

(No Model.)

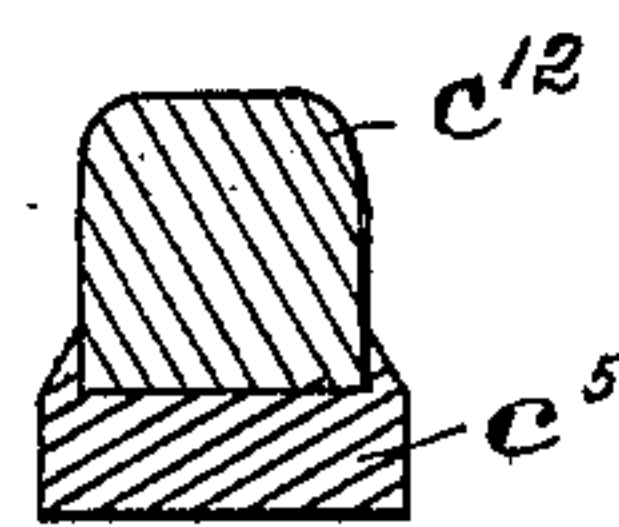
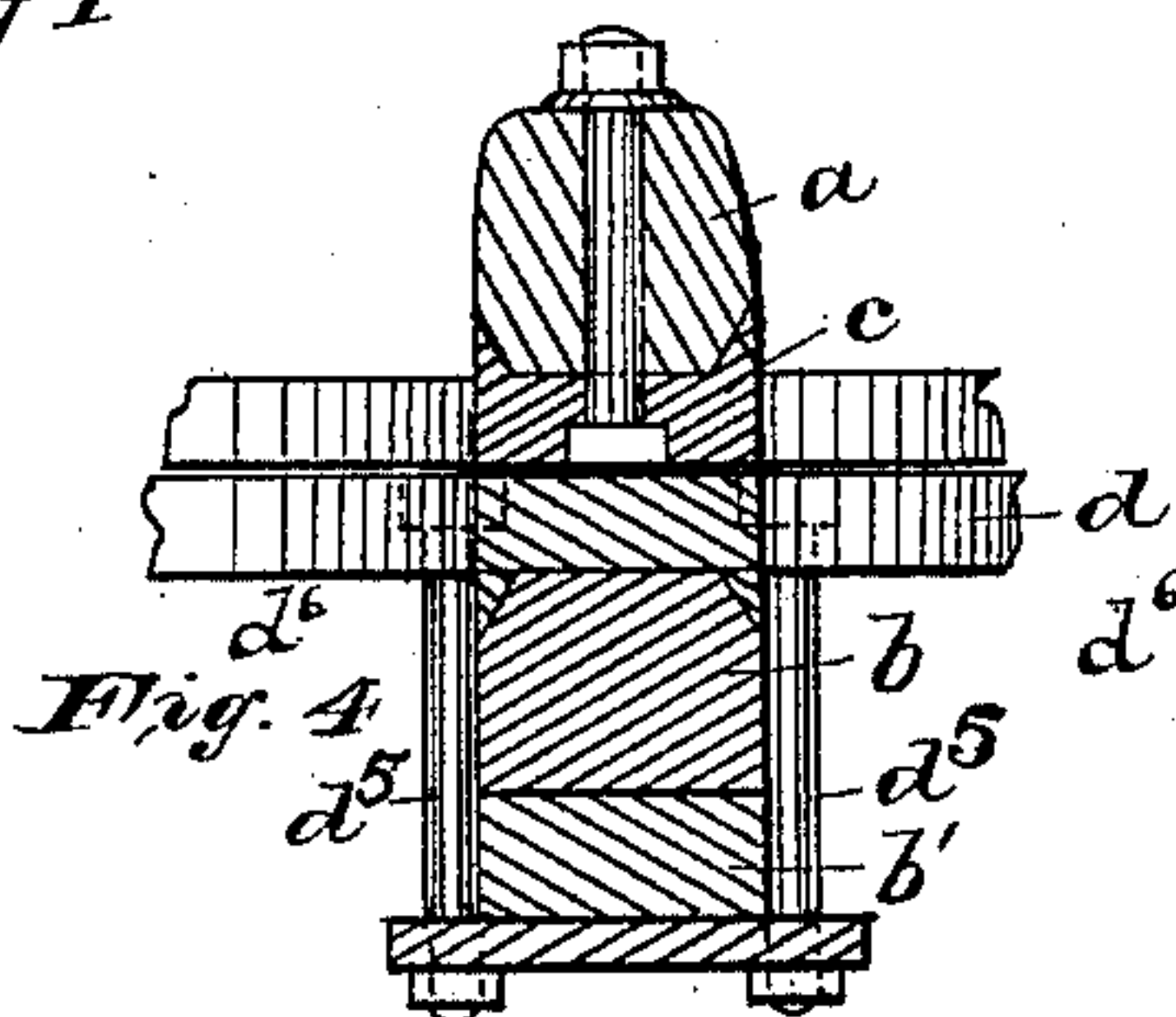
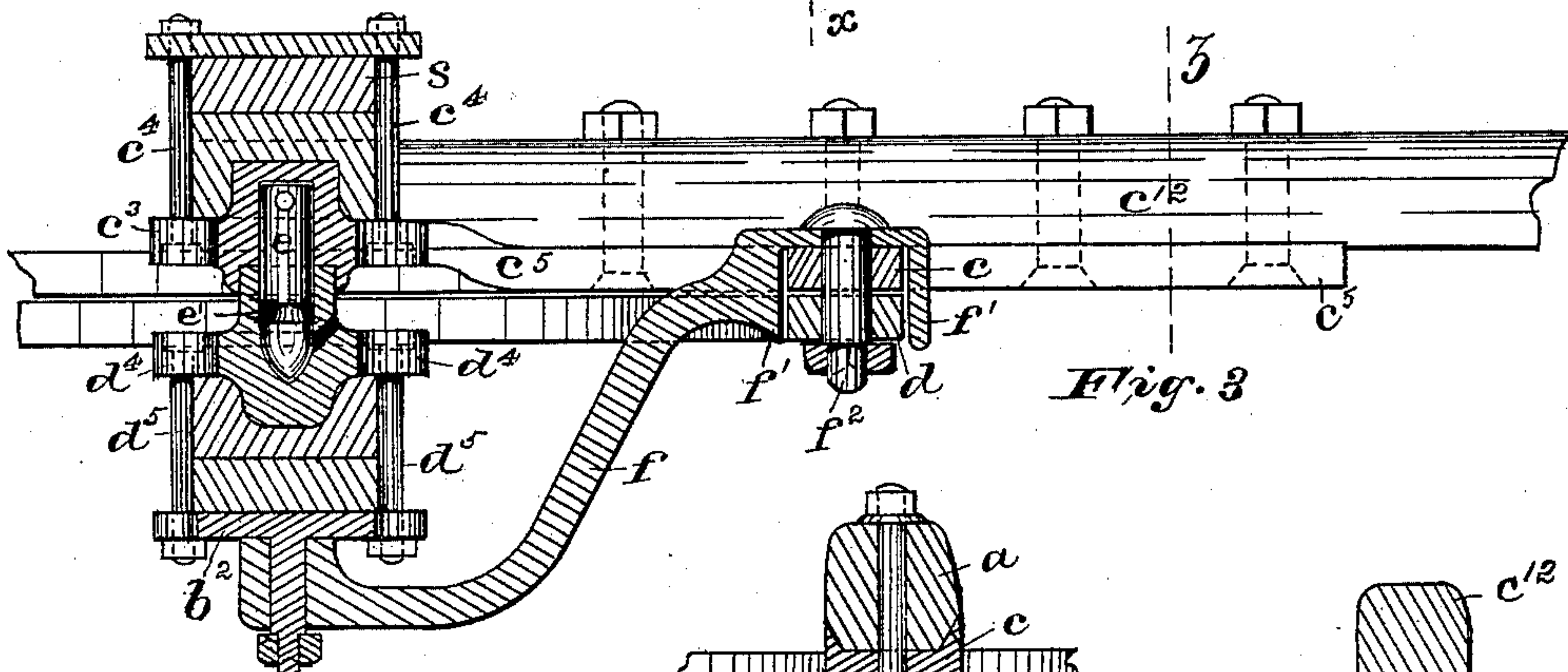
