No. 751,699. PATENTED FEB. 9, 1904.

I. TEETER & B. E. SLY.

FIFTH WHEEL.

APPLICATION FILED MAR. 1, 1900.

NO MODEL. 4 SHEETS—SHEET 1.

Fig. 1.

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NO MODEL. 4 SHEETS—SHEET 2.

Fig. 2.

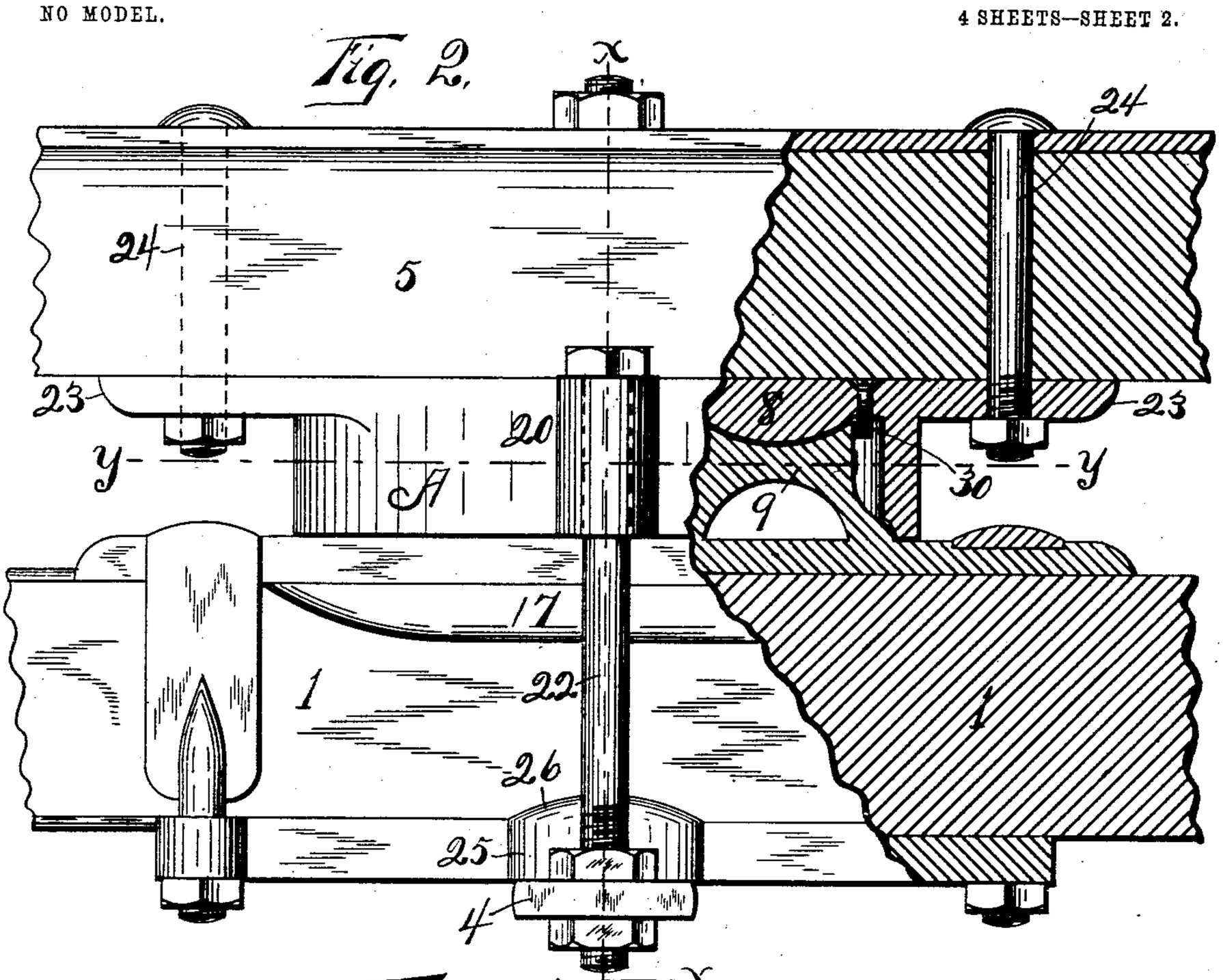
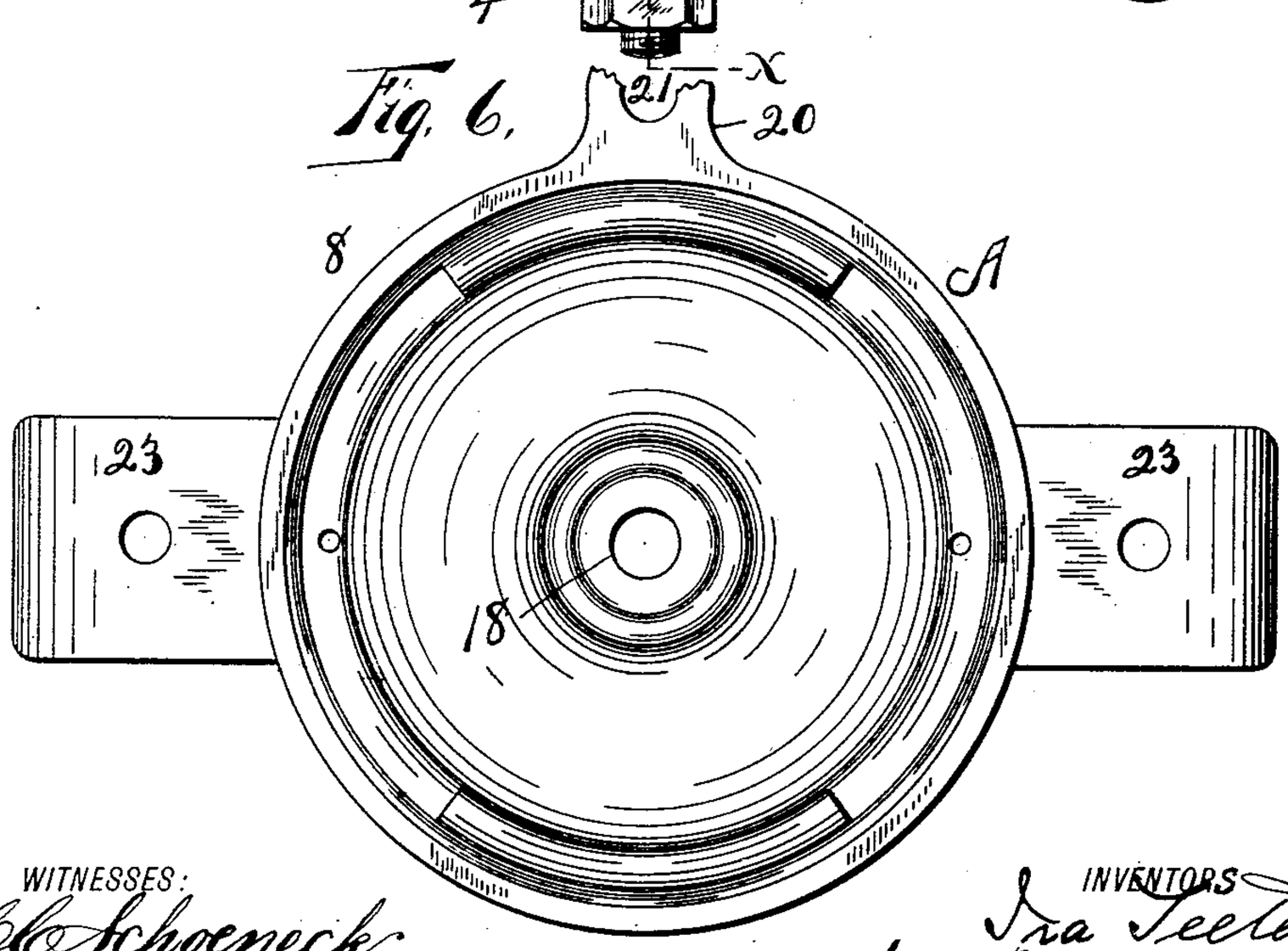


Fig. 6.



