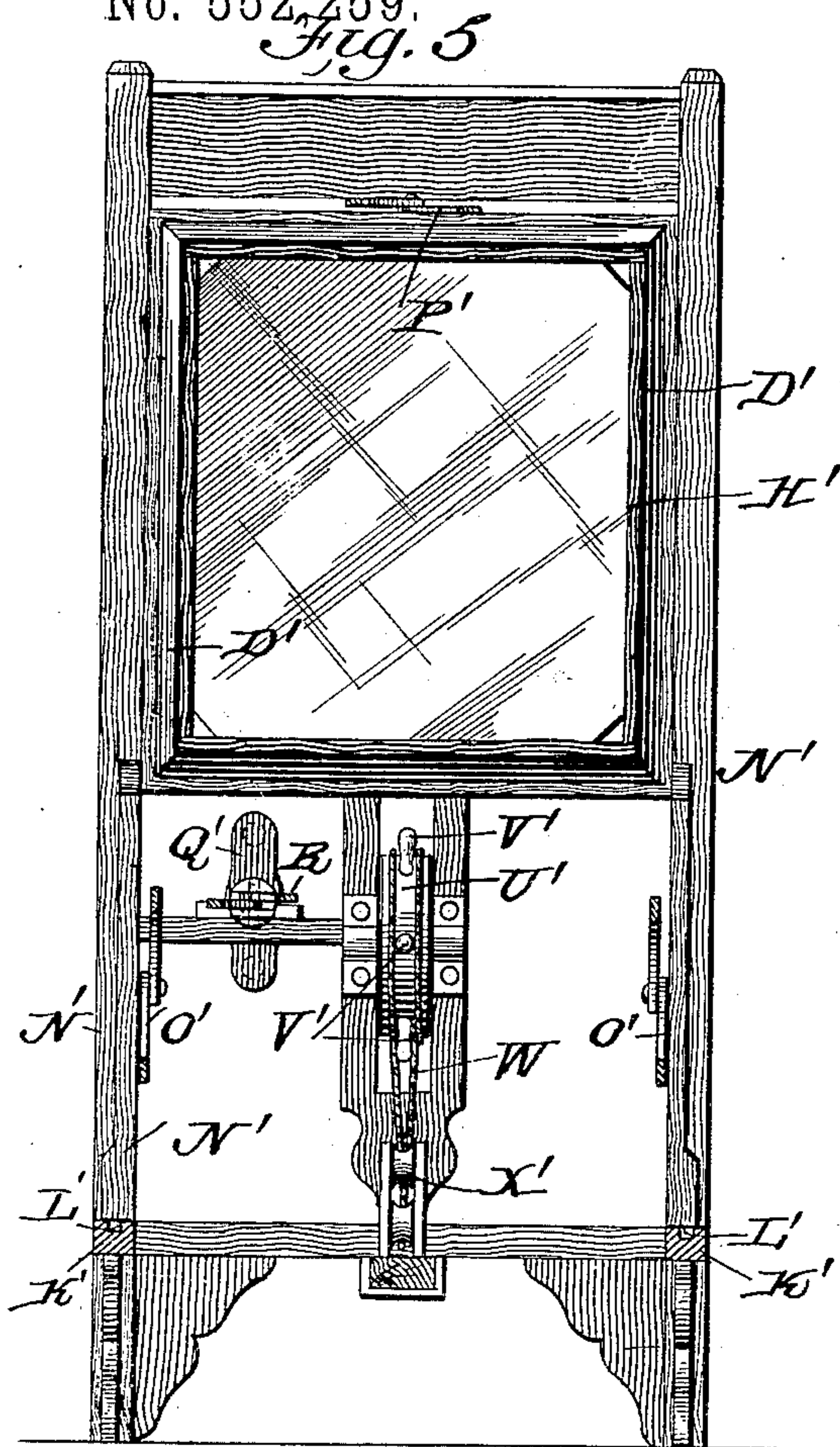
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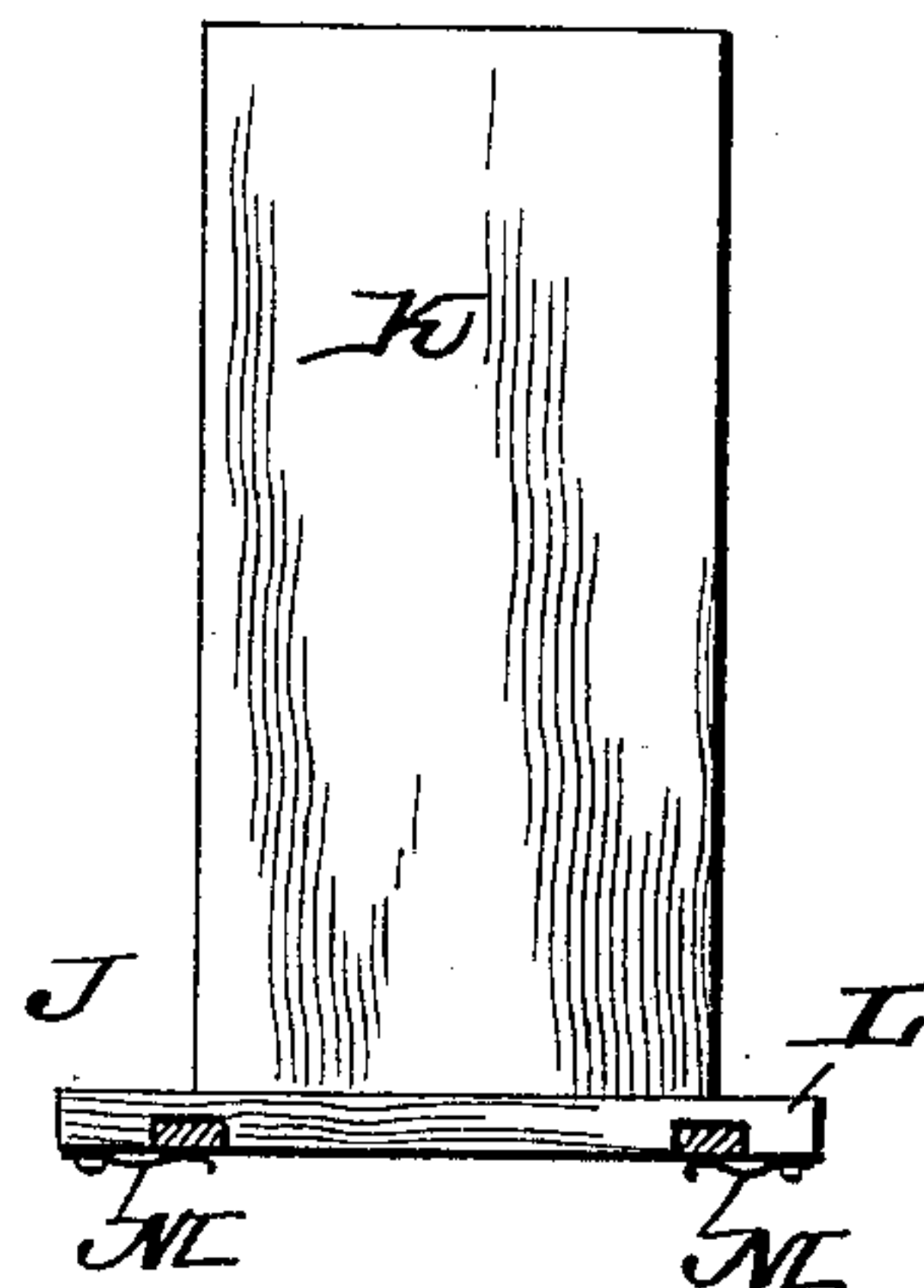
Patented Dec. 31, 1895.