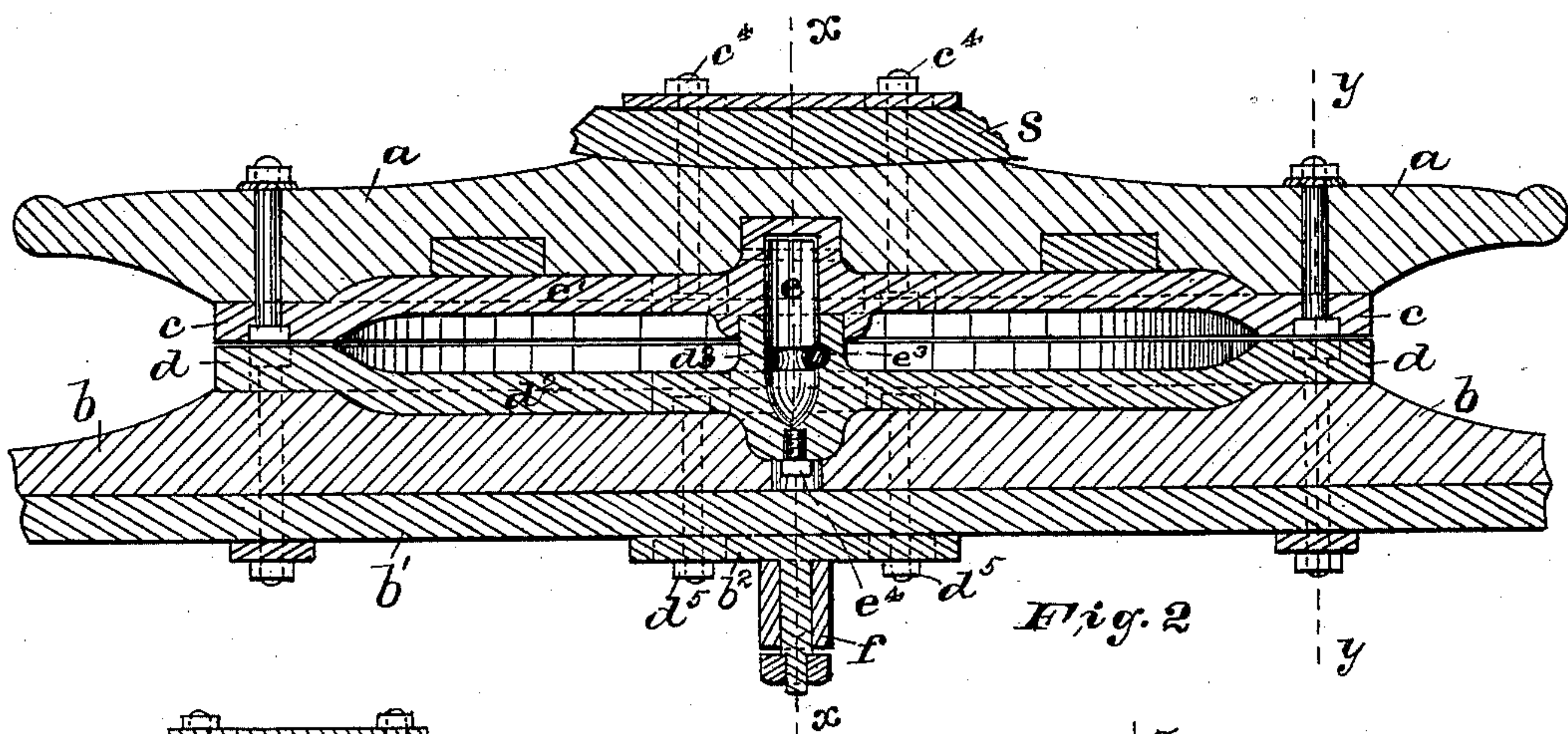
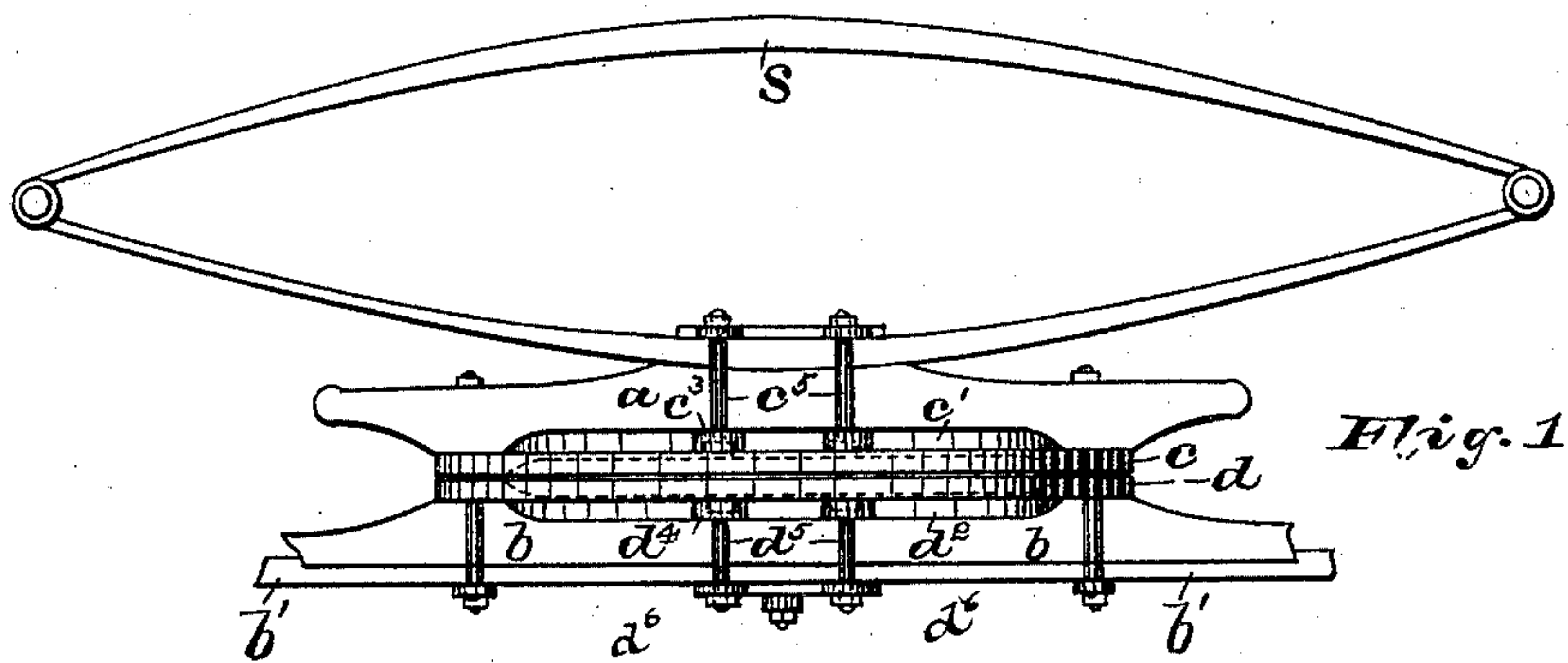
3 Sheets—Sheet 1.

