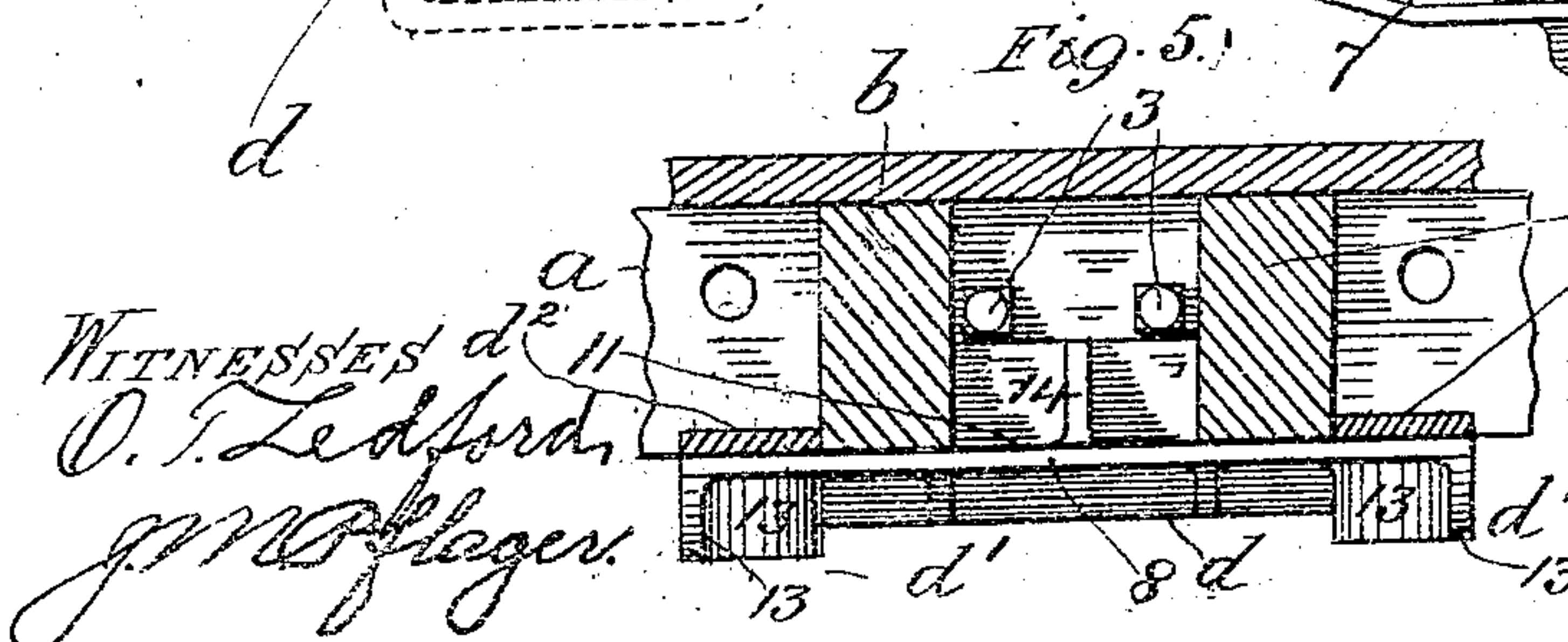
