

No. 782,428.

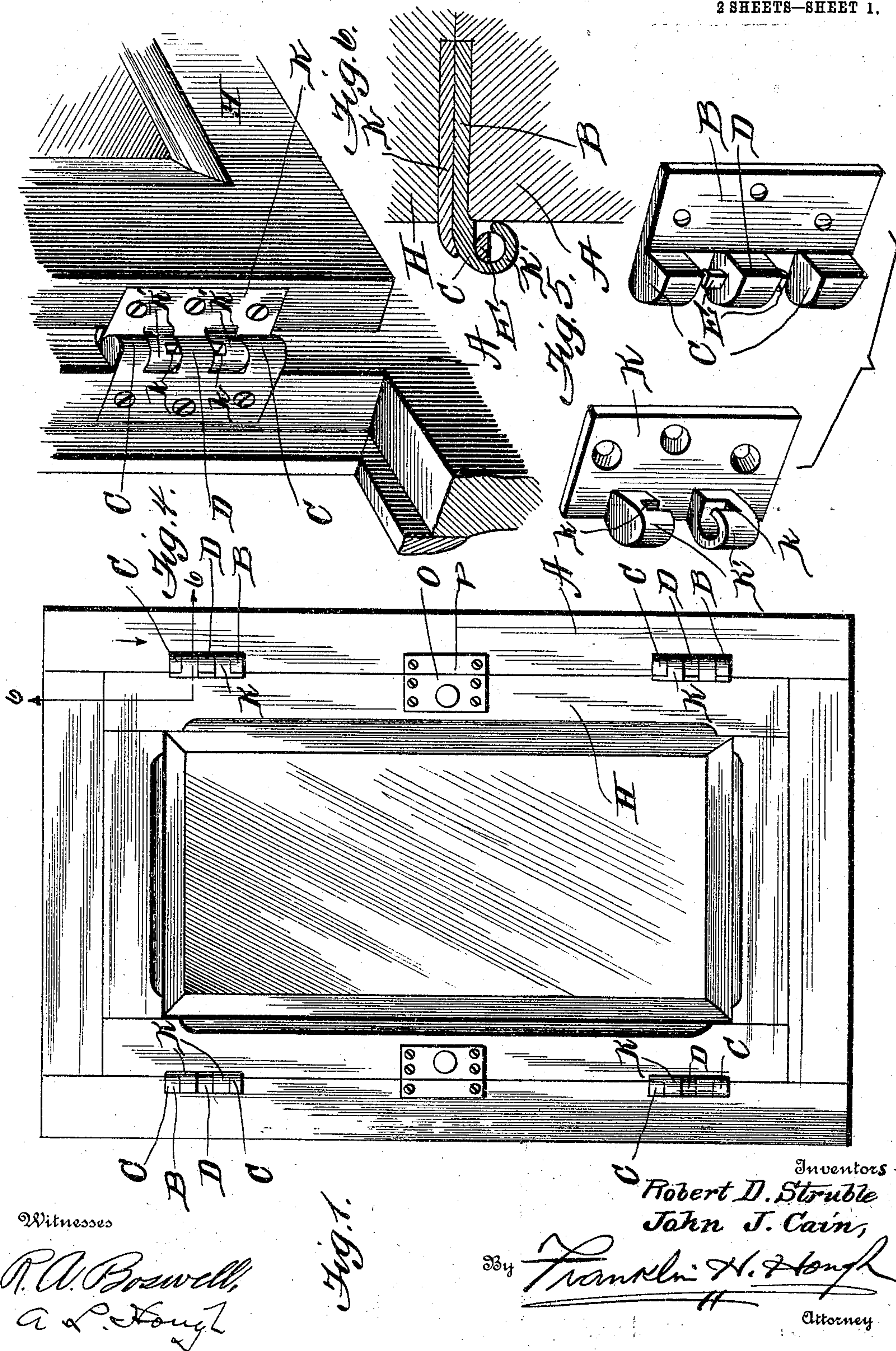
PATENTED FEB. 14, 1905.

R. D. STRUBLE & J. J. CAIN.

RELEASE HINGE.

APPLICATION FILED MAY 14, 1904.

2 SHEETS—SHEET 1.



Witnesses

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Fig. 1.