H. M. OLIVER.

FIFTH WHEEL.

No. 391,914.

Patented Oct. 30, 1888.



WITNESSES:

J. L. Bastine.
C. S. Cook.

INVENTOR:

Henry M. Oliver,

BY Campbell & Co. ATT'YS.

(No Model.)

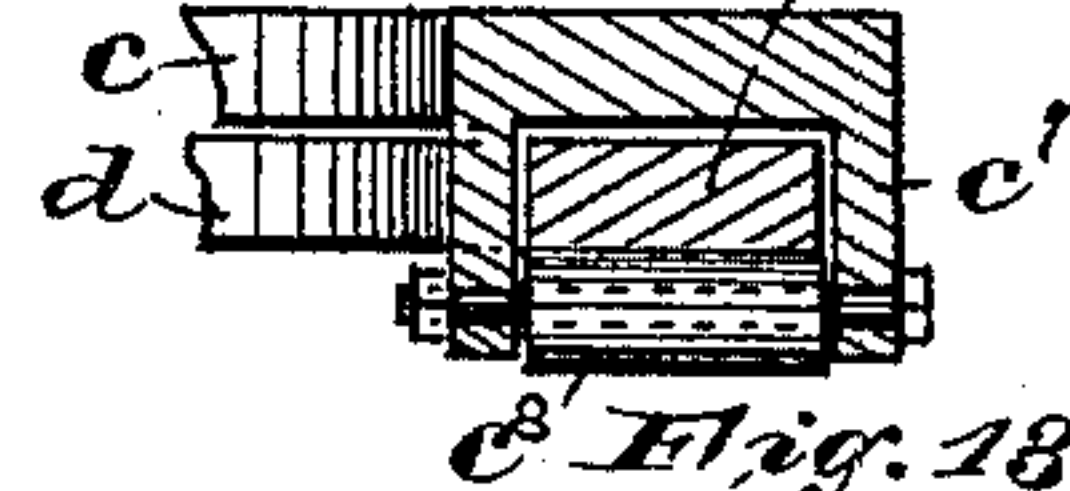
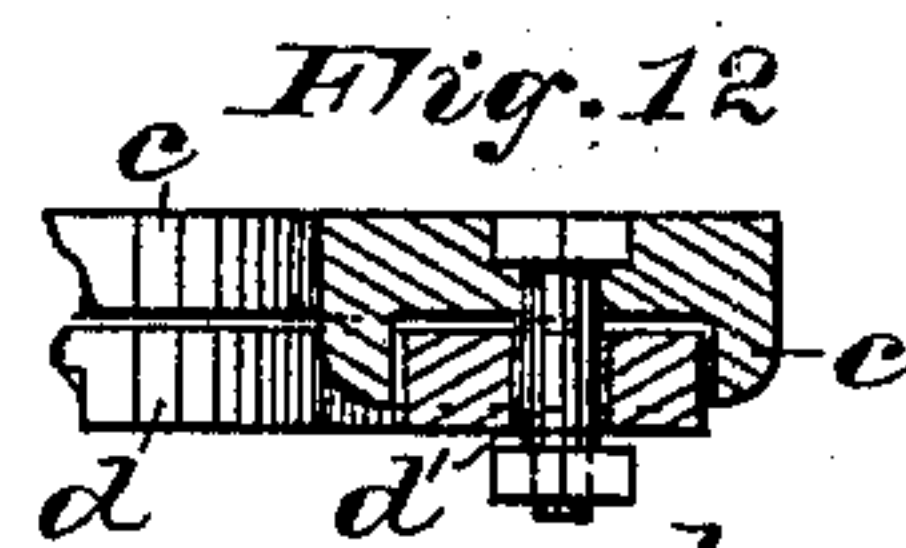
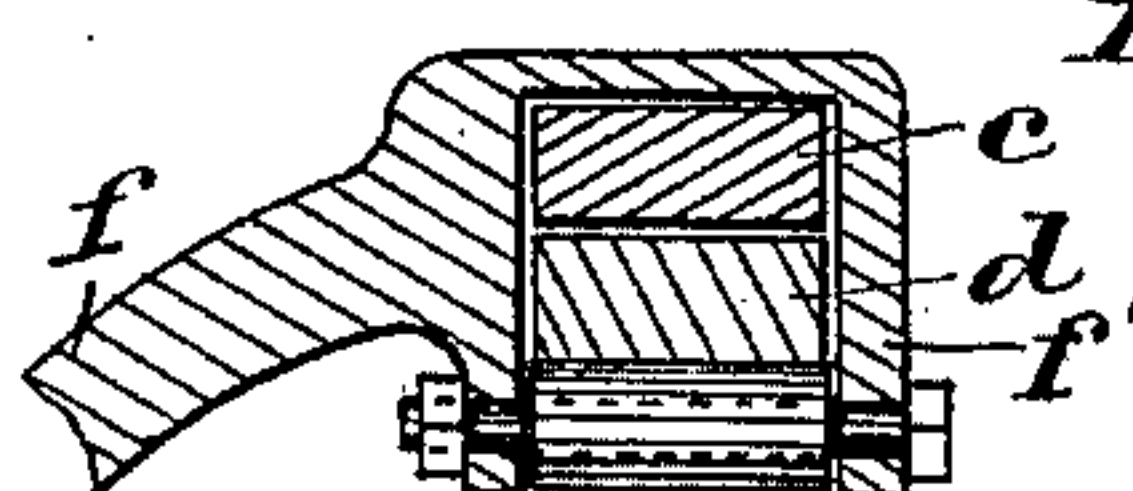
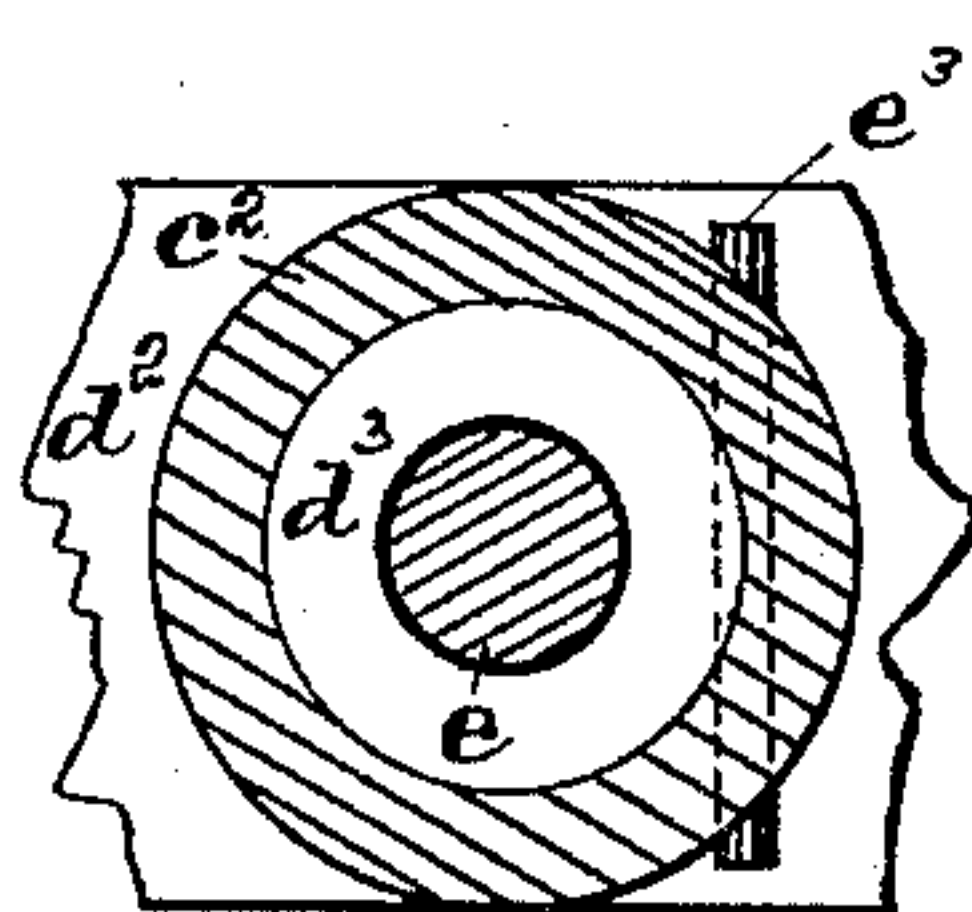