WITNESSES: N'

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Fig. 9.



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UNITED STATES PATENT OFFICE.

SEBASTIAN S. PECKINPAUGH AND GEORGE M. OTTO, OF CENTRALIA, ASSIGN-
ORS OF ONE-HALF TO THEODORE A. TAYLOR AND GEORGE S. BIRON, OF
GRAND RAPIDS, WISCONSIN.

PHOTOGRAPHIC CAMERA.

SPECIFICATION forming part of Letters Patent No. 552,259, dated December 31, 1895.

Application filed May 20, 1895. Serial No. 549,959. (No model.)

To all whom it may concern:

Be it known that we, SEBASTIAN S. PECK-
INPAUGH and GEORGE M. OTTO, citizens of
the United States, residing at Centralia, in
the county of Wood and State of Wisconsin,
have invented certain new and useful Im-
provements in Camera Boxes or Apparatus;
and we do hereby declare that the following
is a full, clear, and exact description of the
invention, which will enable others skilled in
the art to which it appertains to make and
use the same.

This invention relates to camera boxes or
apparatus for enlarging, reducing, and copy-
ing pictures; and it has for its object to pro-
vide a simple and improved apparatus of this
character which will possess advantages in the
point of convenience, ease of operation, accu-
racy, adjustment, effectiveness, and general
efficiency, and which can be readily closed or
folded into compact form.