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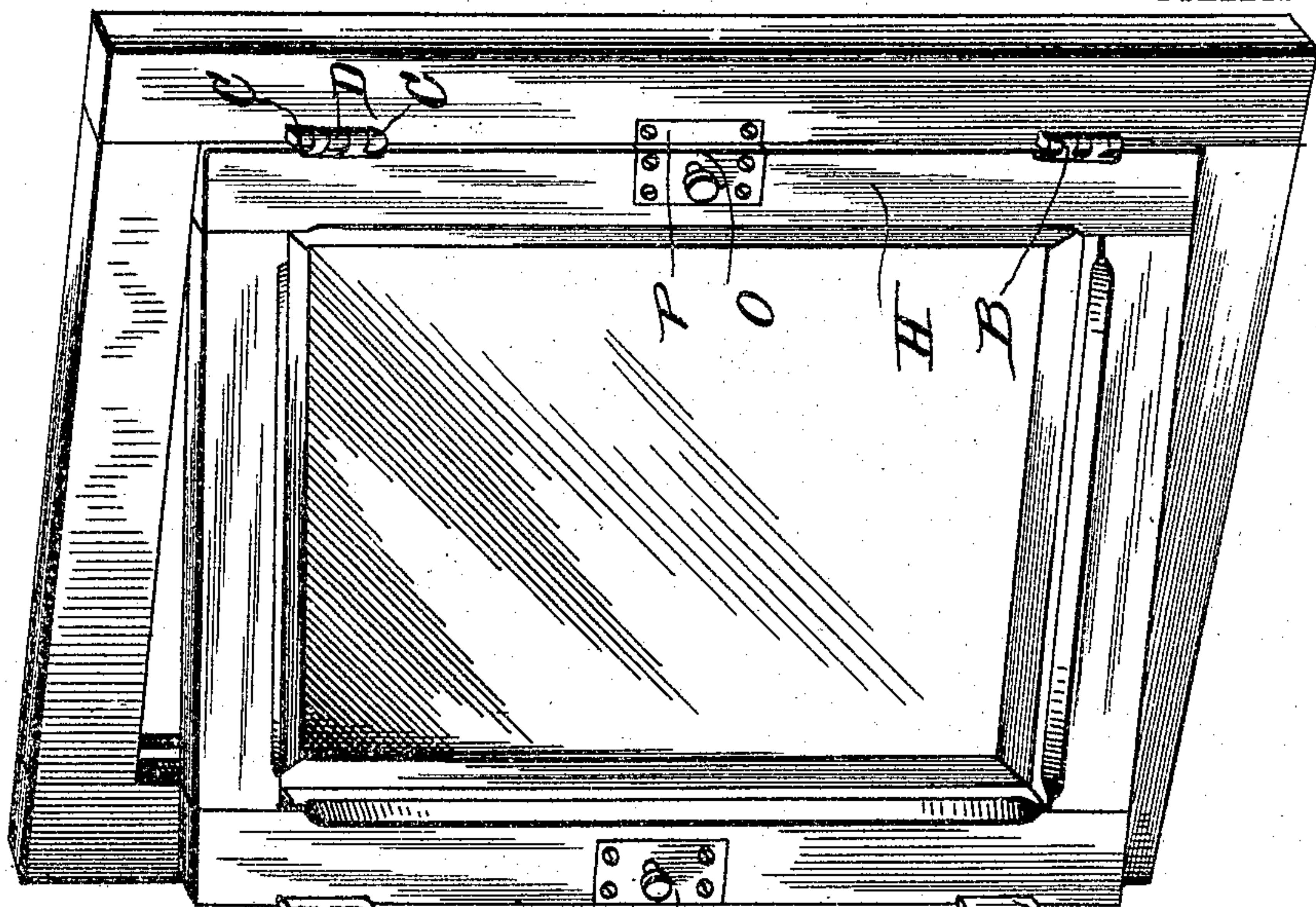


Fig. 3.