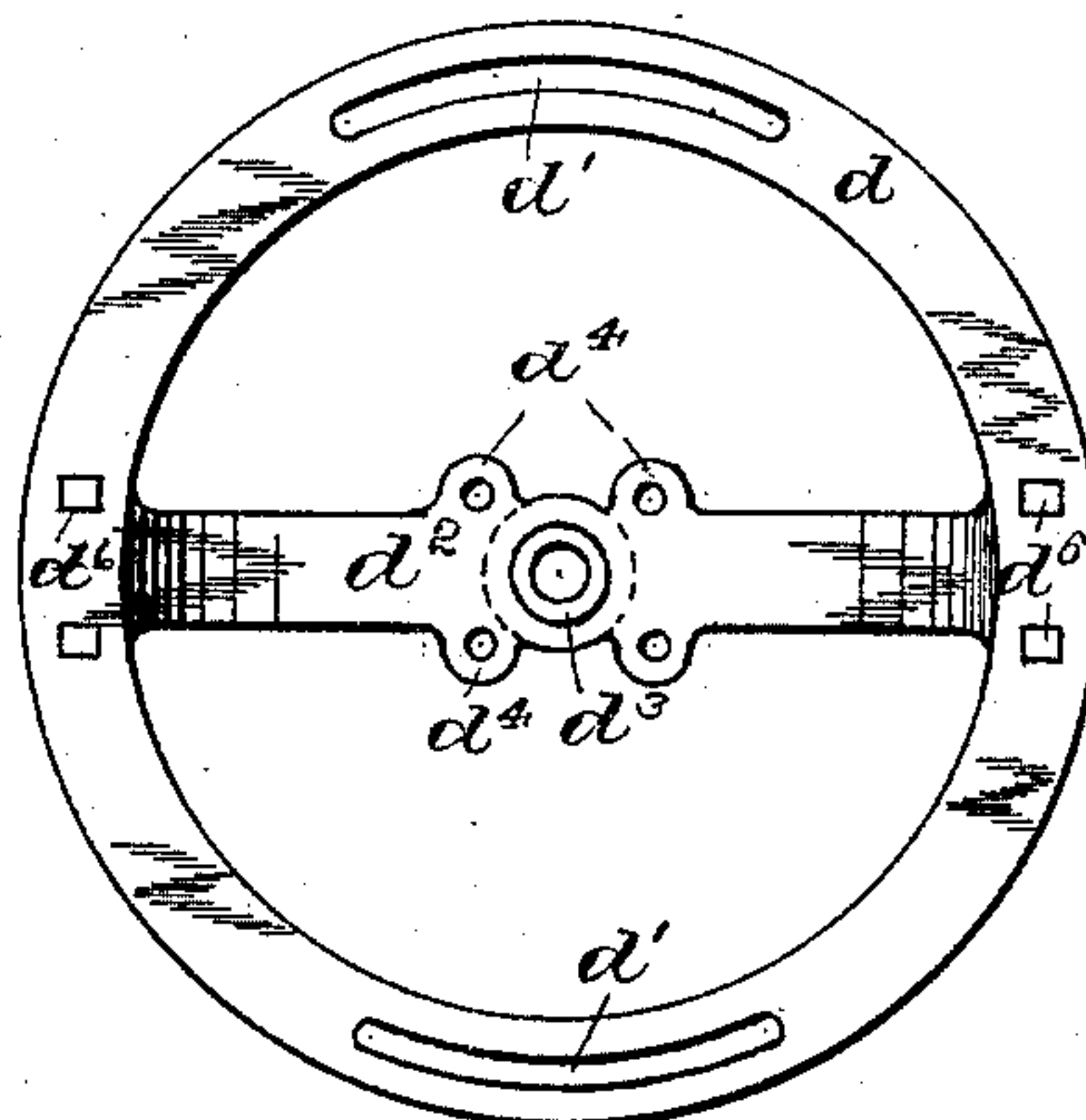
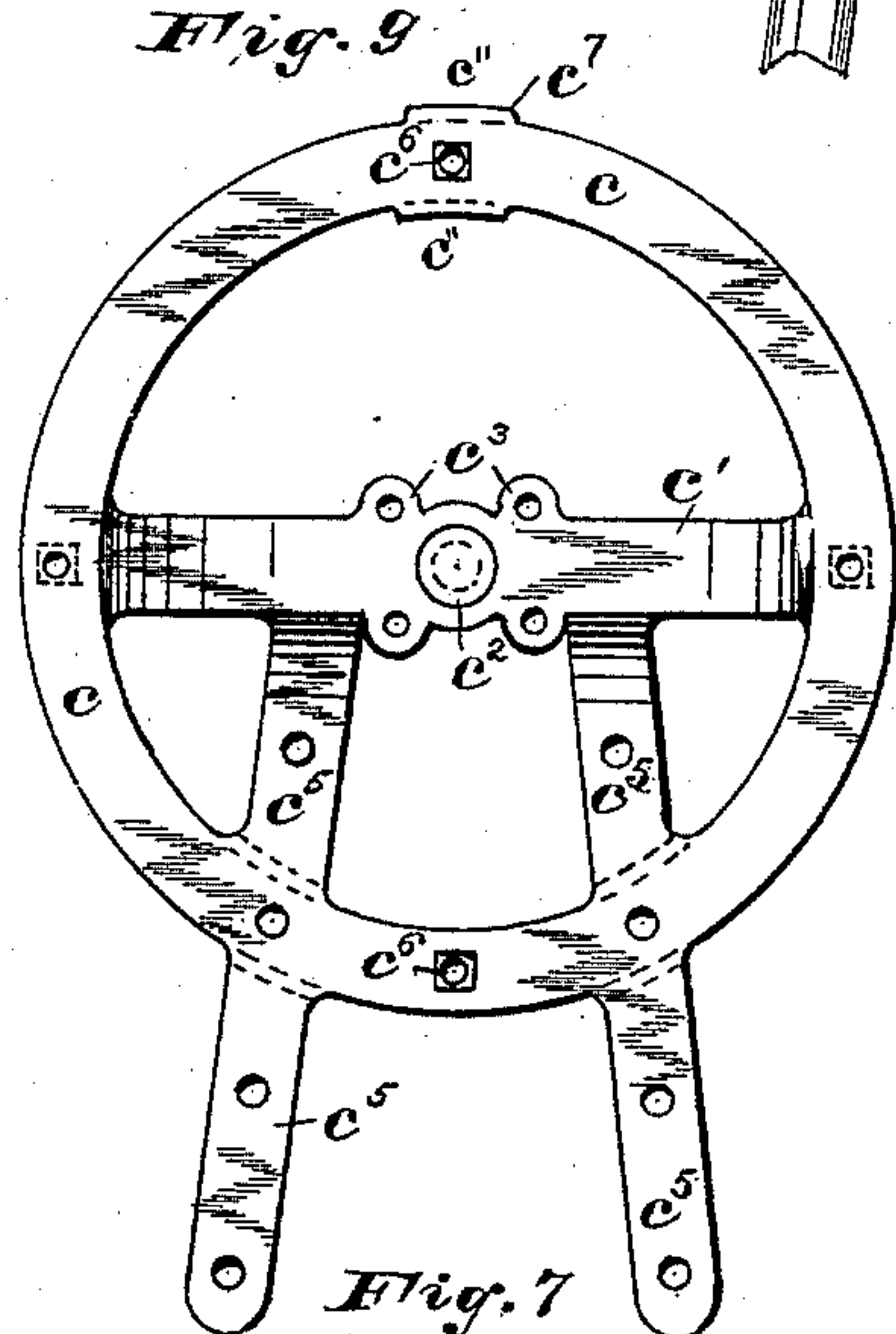
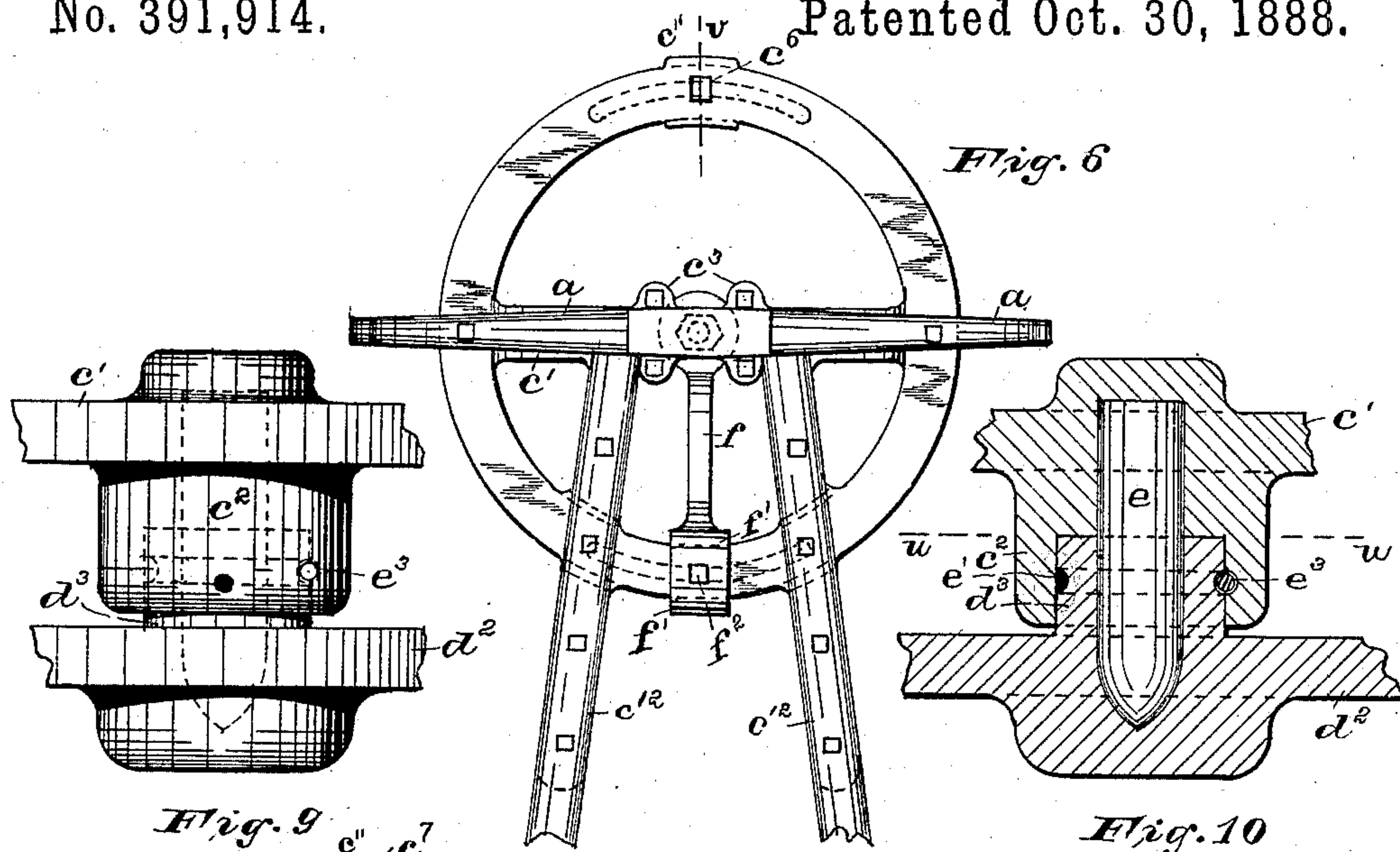
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WITNESSES:

