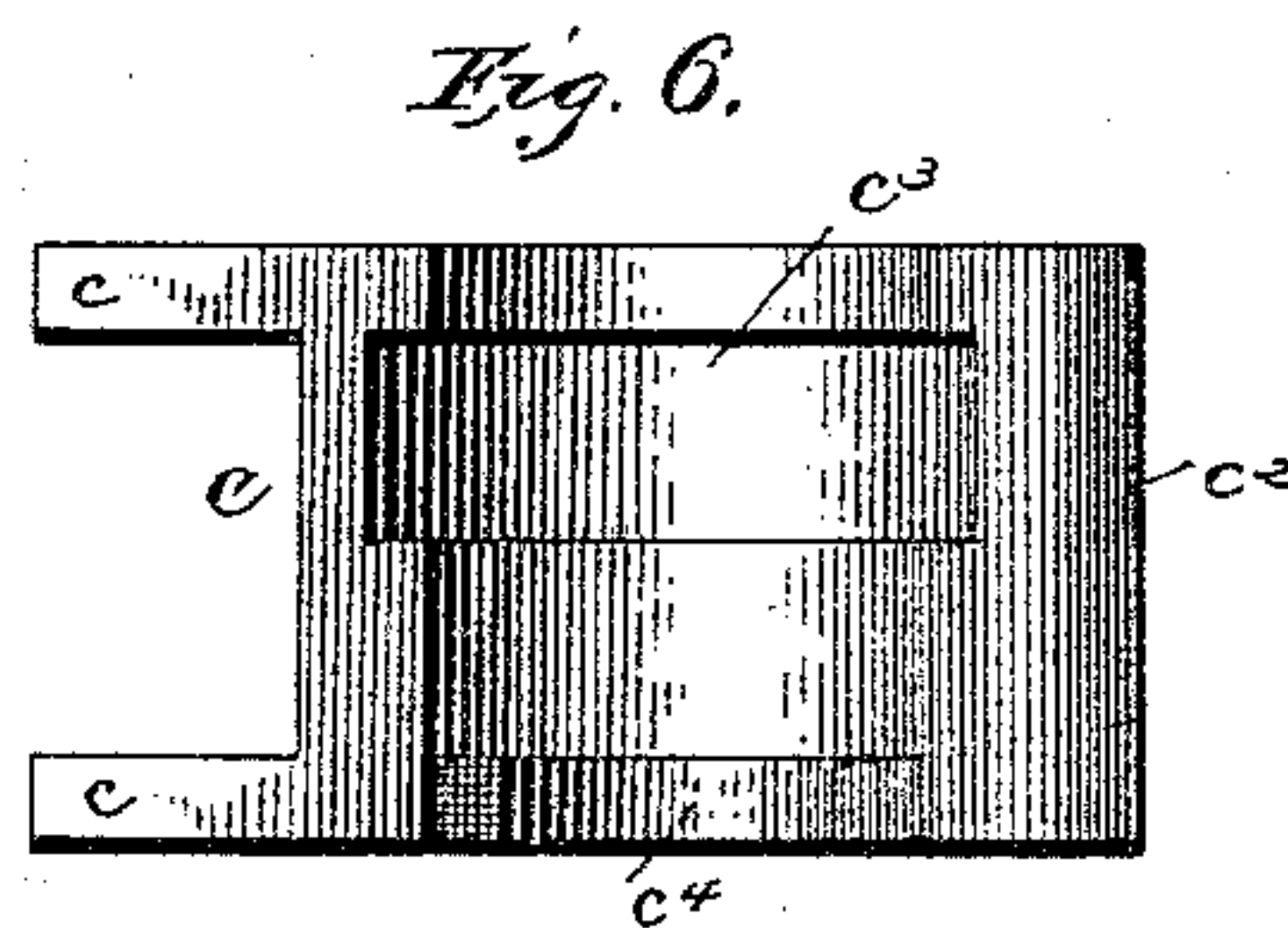