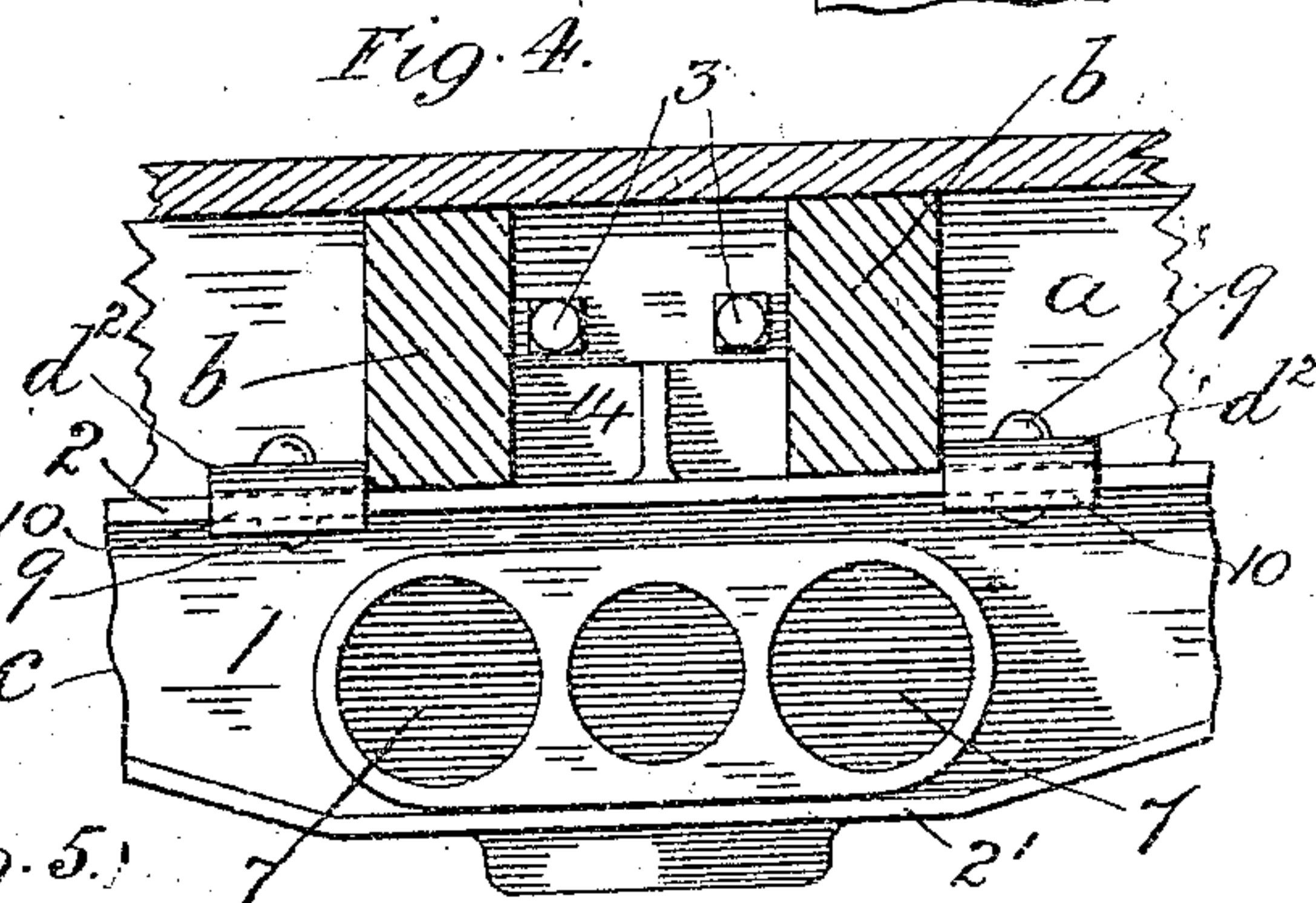
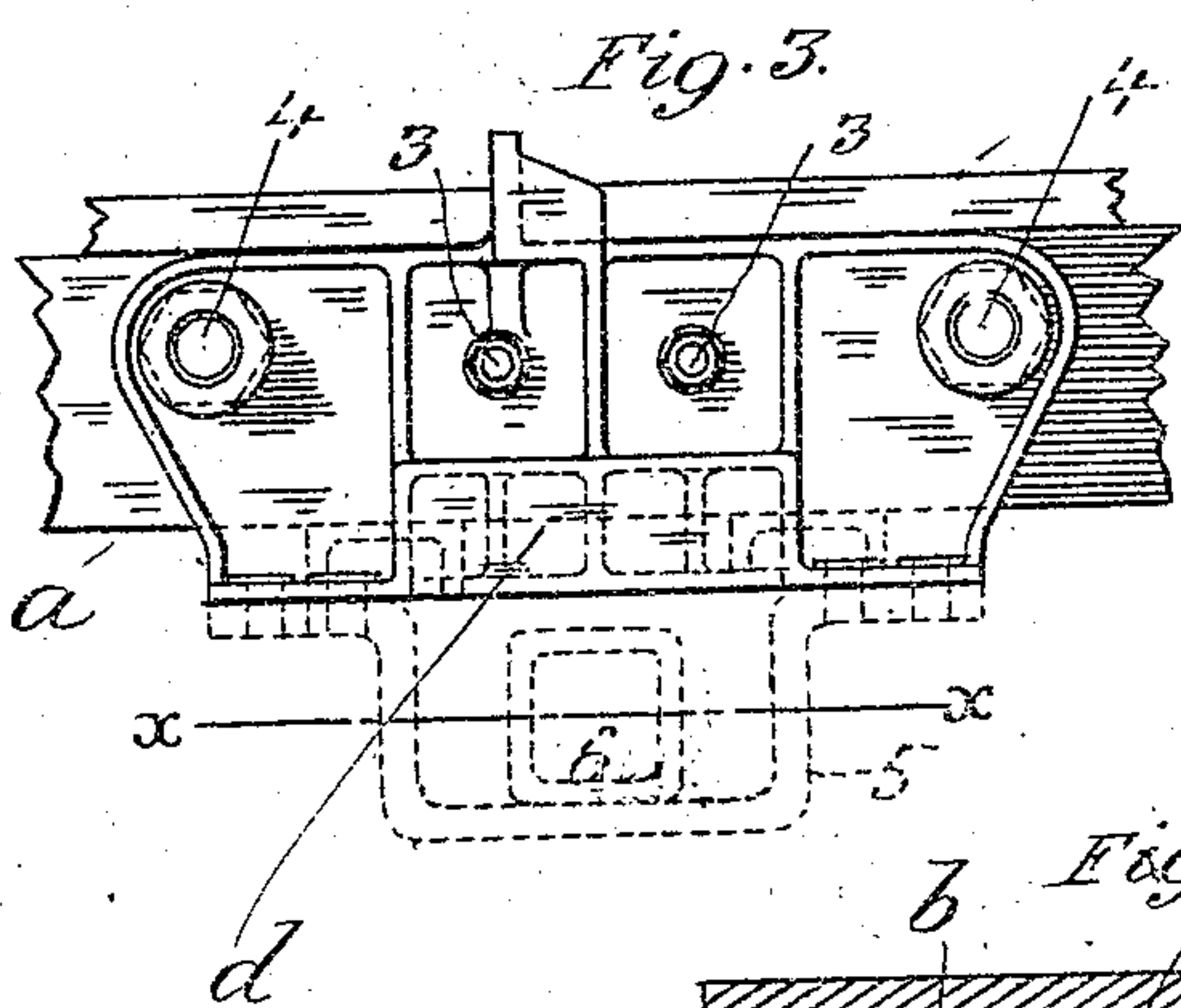