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3 Sheets—Sheet 3.

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Fig. 15

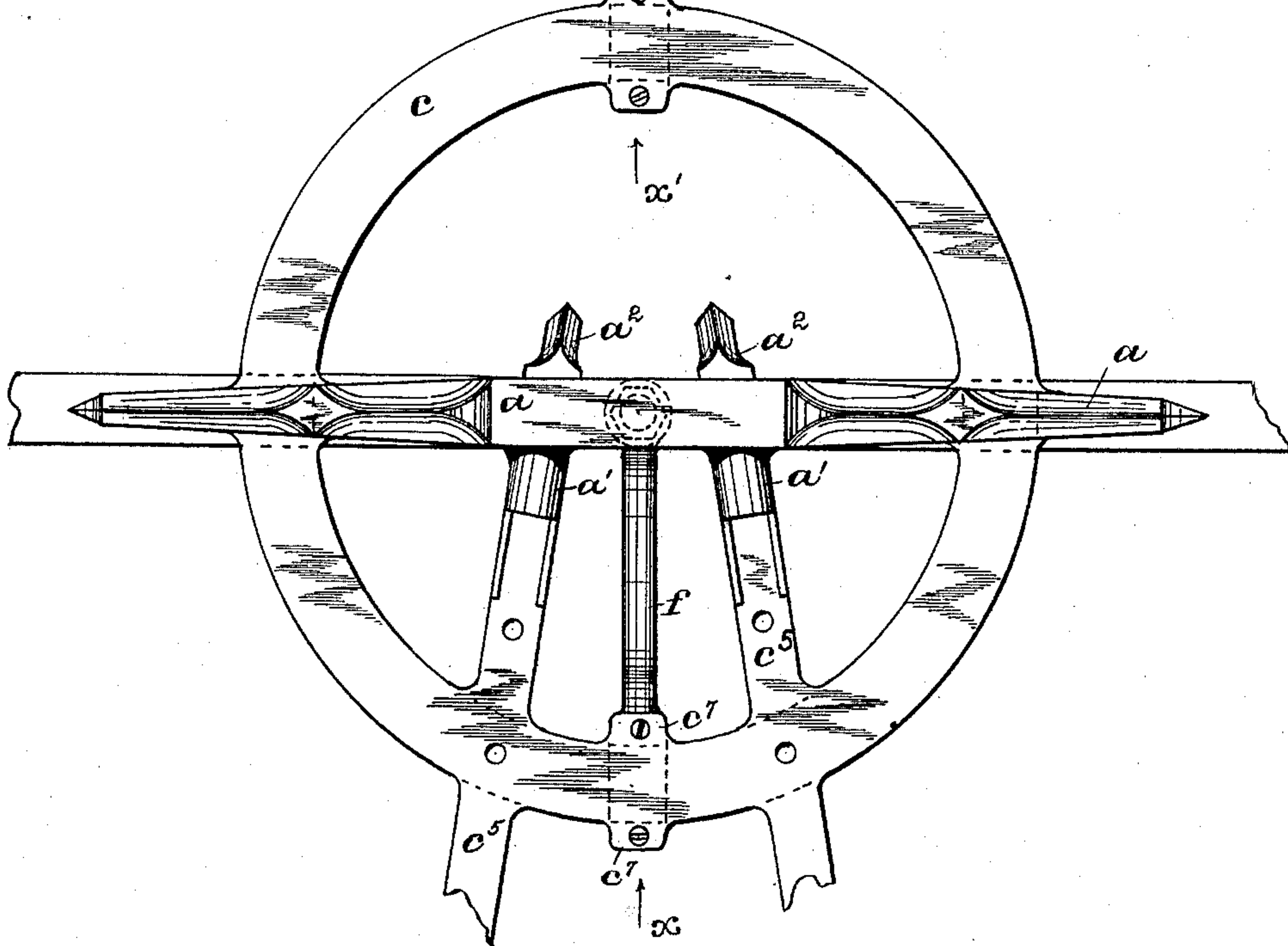
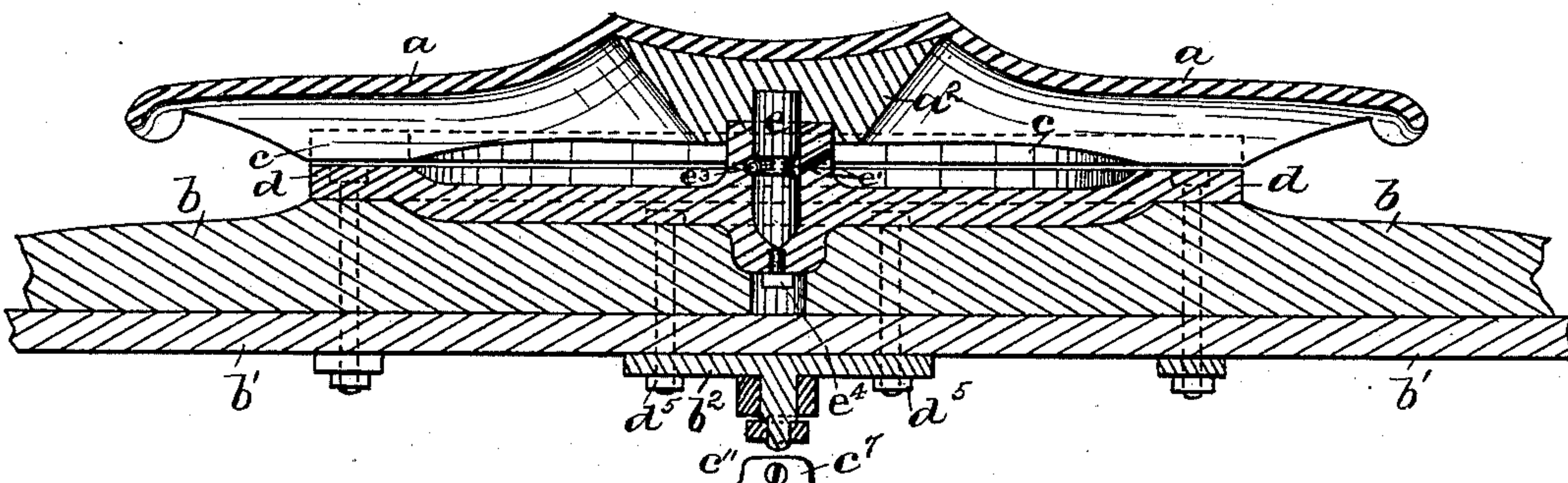


Fig. 16.