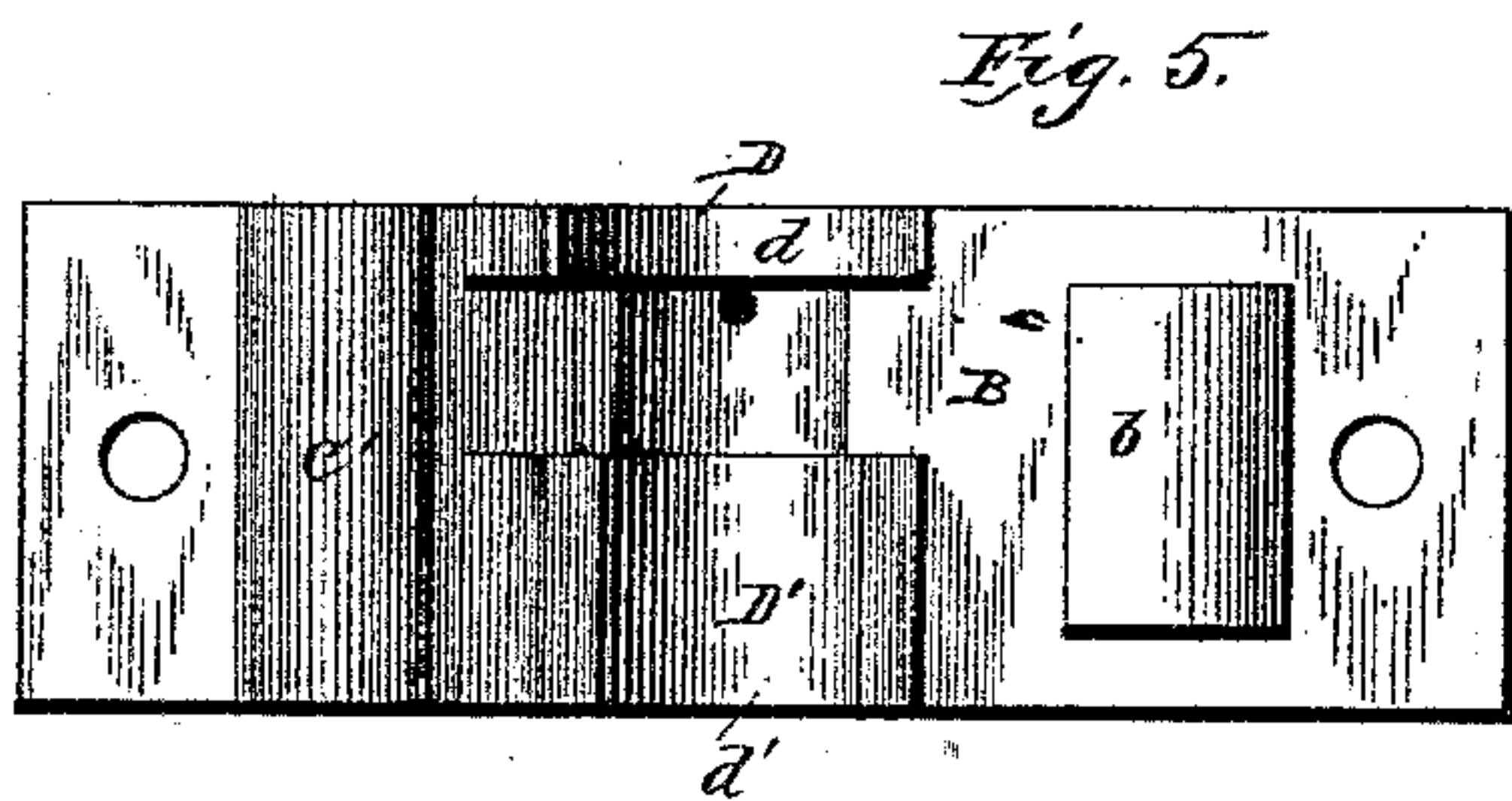