In the drawings, Figure 1 is a perspective
view showing our apparatus in extended po-
sition. Fig. 2 is a perspective view showing
the apparatus partly extended. Fig. 3 is a
perspective view showing the apparatus in
closed or folded position. Fig. 4 is a vertical
longitudinal sectional view. Figs. 5 and 6
are vertical detail transverse sectional views
taken, respectively, on the lines 1 1 and 2 2,
Fig. 4. Fig. 7 is a detail perspective view
showing the extension mechanism for the fo-
cusing portion of the apparatus. Figs. 8, 9,
and 10 are detail sectional views.

Referring to the drawings, A designates a
front extension portion, which carries the fo-
cusing-bellows B, and which is also intended
to carry the negative or picture to be enlarged
or copied.

C designates the negative-holder, which
slides vertically within the rim D of the bel-
lows B, and in front of this holder, at a suit-
able distance therefrom, is provided a finely-
ground glass E to insure the transmission of
a soft even light upon the negative.

Between the negative-holder C and the
front glass E a slot F is provided in the top
of the rim of the bellows B, in which is set
a ground glass G to prevent any shadow
from falling upon the negative. These front

glasses are adapted to slide or are removable,
as desired.

The extension A embodies a horizontal ta-
ble H, upon which the focusing-bellows is set,
and at the front of this table are provided
two slots or openings I I, adapted to receive
the ends of the side bars of a removable hori-
zontal copying extension or table J, which car-
ries a vertical board K, upon which the small
picture to be enlarged or copied is placed.
The board K is adjustable longitudinally upon
the extension J with relation to the focusing-
bellows, this adjustment being preferably
fixed by means of a transverse base-board L,
sliding upon the extension J and held in place
by spring-clasps M on the under side.

The extension A embodies an upright or
standard N, carrying the bellows-table H and
resting upon a track O, arranged centrally in
the bottom or base-frame P of the apparatus.
For this purpose the upright N is mounted
upon a wheel or roller Q.

The extension A is operated to carry it rear-
wardly or forwardly upon the track by means
of a rearwardly-extending revoluble lazy-
tongs connection R, having its front end con-
nected to a wheel or pulley S, mounted upon
a frame T, arranged within a carriage-box U,
the adjusting mechanism for the extension A
being also inclosed within said box. Pro-
jecting from the frame T is a suitable bracket
V, within which bears a longitudinally-ar-
ranged rotary screw or worm W, passing
through a bracket X at the end of a rear-
wardly-projecting arm Y, running from the
upright N. Fixed upon the screw is a wheel
or pulley Z, connected by cord or band A'
with the pulley S. The extension A and its
adjusting mechanism are thus carried for-
wardly and rearwardly with the carriage-box
U, and the said extension A is also independ-
ently adjustable forwardly and rearwardly by
the revolution of the lazy-tongs connection R
and through the operation of the intervening
pulleys and the screw or worm.

In Fig. 2 of the drawings the focusing-bel-
lows B is shown detached from the connect-
ing-rim B', projecting from the front frame
or rim C' of the large or main bellows D'.
This disconnection is made to enable the ad-

justment of the lens E' of the main bellows, and when the focusing-bellows is connected to the rim B', as shown in Fig. 1 of the drawings, it is adapted to be fastened in position
5 by means of a clasp or catch F' upon the top of the rim B'.

The large or main extension of the apparatus, which is designated in its entirety by G', comprises the front carriage-box U, upon
10 which is mounted the front rim or bellows-frame C', an upright rear rim or frame H', and an intervening middle rim or frame I'. The large or main bellows D' passes through the middle rim or frame and is secured to
15 each of the end rims or frames C' and H', respectively. The middle frame I' is carried upon a carriage J', and the carriages J' and U travel upon tracks K' K', forming the longitudinal side bars of the bottom frame or
20 base P of the apparatus. These side bars or tracks are preferably grooved, as at L', to accommodate the corresponding bottom edge M' of the sliding carriages. The rear rim or frame H' is stationary and is secured to a rear
25 upright frame N'.

O' O' designate large vertically-arranged lazy-tongs extensions, which are located under the main bellows D' and are preferably arranged one at each side of the apparatus.
30 The rear ends of the lazy-tongs O' O' are fastened to the rear upright frame N', while their front ends are fastened to the carriage-box U. At about their middle portions these main lazy-tongs are pivotally connected to the middle carriage J'. This construction and arrangement insures an even and level movement of the several main parts of the apparatus as the latter is extended during the opening of the lazy-tongs. P' designates a
40 similar horizontally-arranged lazy-tongs extension, which is provided over the main bellows D'. The lazy-tongs P' are fastened at their rear ends to the rear rim or frame H' and at their front ends to the front rim or
45 frame C'. These lazy-tongs are also pivotally connected to the middle frame I'. The top lazy-tongs extension P' thus insures an even and level movement of the apparatus, prevents the middle rim I' and its carriage J' from falling in either direction, and also retains the front rim C' in proper position.
50

At the rear end of the revoluble lazy-tongs connection R is connected a crank Q', mounted in a suitable bearing-box R', provided in
55 the rear upright frame N'. By operation of this crank the lazy-tongs R may be revolved to adjust the front extension A, as hereinbefore described.