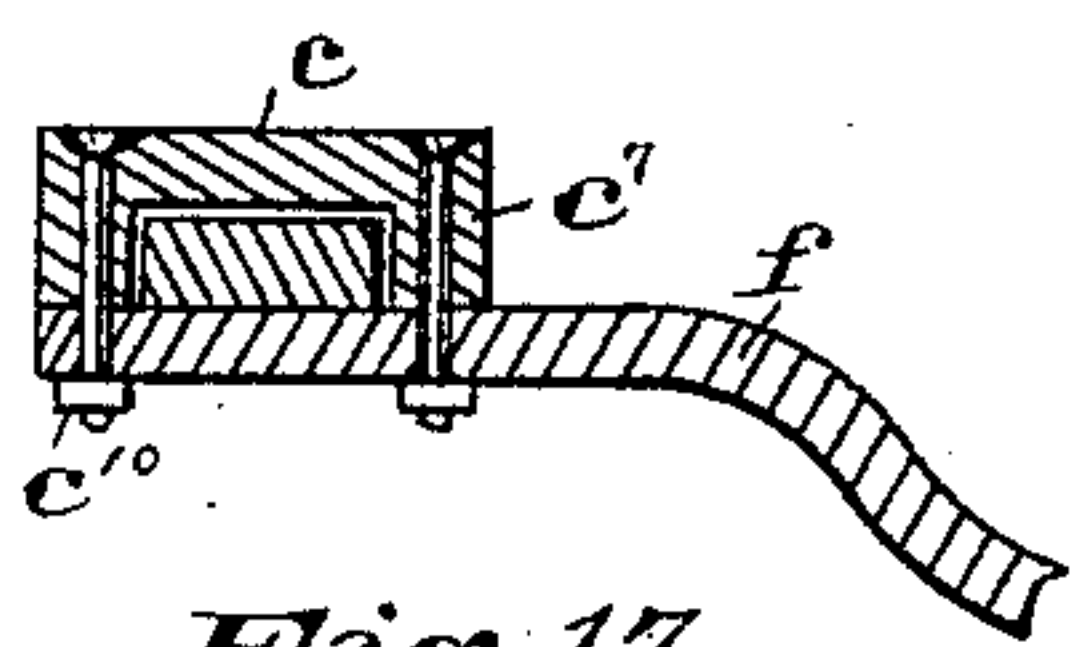


Fig. 17

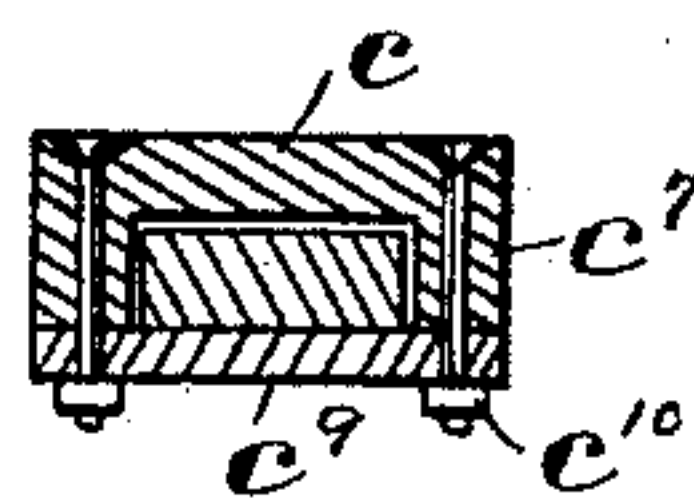


Fig. 18

WITNESSES:

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UNITED STATES PATENT OFFICE.

HENRY M. OLIVER, OF NEWARK, NEW JERSEY.

FIFTH-WHEEL.

SPECIFICATION forming part of Letters Patent No. 391,914, dated October 30, 1888.

Application filed September 21, 1887. Serial No. 250,296. (No model.)

To all whom it may concern:

Be it known that I, HENRY M. OLIVER, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Fifth-Wheels; and I do hereby 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 letters of reference marked thereon, which form a part of this specification.

The object of this invention is to provide a fifth-wheel for wagons, which is so constructed as to be much stronger than those in use, and which, because of its construction, may be more easily repaired, and which also will last much longer in use.

In the accompanying three sheets of drawings, in which similar letters of reference indicate corresponding parts in each of the views, is illustrated my improved fifth-wheel, Figure 1 illustrating the same in side elevation. Fig. 2 is a section of the same, taken longitudinally and centrally through the head-block and axle-bed. Fig. 3 is a similar view taken transversely and centrally through the head-block and axle-bed on the line *x*, Fig. 2; and Figs. 4 and 5 are sections taken, respectively, through the lines *y* and *z* in Figs. 2 and 3. On Sheet 2 Fig. 6 is a plan of the fifth-wheel and a portion of the reaches, the spring being removed. Fig. 7 is a plan of the upper portion of the fifth-wheel. Fig. 8 is a plan of the lower portion of the same. Figs. 9 and 10 are respectively an enlarged side elevation and section of the pin-receiving socket. Fig. 11 is a section taken through *u*, Fig. 10, and Fig. 12 is a section taken through *v*, Fig. 6, showing one method of holding the upper and lower portion of the fifth-wheel in engagement; and Figs. 13 and 14 are sectional views illustrating other constructions of securing the same results. On Sheet 3 Fig. 15 is a section similar to that shown in Fig. 2, but illustrating a form of construction in which the head-block and upper portion of the fifth-wheel are cast in one piece. Fig. 16 is a plan of the fifth-wheel when constructed as shown in Fig. 15. Fig. 17 is a section taken through the outer

portion of the fifth-wheel in the direction of *x*, Fig. 16; and Fig. 18 is a section taken through *x'* on Fig. 16.

In said views, *a* indicates the head-block, upon which rests the spring that supports the body of the wagon, and which, as illustrated in Figs. 1, 2, &c., is secured to the upper portion of the fifth-wheel. *b* indicates the axle-bed, which is bolted to the axle *b'*, and to which is secured upon the top thereof the lower portion of the fifth-wheel. The fifth-wheel proper consists of the upper and lower portions, *c* *d*, which rest and turn one upon the other, rotating upon a centrally-arranged pivot, which will be described more in detail hereinafter.

As illustrated in the constructions shown in Figs. 1 to 8, inclusive, the lower portion of the fifth-wheel consists of the circular portion *d*, provided with slots *d'* therein, and the centrally-arranged bar or plate *d²*, having in the center thereof a socket, *d³*, which receives the lower end of the pivotal pin *e*, and is also provided with bolt-receiving flanges *d⁴*, to which are secured the bolts *d⁵*, which hold the said lower portion of the fifth-wheel firmly upon the top of the axle-bed *b*, as indicated in Figs. 1, 2, and 3. *d⁶* are the heads of the bolts which secure said lower portion of the fifth-wheel to the axle-bed and axle, as indicated in Figs. 1 and 4.