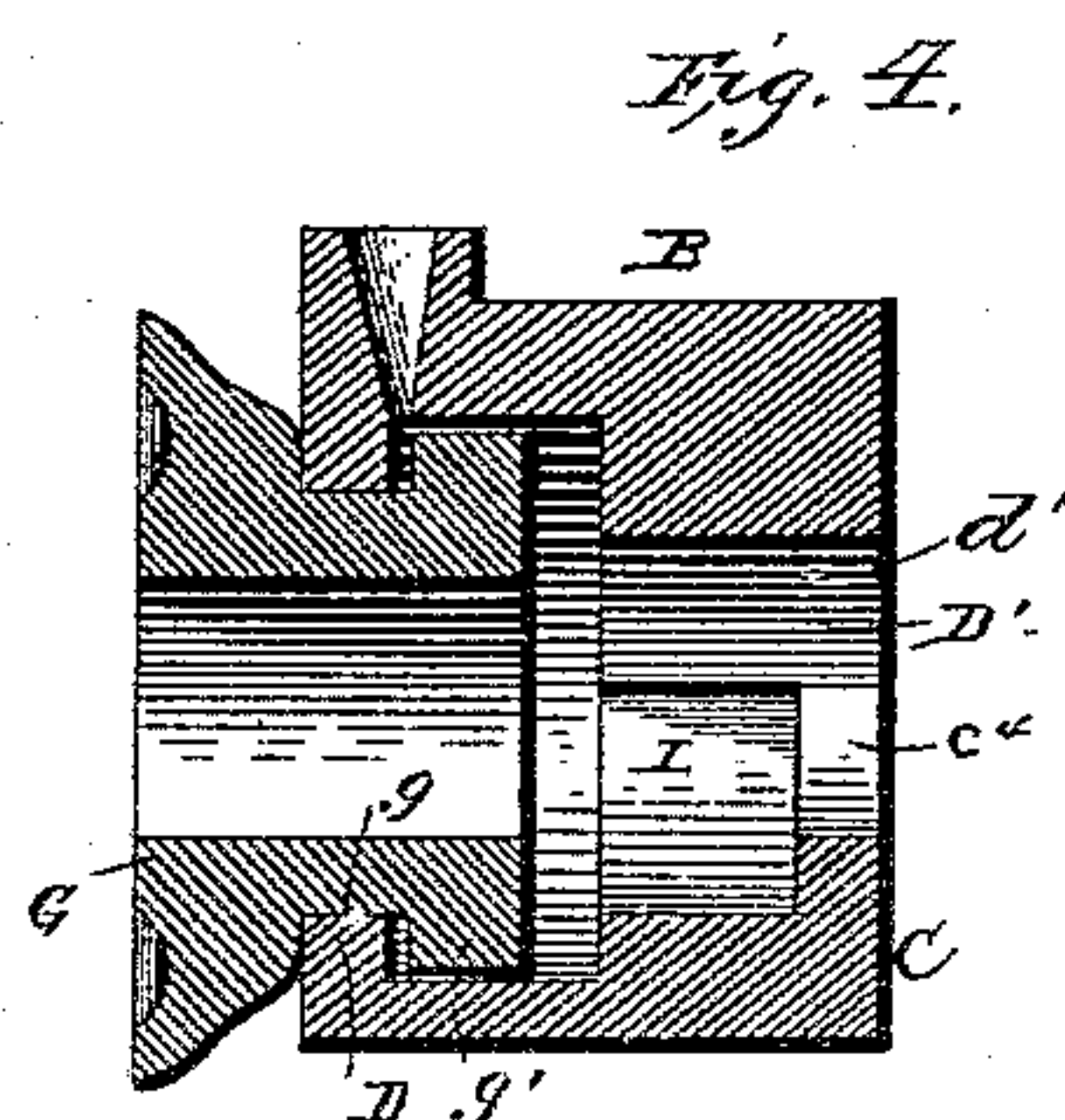
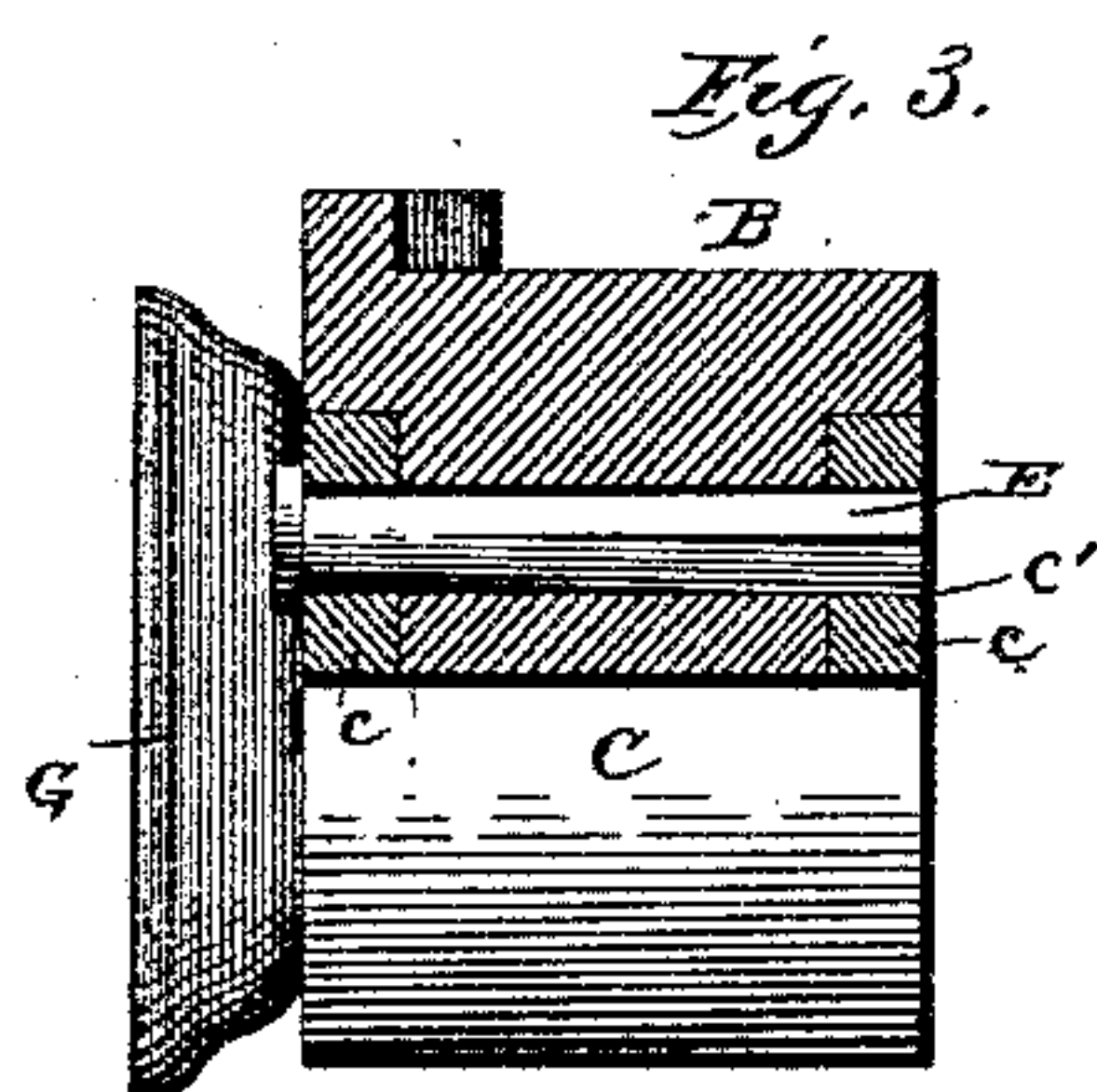