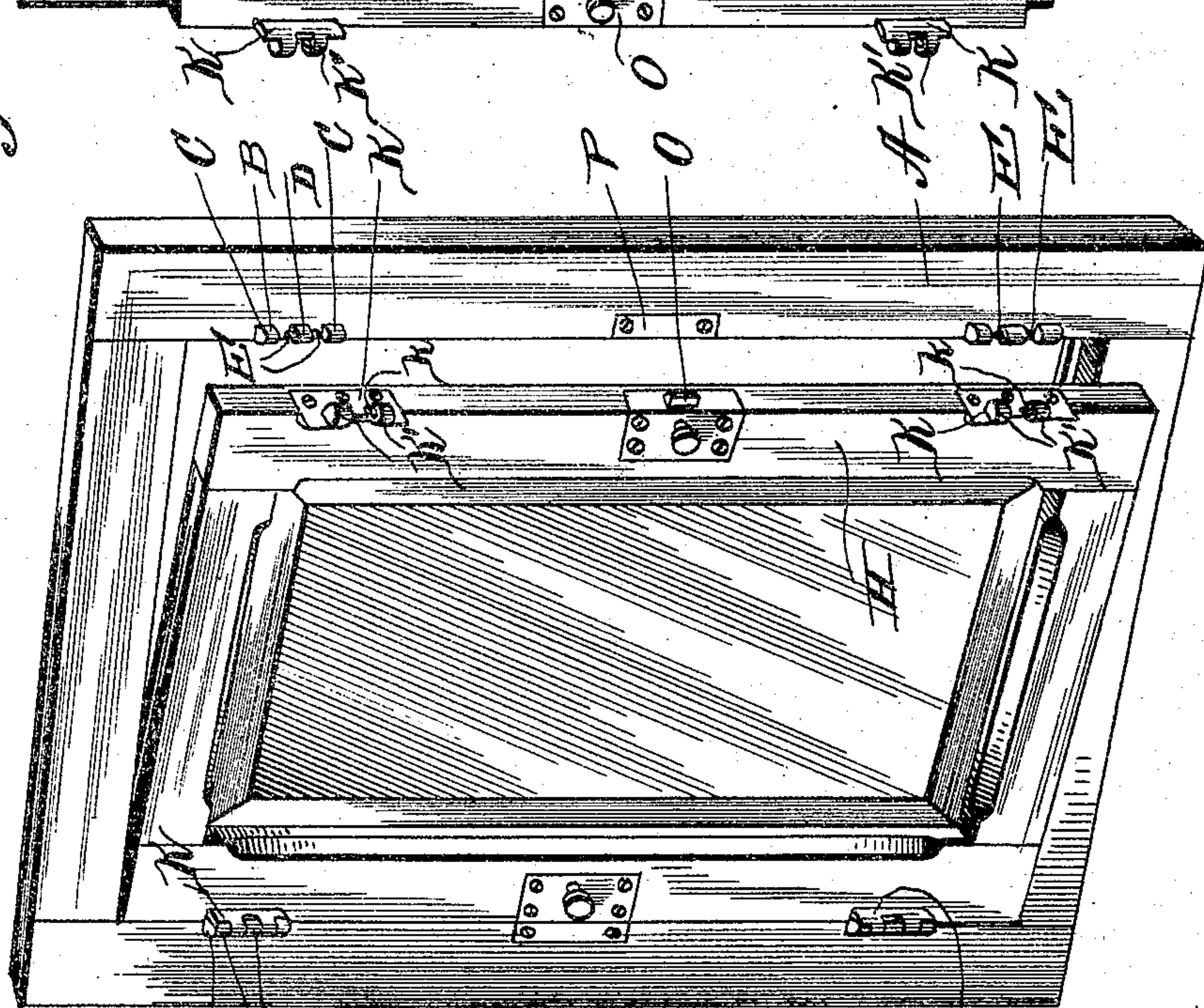


Fig. 4.

Witnesses

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UNITED STATES PATENT OFFICE.

ROBERT D. STRUBLE AND JOHN J. CAIN, OF PHILADELPHIA,
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RELEASE-HINGE.

SPECIFICATION forming part of Letters Patent No. 782,428, dated February 14, 1905.

Application filed May 14, 1904. Serial No. 208,001.

To all whom it may concern:

Be it known that we, ROBERT D. STRUBLE and JOHN J. CAIN, citizens of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Release-Hinges; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in hinges; and the object of the invention is to generally improve upon and simplify the construction of hinge upon which we have been granted Letters Patent in the United States, No. 750,908, dated February 2, 1904, for swinging a door along either of its opposite vertical edges; and it consists in the provision of hinge members which are adapted to be fastened to the opening of a door and provided with oppositely-disposed lugs extending into recesses intermediate projections of the hinge members and adapted to engage slotted hinge members fixed to a swinging door or window, and in the provision of a latch upon each side of the door between the pairs of hinges.

The invention consists, further, in various details of construction and in combinations and arrangements of parts, as will be hereinafter fully described and then specifically defined in the appended claims.

Our invention is illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this application.

In the drawings, Figure 1 is a plan view showing our hinges applied to a swinging door. Fig. 2 is a perspective view showing one edge of the door swung partially open. Fig. 3 is a similar view showing the opposite marginal edge of the door swung partially open. Fig. 4 is an enlarged detail view showing the manner of interlocking of the hinge-sections. Fig. 5 is an enlarged detail per-

spective showing the hinge-sections about to be connected together, and Fig. 6 is a detail view showing the shape of the lugs forming a part of the hinge-plate sections.

Reference now being had to the details of the drawings by letter, A designates the frame of a door or window, and B B designate hinge-plate sections adapted to be fastened to the inner facing of the casing, preferably countersunk therein, and projecting from one edge of said hinge-sections are arms C C at the ends thereof, and an intermediate arm D, with spaces intermediate said central arm D and the end arms C C, as shown in the drawings. Projecting in opposite directions from the central arm D are the lugs E E, which extend into the spaces intermediate the arms, and the outer face of each lug is flat, as shown in the detail view of the drawings, while the opposite or inner face is convexed.