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NO MODEL. 4 SHEETS—SHEET 3.

Fig. 3.

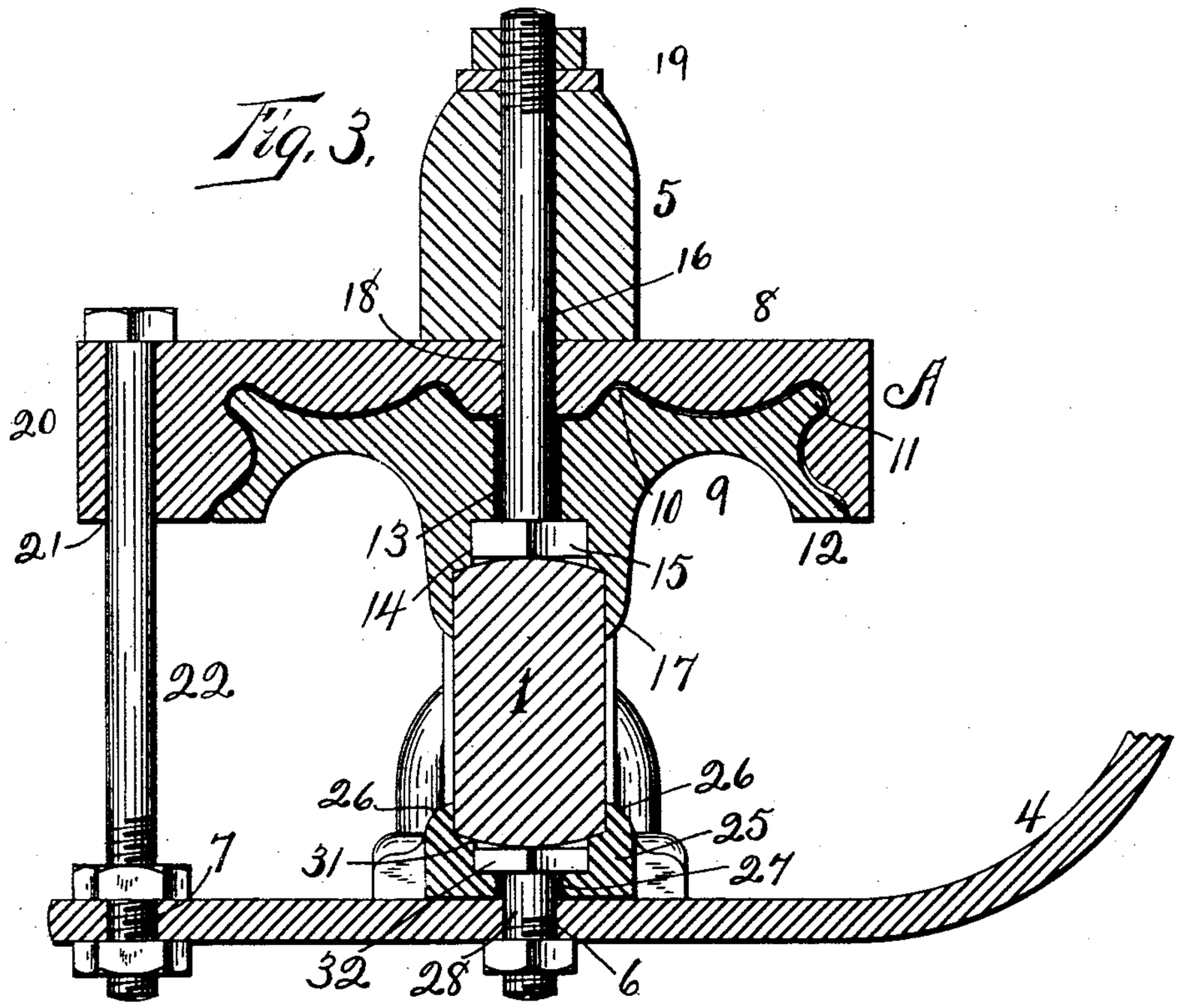


Fig. 7.