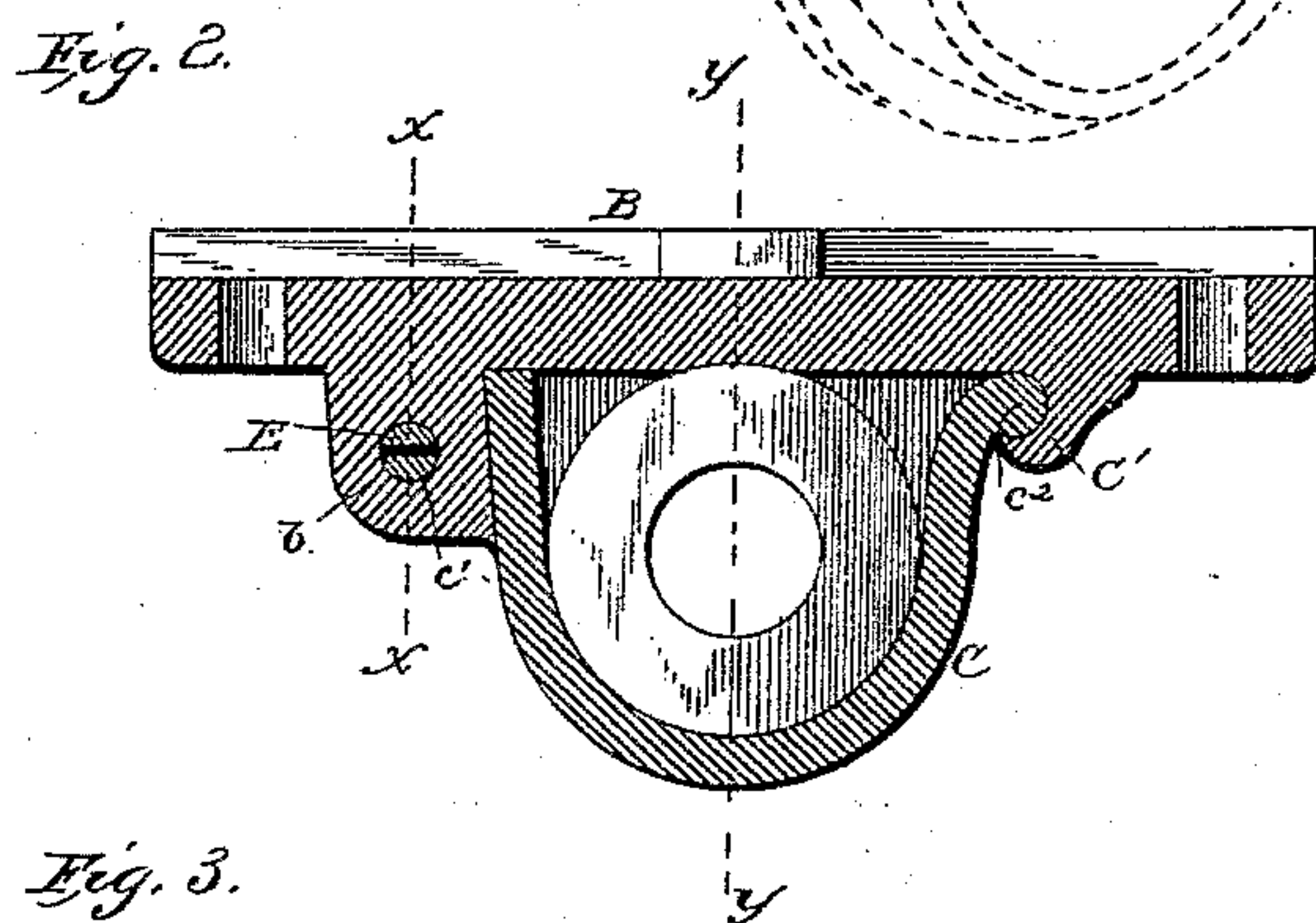