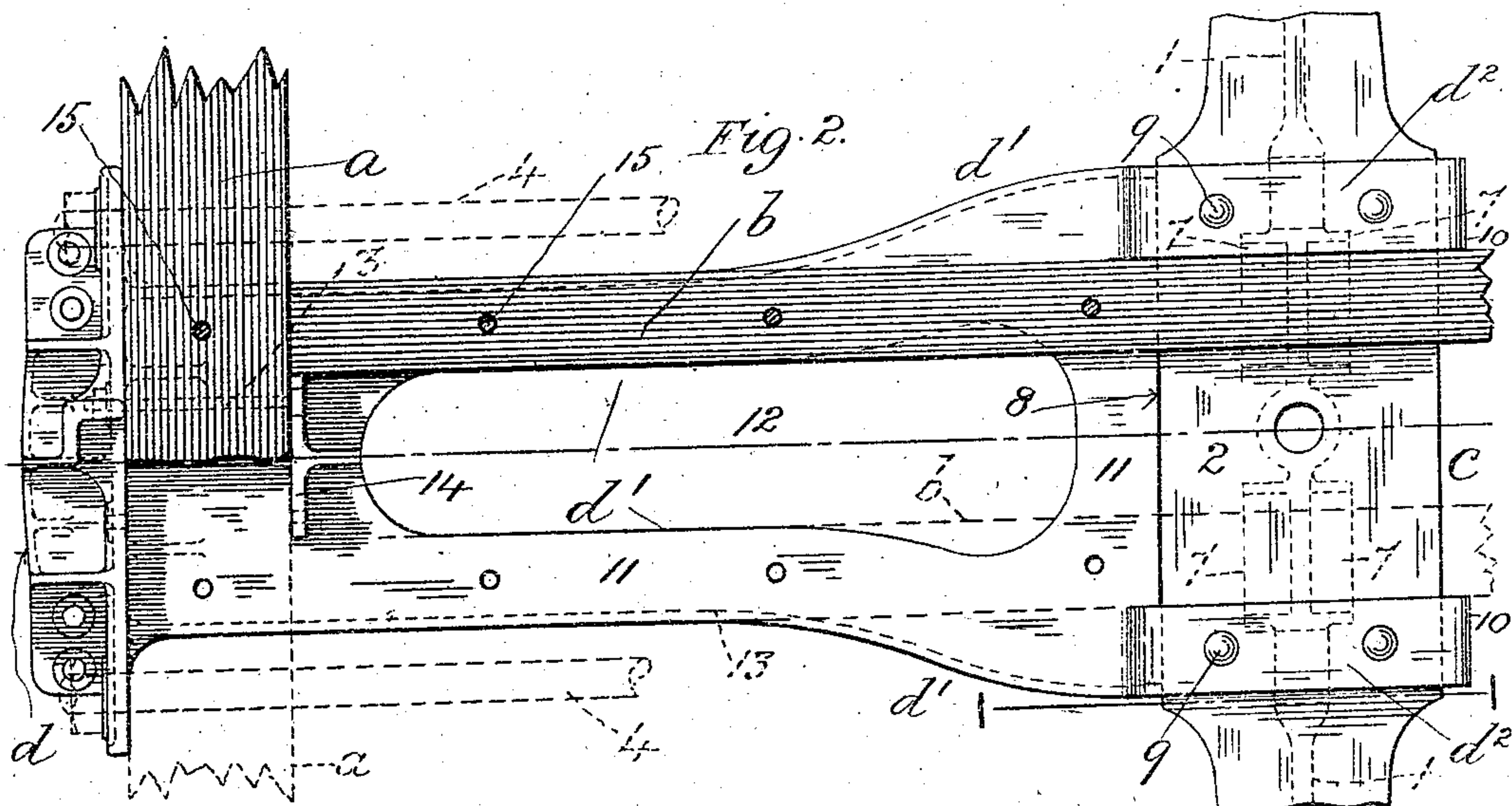