As illustrated in said figures above referred to, the upper portion of the fifth-wheel consists of the annular portion *c*, which corresponds to and rests upon the annular portion *d*, and is provided with a centrally-arranged plate, *c'*, and with a socket, *c²*, corresponding in position with the socket *d³* on the lower portion of the fifth-wheel, and which receives the upper end of the pivotal pin *e*, and has also bolt-receiving lugs *c³*, through which pass the bolts *c⁴*, which secure the spring *s* and head-block *a* to the upper portion, *c*, of the fifth-wheel. The reach-irons *c⁵* extend from the central plate, *c'*, to the annular portion *c*, and thence project backward therefrom, being formed integrally with said plate *c'* and annular portion *c*, as indicated particularly in Fig. 7.

The bolts *c⁶*, as indicated in Figs. 7 and 12, pass through the slots *d* in the lower portion of the fifth-wheel and serve to hold the upper

and lower portions together, at the same time permitting the desired amount of movement of the parts of the fifth-wheel. This, however, is but one of several constructions which I have devised, and which are illustrated in the drawings, for accomplishing the same purpose.

The construction shown in Fig. 13 consists of downwardly-projecting flanges c^7 , between which the lower portion, d , is arranged and journaled in said downwardly-projecting flanges. Beneath the said lower portion, d , is a roller, c^8 , upon which the said portion d rests and moves.

In the construction shown in Fig. 18, instead of the roller c^8 , is shown a plate, c^9 , which supports the lower portion, d , and which is secured to the portion c by bolts c^{10} , which pass through the downwardly-projecting flanges c^7 .

It will be noticed by reference to the drawings that these several devices for holding the upper and lower portions of the fifth-wheel together are applied thereto only at one point—namely, at c^{11} —although they may be increased, if desired; but according to the preferred construction but one of said retaining devices is used, and on the other side of the fifth-wheel, diametrically opposite to said retaining device, is an arm, f , which is secured to the axle or to a plate, b^2 , secured to the under side of the axle and through which the bolts d^5 pass, substantially as indicated in Fig. 3. The end of said arm, which is attached to the upper and lower portions of the fifth-wheel, is formed as indicated in said Fig. 3, having downwardly-projecting flanges f^7 , between which are held the portions c and d of the fifth-wheel, and through the said end of the arm f and both portions of the fifth-wheel passes the bolt f^2 , which, as thus constructed, is similar to the construction already described, and as shown in Fig. 12.

In Fig. 17 is shown a construction in which the arm f passes beneath the lower portion of the fifth-wheel and is secured to the upper portion, c , by bolts similar to the construction shown in Fig. 18. The purpose of this arm is to steady the fifth-wheel and prevent any undue movement and friction of the parts.

As hereinbefore already indicated, the upper and lower portions of the fifth-wheel turn upon a centrally-arranged pin, e , which rests in the sockets d^3 and c^2 , and is used instead of the king-bolt which ordinarily binds the parts of the fifth-wheel together. As indicated in Figs. 2 and 3, the pin is provided with a groove, e' , and passing through the socket d^3 and said groove is a pin, e^3 , which retains the said pivotal pin e within the sockets. If desirable, the socket d^3 itself may be grooved, as indicated in Fig. 10, and the said pin pass through the socket c^2 and through said groove, as indicated in said Figs. 10 and 11.

To reduce the wear and friction of the parts, a hardened screw, e^4 , is arranged in the bottom of the socket d^3 , as indicated in Fig. 2, and upon said screw the point of the pivotal pin

bears and turns. The pin, being made of steel, receives the wear of the moving parts, and hence is more durable, and, being surrounded and incased in the metal sockets, is not liable to become loosened and to rattle, as is the case with the ordinary king-bolt.

In Fig. 15 is indicated a form of construction in which the head-block is cast integrally with the upper portion of the fifth-wheel. When thus constructed, a socket, a' , is preferably formed on the reach-irons to receive the ends of the wooden reaches, and on the opposite side of the said head-block are projections cast therewith and formed in imitation of the ends of the wooden reaches c^{12} , which, according to the above constructions, pass through and beyond the wooden head-block. In this construction the upper portions of the fifth-wheel, the head-block, and the reach-irons are all cast in one piece. By virtue of such construction these several parts, which have heretofore been formed separately and bolted together, are rendered much more durable, and can be applied to the wagon with but comparatively little labor. When the head-piece and upper fifth-wheel are in this manner cast in one piece, a socket corresponding to the socket c^2 is formed or cast therein to receive the end of the pin e , or a block, a^2 , is arranged therein, as indicated in Fig. 15.

It will be understood that the exact constructions herein shown may be varied, and that the central pin is designed to be used with any form of rotating portions.

Having thus described my invention, what I claim is—

1. The combination, in a fifth-wheel, of the upper and lower rotating portions, c and d , having pin-receiving sockets c^2 d^3 , an independently-arranged pin, e , in said sockets, axle b , an arm, f , secured to a plate, b^2 , on the under side of said axle by bolts d^5 , said arm extending out and passing over the upper rotating portion, c , and provided with downwardly-projecting flanges f^7 , between which said upper and lower rotating portions are held, and a bolt, f^2 , passing through an opening in the upper rotating portion, and a slot, d' , in the lower rotating portion, substantially as and for the purposes set forth.

2. In a fifth-wheel consisting of the upper fifth-wheel or portion having reach-irons and head-block cast in one piece, sockets formed integrally on said head-block to receive the reaches, and a lower rotating portion, said upper rotating portion being provided with a pin-socket, c^2 , and a block, a^2 , the lower rotating portion having a pin-receiving socket, d^3 , closed at its lower end, a pivotal pin, e , arranged in said sockets and bearing against said block a^2 , and the lower socket thereby forming a pivot on which said rotating portions turn, and a locking-pin, e^3 , all of said parts being arranged as specified.

3. In a fifth-wheel, in combination, the upper rotating portion thereof provided with a pin-socket, c^2 , closed at its upper end, the

lower rotating portion having a pin-receiving socket, d^3 , closed at its lower end, a pivotal pin, e , arranged and bearing in said sockets, thereby forming a pivot on which said rotating portions turn, and a locking-pin, e^3 , all
5 said parts being arranged for the purposes set forth.

4. In a fifth-wheel, in combination, the upper rotating portion, c , provided with a pin-
10 socket, c^2 , the lower rotating portion, d , having a pin-receiving socket, d^3 , provided with

a hardened pin, e^4 , inserted in the bottom thereof, and a pivotal pin, e , arranged in said sockets and bearing on said pin e^4 , for the purposes set forth.

In testimony that I claim the invention set forth above I have hereunto set my hand this
14th day of September, 1887.

HENRY M. OLIVER.

Witnesses:

FREDK. F. CAMPBELL,
FREDK. C. FRAENTZEL.

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