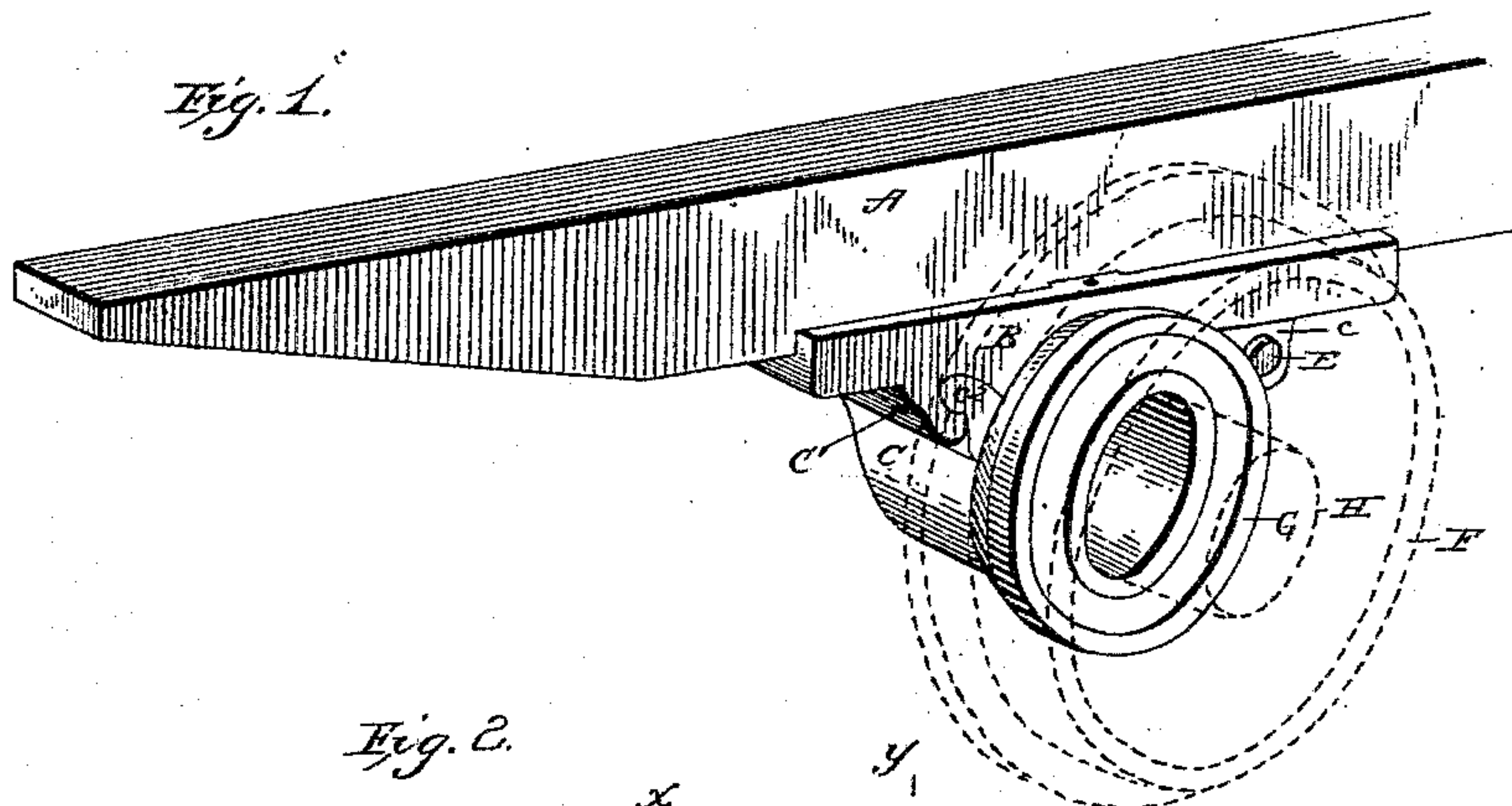