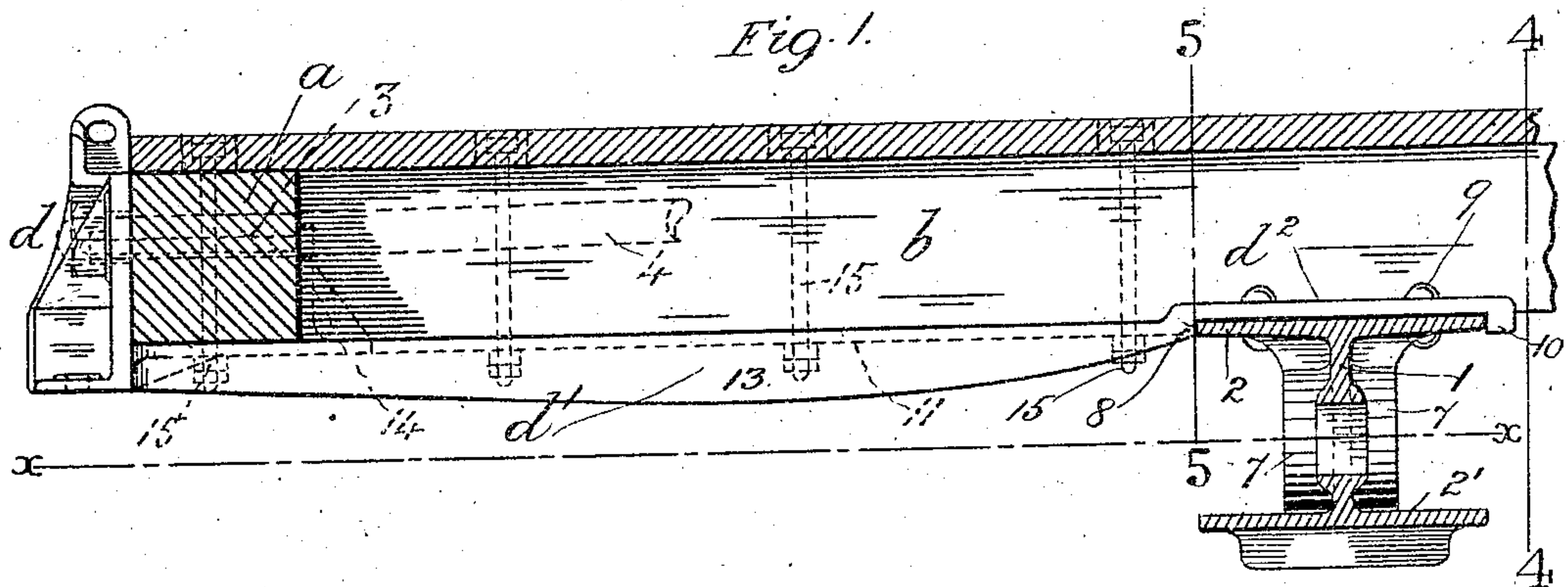