The crank Q' and lazy-tongs R are preferably arranged at one side the center of the apparatus, and centrally mounted in the rear upright frame N' is a segmental boxing S', having a slot or opening T', in which is accommodated a wheel or pulley U'. The slot T' opens
65 at the periphery of the box S' to provide for projecting thumb-knobs or handles V' on the periphery of the wheel U', by which knobs the

wheel may be operated. From the wheel U' extends downwardly a rope or cord W', which runs under a stay-block pulley X', mounted
70 at the base of the frame and near the rear end thereof, and thence the cord or rope runs forwardly and horizontally above the central track O to a wheel or pulley Y', mounted upon the front cross-bar Z' of the bottom frame or
75 base of the apparatus. From this front-end pulley Y' the cord or rope extends rearwardly back to the carriage-box U and is there fastened to a bottom cross-bar or portion of the frame T arranged within the latter. Thus by
80 operating the main wheel or pulley U', which latter serves as a drum for the rope or cord, the large or main extension G' of the apparatus, comprising the large or main bellows and framework and the carriages J' and U, which
85 carriage U carries the front extension A, may be thrown out or closed to effect the desired adjustment. In this operation or adjustment the apparatus is guided or braced by the large
90 lazy-tongs before described, and the front extension A may then be independently adjusted by the operation of the revoluble lazy-tongs connection R and the intervening screw or worm mechanism, as hereinbefore set forth. The carriage-box U is preferably provided in
95 its top portion with a slot A², for the accommodation and guidance of the rearwardly-projecting arm or platform y of the front extension A.

The table H may be arranged to slide horizontally and laterally either to the right or left, as the operator may desire, a thumb-screw s¹² being provided at the bottom to retain it in adjusted position.
100

The operation and advantages of our invention will be readily understood by those skilled in the art to which it pertains.
105

The apparatus is simple and effective in construction and may be conveniently and accurately adjusted as desired to adapt the machine for the different uses and offices for which it is designed.
110

When the various extensible parts of the apparatus are folded or contracted into the minimum space which they are designed to
115 occupy, the apparatus may then be folded into compact form, as shown in Fig. 3, by raising the rear portion of the bottom or base-frame to the vertical position shown, the side bars or tracks K' K' and the central track O
120 being provided with a hinged connection at the points B² and C², respectively, to provide for this adjustment. When the bottom or base-frame is thus folded up, the apparatus is retained in folded position by pivoted side
125 bars or latches D² D² at the top, these latches extending from the side bars K' K' to the rear upright frame N'.

We claim as our invention—

1. A camera, comprising the front extension
130 carrying the focusing bellows, the main bellows mounted upon sliding carriages and carrying the front focusing extension, means for extending or contracting the main extension

carrying the front focusing extension, and a revoluble longitudinally-extensible connection connected with the front focusing extension and adapted to be extended by the adjustment of the main extension and to independently adjust the front focusing extension by its revoluble operation, substantially as set forth.

2. A camera, comprising the front extension carrying the focusing bellows, the main bellows mounted upon sliding carriages and carrying the front focusing extension, means for guiding and extending or contracting the main extension carrying the front focusing extension, and the revoluble lazy-tongs extension connected with the front focusing extension and adapted to independently adjust the same, substantially as set forth.

3. A camera comprising the front extension carrying the focusing bellows, the main bellows mounted upon sliding carriages and carrying the front focusing extension, the base or bottom frame having the tracks or rails, lazy-tongs extensions connecting and guiding the parts, means for extending or contracting the main extension carrying the front focusing extension, said means operating at the rear end of the apparatus, the revoluble lazy-tongs extension, and intervening screw or worm and pulley mechanism for independently adjusting the front focusing extension, substantially as and for the purpose set forth.

4. A camera comprising the front extension carrying the focusing bellows, the carriage box carrying said front extension, the main bellows mounted upon said carriage box, the bottom or base frame having tracks or rails upon which the carriages slide, the lazy-tongs extensions for bracing and guiding the parts, the band wheel or pulley at the rear end from which extends the cord or rope over suitable pulleys to the front end and from thence rearwardly to the carriage box, the revoluble lazy-tongs extension running to the rear end and operating through the medium of the intervening pulley mechanism and a screw or worm connected with the front focusing extension, whereby the latter is independently adjustable, substantially as and for the purpose set forth.