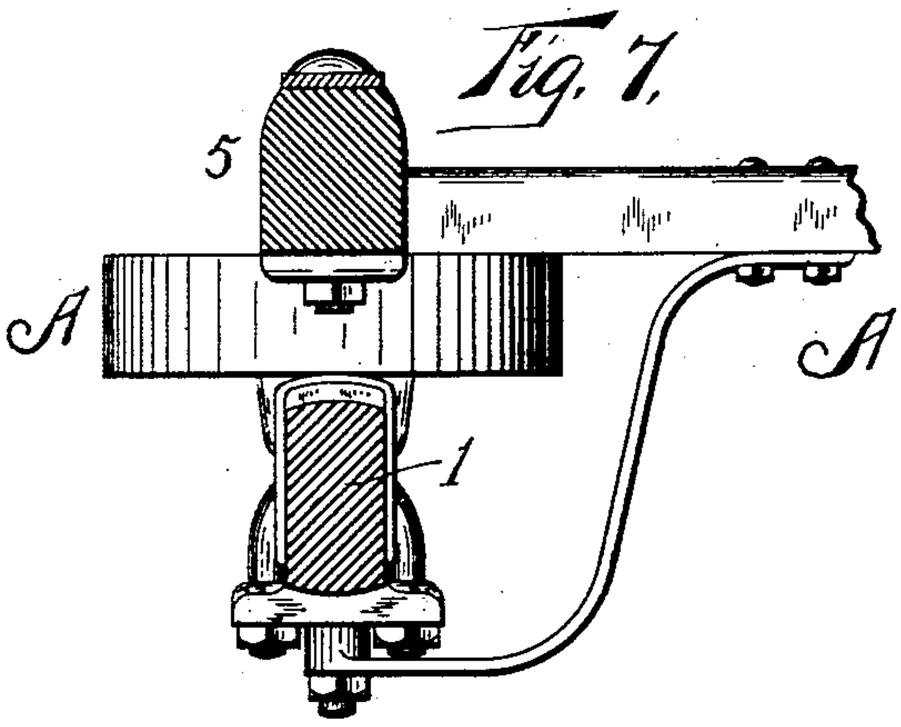
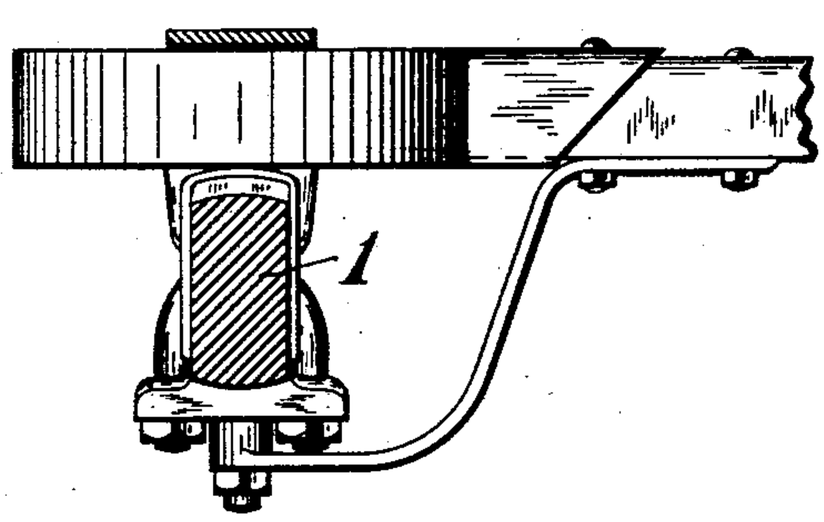


Fig. 8.