In the drawings we have illustrated four hinge-plate sections of similar construction mounted two near the upper portion of the casing and two near the lower portion thereof, and upon the door H are fastened four hinge-plate sections, (designated in the drawings by letter K,) which are preferably countersunk in the opposite edges of the door, so as to be flush therewith, and projecting from each plate K are two socket members K', which are spaced apart, and each has a recess k , leading into the hollow or socket portion of each arm, said recess opening from the inner face thereof. The wall of each socket member is concaved and is of such a shape as to receive said lugs upon the hinge-plate sections which are fastened to the casing, and the outer marginal portions of said lugs K are preferably convexed in order to turn freely between the arms of the hinge-plate sections upon the casing of the door. Intermediate each pair of hinge-plate sections K, upon each edge of the door, is a spring-actuated latch O, each may be of any construction, and upon which side of the casing of the door or window is a socket member P, adapted to engage and hold the spring-actuated latch.

From the construction shown it will be observed that as the recesses leading into the

socket members upon the door open in a plane parallel with the edges of the door the latter must be held in a plane parallel to the face of the casing when the hinge-plate sections
 5 are to be interlocked, and as the door is closed within the casing the spring-actuated latches, one upon each side of the door, will engage the plates upon the casing and hold the door or window locked. As it is necessary to hold
 10 the door parallel with the casing when interlocking the sections, obviously it is necessary to move both of the edges of the door away from the casing, keeping the edges in the same parallel plane. When it is desired
 15 to swing one longitudinal edge or the other of the door, the latch upon the edge which is to swing is withdrawn from the plate upon the casing, which leaves the edge of the door thus released to swing. The moment the door
 20 begins to open the latch on the opposite or hinged side engaging the adjacent plate upon the casing serves to hold the hinged edge from being released from the hinge-plates upon the casing until the door has swung sufficiently
 25 outward so that the walls of the socket member will prevent the hinge-plate sections from being disconnected. Either of the opposite edges of the door may be swung open by releasing the latch upon the edge of the
 30 door which is to swing, while the other latch assists in holding the door during its partial swinging movement, as described. It will thus be seen that the catch O will bear against the plate upon the frame of the doorway as
 35 the opposite edge of the door swings, and the projecting of said latch and its contact with said plate serves to prevent the hinges upon the door disengaging the fixed hinges upon which they turn momentarily as the door starts
 40 to swing open. When it is desired to remove the door from the casing, both of the latches are operated so as to become disengaged from the plates upon the casing, and the door may be readily withdrawn from the
 45 casing when both of the opposite edges of the door are moved away from the casing simultaneously.

By the provision of a hinge mechanism as shown and described it will be observed that
 50 a simple and efficient means is provided whereby a door may be readily swung from either of its vertical edges to avoid obstructions placed along one or the other of the edges thereof.

While we have illustrated a particular de-
 55 tailed construction of our hinge mechanism for allowing doors or windows to swing from either of the vertical edges thereof, it will be

understood that we may vary the construction of the same, if desired, without in any way departing from the spirit of the invention. 60

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In combination with the casing of a door or window, hinge-plate sections secured there- 65 to and provided with laterally-projecting arms which are spaced apart, lugs projecting from the intermediate of said arms, a door or window, hinge-plate sections secured to the opposite vertical edges thereof and having socket 70 members, spaced apart, thereon adapted to receive said lugs to form hinge-pintles, and fastening means intermediate the hinge-plate sections along each vertical edge of the door or window, as set forth. 75

2. In combination with the casing of a window or door, hinge-plate sections fastened thereto and provided with laterally-projecting arms which are spaced apart, lugs projecting in opposite directions from the intermediate 80 of said arms, a door or window, a hinge-plate section secured to the opposite vertical edges thereof and provided with socket members, spaced apart, with recesses entering said socket members and adapted to receive said lugs 85 which form hinge-pintles, a latch adjacent to each vertical edge of the door or window, and means upon the casing for engaging said latches, whereby the hinge-plate sections are held in interlocked relation while one edge of 90 the door swings, as set forth.

3. In combination with the casing of a door or window, hinge-plate sections fastened thereto and having laterally-projecting arms, spaced apart, lugs projecting in opposite di- 95 rections from the intermediate of said arms, each of said lugs having a corresponding flat and a convexed surface, a door or window, hinge-plate sections fastened thereto and each provided with socket members spaced apart, 100 with recesses opening from the inner side of said socket members adapted to receive said lugs which serve as pintles, and a latch adjacent to each vertical edge of the door, and means upon the casing adjacent to said latches 105 for engagement with the latter, as set forth.

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

ROBERT D. STRUBLE.
 JOHN J. CAIN.

Witnesses:

SAMUEL TAIT,
 SIEGFRIED STEIN.