(No Model.)

M. HAMLIN.
CAR AXLE JOURNAL.

No. 414,530.

Patented Nov. 5, 1889.



WITNESSES:

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UNITED STATES PATENT OFFICE.

MAHLON HAMLIN, OF CATAWISSA, PENNSYLVANIA, ASSIGNOR TO THE
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CAR-AXLE JOURNAL.

SPECIFICATION forming part of Letters Patent No. 414,530, dated November 5, 1889.

Application filed August 17, 1889. Serial No. 321,074. (No model.)

To all whom it may concern:

Be it known that I, MAHLON HAMLIN, a citizen of the United States, and a resident of Catawissa, in the county of Columbia and State of Pennsylvania, have invented certain new and useful Improvements in Journal-Boxes and Car-Wheels; and I 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.

My invention has relation to journal-boxes and car-wheels, and more particularly as applied to mining-cars, and has for its objects, in the first place, to provide a construction whereby the parts may be readily detached or dismantled in case of accident or for other reasons; secondly, in providing a construction whereby the employment of a linchpin is rendered entirely unnecessary, and, thirdly, in providing a construction whereby dirt and grit are effectually prevented from entering the box and clogging; and with these ends in view it consists in the improved construction and combination of parts, as hereinafter more fully set forth and described.

In the accompanying drawings, Figure 1 is a perspective view of a section of a car body or truck, showing my improved box and wheel applied thereto. Fig. 2 is a longitudinal vertical sectional view. Fig. 3 is a cross-sectional view on the line $x x$, Fig. 2. Fig. 4 is a cross-sectional view on the line $y y$, Fig. 2. Fig. 5 is an inverted plan view of the upper section or pedestal, and Fig. 6 is a plan view of the lower section or cap.