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NO MODEL. 4 SHEETS—SHEET 4.

Fig. 4.

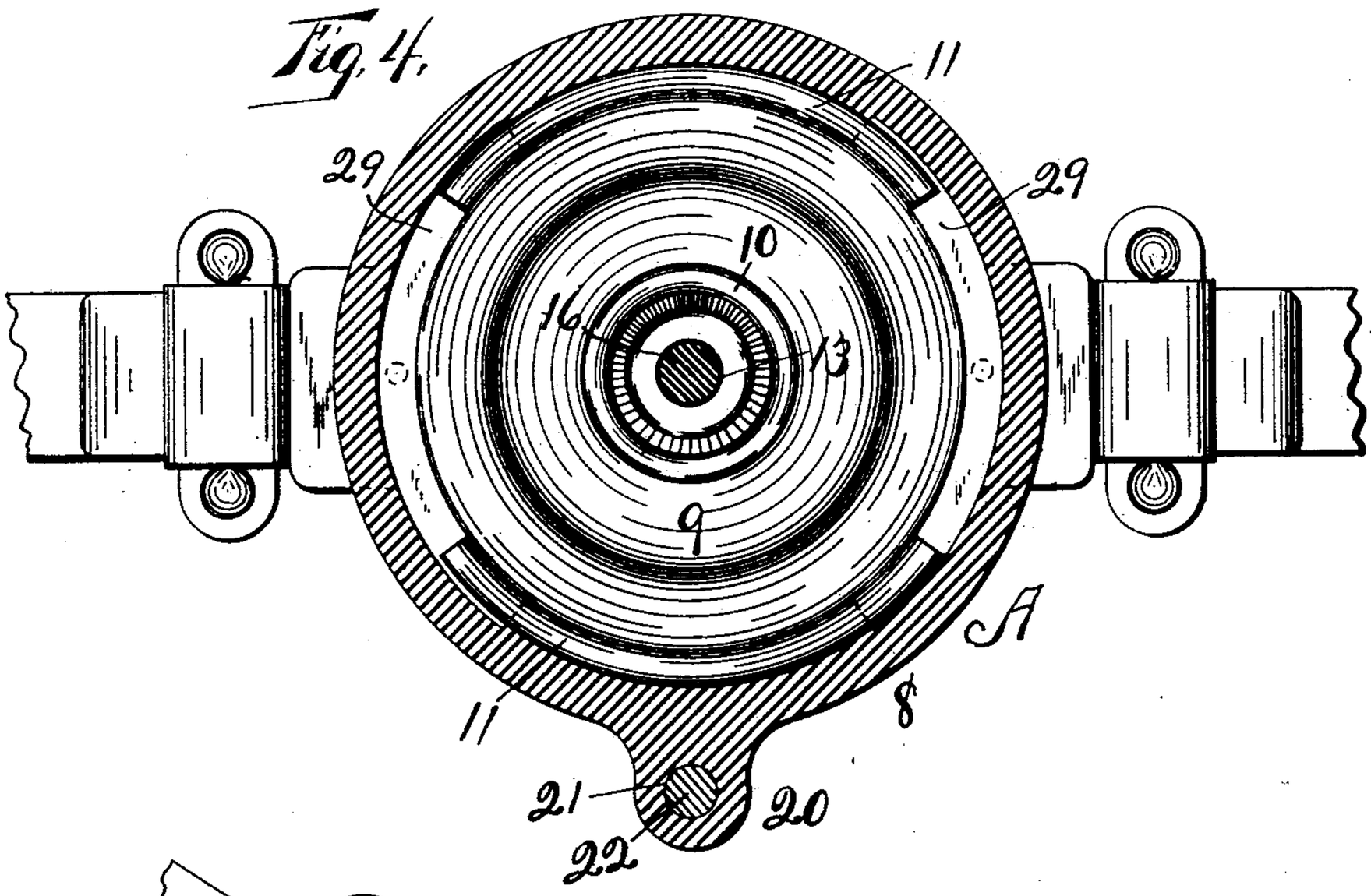
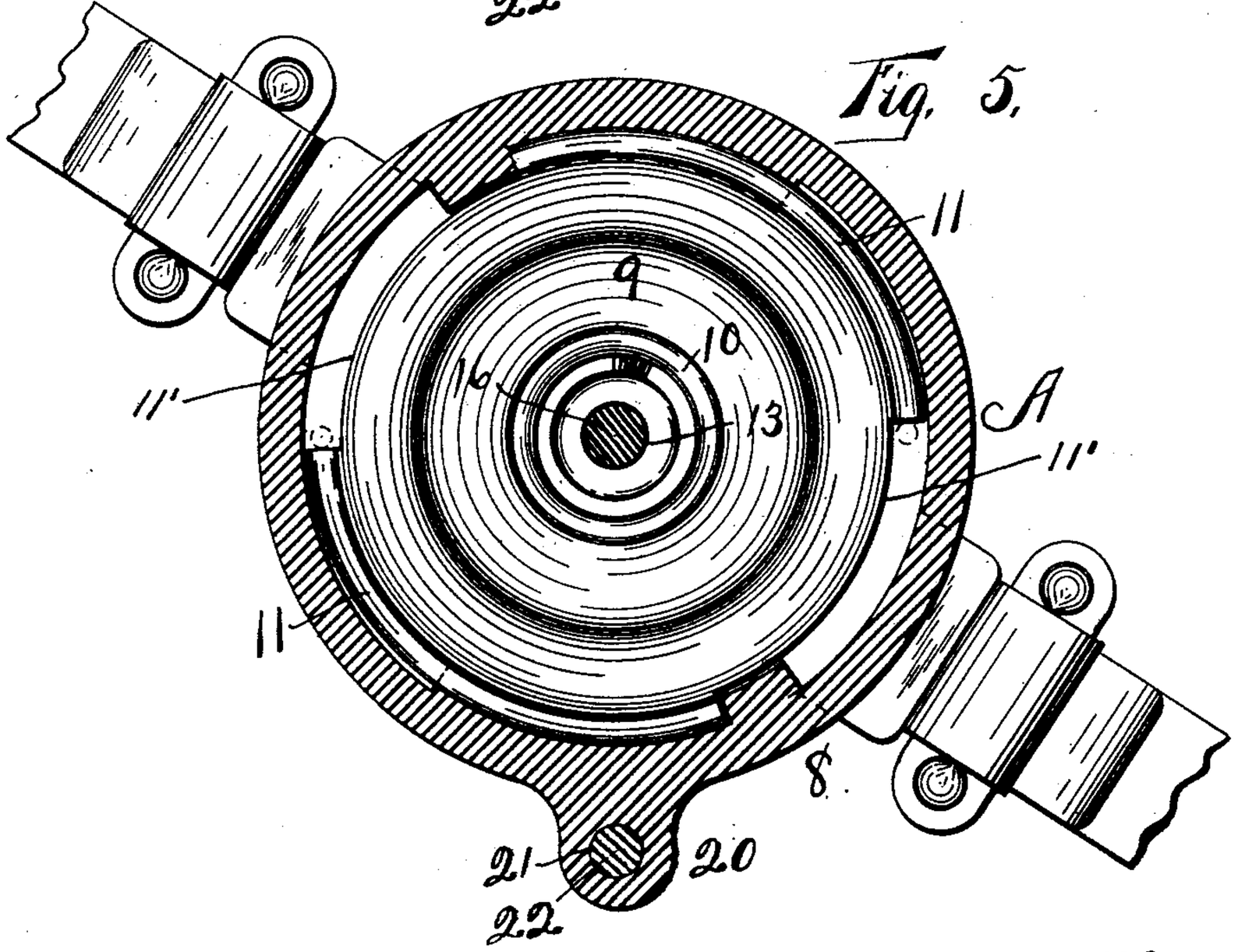


Fig. 5.