No. 881,185.

PATENTED MAR. 10, 1908.

C. H. HOWARD.
CAR UNDERFRAME.

APPLICATION FILED NOV. 25, 1907.



WITNESSES
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UNITED STATES PATENT OFFICE.

CLARENCE H. HOWARD, OF ST. LOUIS, MISSOURI.

CAR-UNDERFRAME.

No. 881,185.

Specification of Letters Patent.

Patented March 10, 1908.

Application filed November 25, 1907. Serial No. 403,782.

To all whom it may concern:

Be it known that I, CLARENCE H. HOWARD, a citizen of the United States, residing at St. Louis, in the State of Missouri, have invented a new and useful Improvement in Car-Underframes, of which the following is a specification.

My invention relates particularly to the end portion of a car underframe, and has for its object to provide a strong and rigid brace thereto between the dead-block of the end sill and the adjacent body-bolster.

It consists in features of novelty as hereinafter described and claimed, reference being had to the accompanying drawing forming part of this specification, whereon,

Figure 1, is a side elevation of my improved brace as applied to the end, and middle longitudinal sills of a car underframe between the dead-block and the adjacent body-bolster (seen in vertical transverse section on line 1, 1, in Fig. 2); Fig. 2, a top plan view thereof, omitting the sills on one side of the longitudinal center of the underframe; Fig. 3, a front view of the dead-block fixed to the end sill; Fig. 4, a vertical transverse section through the middle longitudinal sills on line 4, 4, in Fig. 1, showing the brace in end view, and the corresponding part of the body-bolster in side elevation, and Fig. 5, a vertical transverse section through the brace and middle longitudinal sills on line 5, 5, in Fig. 1.

Like letters and numerals of reference denote like parts in all the figures.

a represents the middle portion of the end sill, and *b* the corresponding abutting end portions of the middle longitudinal sills of a car underframe. To the underside of the middle longitudinal sills *b*, adjacent to the end sill *a*, is fixed in the usual manner the body-bolster *c* which is preferably composed of cast steel and I-shaped in cross section, having a vertical member 1, and a top and bottom member 2, 2', respectively, the bolster *c* in the present case being preferably adapted to form a housing for the springs of a suitable draft-gear, such as that described in the Letters Patent of the United States granted to Harry M. Pflager, January 23, 1906, Number 810,805, for improvement in draft-gear for railroad cars. Or the body-bolster may be otherwise shaped and adapted to the purpose of my invention according to the design and constructional details of the underframe to which the device is applied.

d is the dead-block, which in the present

case is separately constructed and fixed to the front side of the end sill *a* at its middle portion opposite to the abutting ends of the middle longitudinal sills *b*, by bolts 3, or otherwise, and by the middle truss-rods 4 (indicated by dotted lines) in the usual manner. The dead-block *d* is preferably composed of cast steel and may be of any suitable design, such as that shown, and to the underside thereof is fixed the carry-iron 5 for the draw-bar 6 (as indicated by dotted lines in Fig. 3), the longitudinal center line *x, x*, of the draw-bar 6 being alined to the center plane of the cylindrical housings 7 formed in each side of the body-bolster *c* for the springs of the draft-gear (not shown) before named.