Referring to the drawings, in which like letters of reference refer to the like parts throughout the several figures, the letter A indicates the car body or truck. Secured beneath the car body or truck is the axle or journal box, which consists of the upper portion or pedestal B and the lower section or cap C. The upper section is formed with downwardly-extending side pieces $D D'$, depending centrally therefrom and provided upon their lower edges with semicircular recesses $d d'$, respectively. It will be observed that the inner one of these is widened or thickened, the purpose of which will more fully appear hereinafter. The upper section

is further provided at one end with a depending transversely-perforated lug b , and at its opposite end also with a depending lug C' , which is curved inwardly, forming a hook end.

The lower section or cap portion of the device is substantially of semi-cylindrical contour, and is provided at one end with laterally-extending ears c , between which the outwardly-extending lug b fits, said ears being provided with perforations or bolt-holes $c' c'$, which register with the perforations in the depending lug, and through which registering perforations a transverse bolt E passes, thereby assisting in securing the two sections of the box together. The opposite end of the cap C is provided with a curved and flanged portion or tongue c^2 , which the inwardly-curved lug C' is adapted to engage, and to facilitate the insertion of the lower cap-piece the sides of the outwardly-extending pieces $D D'$, opposite to the inwardly-curved hooks, are likewise concaved or curved, thereby forming a recess into which the slightly-curved end and flange of the lower section is seated. The inner curved surface of the cap or lower section is formed near its outer edge with a semicircular groove or recess c^3 , while its inner edge is formed with a lower upwardly-extending segmental rim or flange c^4 , the ends thereof forming a seat or support for the inner centrally-depending side piece D' .

When the upper and lower sections of the box are united, which is accomplished by inserting the curved end within the curved recess hereinbefore described, and also allowing the end lug of the upper section to pass between the laterally-extending perforated lugs or ears of the lower section, and securing the same by means of the bolt, it will be seen that a complete circular opening is formed, the outer opening, however, being greater in circumference than the inner, and with an annular recess formed to the rear thereof, while the inner or contracted circular opening has formed to the rear thereof a semicircular space or recess, the formation of which is due to the widened or thickened depending central lug D' .

The car-wheel is represented by the letter F, the hub G thereof extending inwardly and

provided with an annular recess g , into which recess the curved edge of the centrally-de-
 pending piece D of the upper section, as well
 as the outer wall of the groove c^3 of the lower
 5 section or cap, fits loosely, so as to allow of a
 limited lateral play of the same therein, usu-
 ally about one-fourth of an inch. This is
 particularly advantageous when different
 widths or gages of trucks are encountered,
 10 permitting the wheels to accommodate them-
 selves to varying widths without strain or
 liability of breakage. If this slight lateral
 play was not allowed for, it will readily be
 seen that in turning curves, or, as stated,
 15 when varying gages are encountered, damage
 would of necessity follow. It will be further
 seen that the circumference of the end collar
 g' of the annular recess g is somewhat less
 20 than the circumference described by the an-
 nular groove into which it fits, thereby pre-
 venting said collar from coming in contact
 with the surface of the groove and effectually
 preventing friction.

The axle H passes through the journal-box
 25 in the usual manner, completely filling up
 the circular inner opening of the hub of the
 wheel and the circular opening upon the in-
 ner side of the box, while to the rear of the
 segmental rim or flange c^4 of the lower sec-
 30 tion a segmental packing-chamber I is formed
 when the two sections are secured together,
 into which suitable packing may be disposed.

From the foregoing description the con-
 struction and advantages of my improvement
 35 will be readily understood. It will be seen that
 the employment of a linchpin for securing
 the wheel to the axle is entirely obviated.
 Further, the two sections of the journal-box
 may be readily detached with only the neces-
 40 sity of removing a single bolt, which will be
 found particularly advantageous when for
 any reason access to the interior of the box
 is made necessary. Further, by the construc-
 tion of the inwardly-extending hub or nave
 45 with an annular collar upon the extreme end
 thereof, fitting within the appropriate re-
 cesses, a construction is obtained which will
 preclude the possibility of entrance of dust
 at this point. Furthermore, by allowing a
 50 slight lateral play to the hub of the wheel
 this will compensate for, as previously stated,
 varying widths or gages of tracks and facili-
 tate the turning of sharp curves. It will
 further be observed that my improved axle-
 55 box and wheel may be used with equal ad-
 vantage upon all other classes of cars and
 vehicles, but very little change in the construc-
 tion now employed being necessary; also, the
 recess in which the annular collar of the hub
 60 turns forms a convenient oil-chamber, thus
 providing for the continuous lubrication of
 this portion of the device.