5. A camera comprising the front extension carrying the focusing bellows, the carriage box carrying said front extension, the main bellows mounted upon said carriage box and supported by the rear carriages, the bottom or base frame having the tracks or rails for said sliding carriages, the rear upright frame, the main lazy-tongs extensions for bracing and guiding the parts, the band wheel or pulley mounted in the rear frame, the extension cord or rope extending from said band wheel to the front end of the base frame and rearwardly to the carriage box and guided by suitable pulleys, the revoluble lazy-tongs extension extending from the rear end of the apparatus to pulley mechanism connected with a screw or worm connected with the front

focusing extension, whereby the latter is independently adjustable, substantially as and for the purpose set forth.

6. A camera embodying the front extension carrying the focusing bellows and having a rearwardly projecting arm, the main carriage box receiving said arm, the main bellows mounted upon said carriage box and upon rear carriages, the bottom or base frame having rails or tracks for the sliding carriages, the rear upright frame, the vertical main lazy-tongs extensions for bracing and guiding the parts, the band wheel or pulley mounted in the rear upright frame, the extension cord or rope extending from said band wheel to the front end of the base frame and rearwardly to the carriage box and guided by suitable pulleys, the revoluble lazy-tongs extension provided with an operating crank at the rear upright frame, the pulley mechanism mounted within the carriage box and connected with the front end of the revoluble lazy-tongs connection and with a screw or worm mounted in the carriage box and passing through a bracket upon the rearwardly-extending arm of the front extension, whereby the latter is independently adjustable, substantially as and for the purpose set forth.

7. In a camera, the bottom or base-frame provided with guide rails or tracks, the carriages sliding upon the same, the fixed rear upright frame, the main bellows connected with the fixed rear upright frame and mounted upon the sliding carriages, the vertical lazy-tongs extensions connected with the fixed or stationary rear upright frame and with the carriages upon which the main bellows is carried, and devices for operating said sliding carriages, substantially as and for the purpose set forth.

8. A camera, comprising the front extension carrying the focusing bellows, the main bellows mounted upon sliding carriages and carrying the front focusing extension, devices for connecting and guiding the parts, means for extending or contracting the main extension carrying the front focusing extension, the revoluble lazy-tongs extension, and mechanism connecting the revoluble lazy-tongs extension with the front focusing extension whereby the latter is independently adjusted by the revolution of said lazy-tongs extension, substantially as and for the purpose set forth.

9. In a camera embodying a sliding carriage,—a front extension carried by said carriage and adapted to carry a focusing bellows, said front extension embodying a rearwardly-projecting arm received by said carriage, a revoluble lazy-tongs extension connected with pulley mechanism mounted upon said carriage, and a screw or worm operated by said pulley mechanism and connected with the rearwardly-extending arm of the front extension, whereby the latter is carried by the carriage in its adjustment and is independently adjustable with relation thereto, substantially as and for the purpose set forth.

10. In a camera apparatus of the class described, comprising a sliding carriage embodied in the main bellows apparatus, and means for extending or contracting said main
5 bellows apparatus,—the front extension carried by said sliding carriage and adapted to carry the focusing bellows, extensible and revolvable devices extending from said carriage to the rear end of the main bellows apparatus,
10 and intervening mechanism connected to the front of the revolvable extensible devices and to the front extension, whereby the latter is carried by the main bellows apparatus in its adjustment and is independently adjustable
15 with relation to the latter, substantially as and for the purpose set forth.

11. A camera, comprising the bottom or base-frame having guide tracks or rails, the fixed rear upright frame, the sliding carriages
20 mounted upon the base-frame, the main bellows connected with the fixed rear upright frame and mounted upon said sliding carriages, the front extension carrying the focus-

ing bellows and mounted upon the sliding carriage and connected with the main bellows, 25
means connected with the fixed rear upright frame for operating said sliding carriages to effect the contraction or expansion of the main bellows carrying the front focusing bellows, and independent extensible devices connect- 30
ed with said fixed rear upright frame and extending to the front extension, said independent devices being extended in the operation of extending or contracting the main bellows as the front extension is carried by the same 35
but being adapted to independently adjust the front extension with relation to the main bellows, substantially as set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

SEBASTIAN S. PECKINPAUGH.
GEORGE M. OTTO.

Witnesses:

B. R. GOGGINS,
ALICE KING.