Projecting from the rear side of, and preferably integral with the dead-block *d*, is a horizontally disposed arm or brace *d'* which is adapted to bear at the top against the underside of the end sill *a*, and middle longitudinal sills *b* between the end sill *a* and the body-bolster *c*, the free end 8 of the arm *d'* butting against the front edge of the top member 2 (or side as the case may be) of the body-bolster *c*. The arm *d'*, for a suitable distance from its end 8, projects horizontally beyond the outermost side of each longitudinal sill *b* and is formed thereat adjacent to the end 8 with a longitudinal extension *d''* which is directed upward, over, and across the top member 2 of the body-bolster *c* to which it is preferably fixed by rivets 9 (or otherwise), the free end of each extension *d''* having preferably, a depending lip or flange 10 which overlaps and engages the rear edge of the member 2 as shown and thereby co-operates with the butting end 8 against the front edge of the member 2, to interlock the arm *d'* with the body-bolster *c*, and at the same time relieve the rivets 9 from shear stress.

The arm or brace *d'* in the present case consists preferably of a plate 11 having a lightening hole (or holes) 12 therethrough between the sills *b*, and having outer longitudinal depending flanges or ribs 13, and from the plate 11 between the longitudinal sills *b*, preferably projects a bracket 14 which is adapted to bear against the inner face of the end sill *a*, the arm *d'* thus constructed being securely fixed to the sills *a* and *b* by bolts 15.

In the case of a metallic end sill having the dead-block integral therewith, the arm or brace *d'*, in lieu of being integral with the

dead-block, may be of separate construction, and riveted or otherwise fixed thereto. Moreover, if desired, in lieu of a single arm or brace *d'* extending beneath and between the middle longitudinal sills *b* as described, an arm or brace analogous thereto may extend beneath each sill and project beyond its outer upright side, or be otherwise adapted to engage the top of the body-bolster *c*.

10 What I claim as my invention and desire to secure by Letters Patent is:--

1. In a car underframe, the combination with the end sill and abutting portions of the longitudinal sills, of a body-bolster fixed to the longitudinal sills adjacent to the end sill, 15 a dead-block projecting from the end sill, an arm projecting from the dead-block and adapted to interlock with the body-bolster, and means for fixing the arm to the said bolster, substantially as described.

2. In a car underframe, the combination with the end sill and abutting portions of the longitudinal sills, of a body-bolster fixed to the longitudinal sills adjacent to the end sill, 25 a dead-block projecting from the end sill, an arm projecting from the dead-block, the said arm being adapted to interlock with the body-bolster and to bear against the end, and middle, longitudinal sills, and means for 30 fixing the arm to the said end and middle sills, substantially as described.

3. In a car underframe, the combination with the end sill and abutting portions of the longitudinal sills, of a body-bolster fixed to the longitudinal sills adjacent to the end sill, 35 a dead-block projecting from the end sill, an arm projecting from the dead-block and integral therewith, the said arm being adapted to interlock with the body-bolster and to bear against the end, and middle, longitudinal sills, and means for fixing the arm to the said middle sills, substantially as de- 40 scribed.

4. In a car underframe, the combination with the end sill and abutting portions of the longitudinal sills, of a body-bolster fixed to the longitudinal sills adjacent to the end sill, 45 a dead-block projecting from the end sill, an arm projecting from the dead-block, the said arm being adapted to interlock with the body-bolster and to bear against the end, and middle, longitudinal sills, and means for 50 fixing the arm to the said end sill, middle sills, and body-bolster, substantially as described. 55

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CLARENCE H. HOWARD.

Witnesses:

H. C. BELLVILLE,
EDWARD W. FURRELL.