The transverse bolt E , previously described,
 is by preference made split; or I employ what
 65 is termed a "double" key, which will be
 found to firmly unite the two sections.

Having thus described my invention, I claim

and desire to secure by Letters Patent of the
 United States—

1. In a journal-box for cars and other ve- 70
 hicles, the combination, with an upper sec-
 tion or pedestal provided upon one end with
 a depending transversely-perforated lug and
 upon its opposite end with a depending in- 75
 wardly-curved lug, of a lower section or cap
 substantially semi-cylindrical in shape, hav-
 ing one end slightly curved and terminating
 in an outwardly-curved flange fitting upon
 the inwardly-curved lug of the upper section
 and provided upon its opposite end with lat- 80
 erally-extending ears provided with perfora-
 tions registering with the perforation in the
 depending lug of the upper section, and a
 transverse bolt, substantially as set forth.

2. The combination of an upper section or 85
 pedestal provided upon opposite sides with
 depending pieces and a curved recess between
 said pieces, the latter having their lower edges
 provided with segmental recesses, the inner
 one of said pieces being widened or thick- 90
 ened, and a lower section or cap substantially
 semi-cylindrical in shape; the inner surface of
 said lower section being provided near its
 outer edge with a semi-cylindrical recess reg-
 istering with the recess of the upper section 95
 and near its inner edge with an upwardly-ex-
 tending segmental rim or flange, a transverse
 bolt, and a wheel provided with laterally-ex-
 tending hub, said hub having an annular re-
 cess therein, the outer collar of the recess fit- 100
 ting within the recess of the journal-box, sub-
 stantially as set forth.

3. The combination of an upper section or
 pedestal provided upon opposite sides with
 depending pieces and a curved recess between 105
 said pieces, the latter having their lower edges
 provided with segmental recesses, the inner
 one of said pieces being widened or thickened,
 and a lower section or cap substantially semi-
 cylindrical in shape, the inner surface of said 110
 lower section being provided near its outer
 edge with a semi-cylindrical recess registering
 with the recess of the upper section and near
 its inner edge with an upwardly-extending
 segmental rim or flange, a transverse bolt, and 115
 a wheel provided with a laterally-extending
 hub, said hub having an annular recess there-
 in, into which fit the outer walls or flanges of
 the recesses in the upper and lower sections,
 said flanges being of somewhat less width 120
 than the recess of the hub, so as to allow a
 limited lateral play, substantially as set forth.

4. The combination of an upper section or
 pedestal provided upon opposite sides with
 depending pieces and a curved recess between 125
 said pieces, the latter having one of their sides
 curved inwardly and their lower edges pro-
 vided with segmental recesses, the inner one
 thereof being widened or thickened, said up-
 per section being further provided near one 130
 end with a depending transversely-perforated
 lug and near its opposite end with a down-
 wardly-extending inwardly-curved lug, the
 lower section or cap of substantially semi-cy-

lindrical shape, having one end slightly curved and terminating in an outwardly-curved flange fitting between the curved sides of the centrally-depending side pieces of the upper section and the inwardly-curved lug thereof, and provided upon its opposite end with laterally-extending ears provided with perforations registering with the perforation in the depending lug of the upper section, the inner surface of said lower section being provided near its outer edge with a semicircular recess registering with the recess of the upper section and near its inner edge with an upwardly-

extending segmental rim or flange, a transverse bolt, and a wheel provided with laterally-extending hub having an annular recess therein, the outer collar of the recess fitting within the recess of the journal-box, substantially as set forth. 15

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses. 20

MAHLON HAMLIN.

Witnesses:

AUGUST PETERSON,
WM. F. FOLKS.