WITNESSES:

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No. 751,699. Patented February 9, 1904.

UNITED STATES PATENT OFFICE.

IRA TEETER AND BYRON E. SLY, OF WATERTOWN, NEW YORK.

FIFTH-WHEEL.

SPECIFICATION forming part of Letters Patent No. 751,699, dated February 9, 1904.

Application filed March 1, 1900. Serial No. 6,893. (No model.)

To all whom it may concern:

Be it known that we, IRA TEETER and BYRON E. SLY, of Watertown, in the county of Jefferson, in the State of New York, have invented new and useful Improvements in Fifth-Wheels, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to improvements in vehicle-gears, having more particular reference to the fifth-wheel.

Our object is to construct a fifth-wheel so arranged and secured to the axle as to obviate the necessity of passing a king-bolt through the axle in the ordinary way; and to that end our invention consists in the several other new and novel features of construction and operation which are hereinafter more fully described in the claims hereunto annexed.

It is constructed as follows, reference being had to the accompanying drawings, in which—

Figure 1 shows a top plan view of what is commonly known as a "banner-wagon" gear provided with our improved fifth-wheel. Fig. 2 is a front view of the axle, fifth-wheel, and head-block at the point where they are connected, partly in section. Fig. 3 is a section on line *x x*, Fig. 2. Fig. 4 is a section on line *y y*, Fig. 2, looking downward, showing the upper part of the fifth-wheel in section and the lower in full as they appear in their normal positions. Fig. 5 is a similar view showing the parts as they appear when the axle is turned partially around, as it appears when cramping. Fig. 6 is a view of the lower face of the fifth-wheel. Fig. 7 shows a modified form of mounting the fifth-wheel to adapt it to a conger-spring. Fig. 8 shows another modification adapting the device for use in connection with an elliptic spring.

Similar characters of reference indicate corresponding parts.

The gear comprises the front and rear axles 1, the side springs 2 3, and the center spring 4. The springs are secured to the rear axle, the side springs being secured to the head-block 5, while the center spring 4 as it approaches the forward end turns downward and passes under the forward axle and is provided with bolt-holes 6 and 7 for the purpose hereinafter specified.

The fifth-wheel A comprises two sections 8 and 9, which are provided with corresponding annular beads and grooves upon their meeting faces, as shown in Fig. 3, so that they will rotate freely and with the least amount of friction within each other. The part 9 is constructed substantially as shown in Fig. 3, having the central annular bead 10 and the upwardly-extending rib 11, that portion of the periphery between the bead 10, the rib 11, and the bottom edge 12 being grooved or concaved and affording a bearing-surface for the upper section 8. Section 9 is also provided with a central circular bolt-hole 13, the lower end of which is enlarged, as shown at 14, for receiving the head 15 of the bolt 16. The head of the bolt 16 is loosely mounted in the said enlarged portion, whereby the bolt is prevented from rotating as the lower member of the fifth-wheel is turned. The section 9 is also provided with downwardly-extending lips 17, adapted to hold and engage the axle. The upper section 8 is provided in its lower face with a recess and indentations adapted to receive the aforesaid bead and rib and with swelled portions to engage with the annular concavities in the part 9. It is also provided with a central opening 18, through which the bolt 16 passes up through the head-block 5 and is held in position by a nut and washer 19 on top in the ordinary way.

Upon one edge of the upper section 8 we extend a lip 20 and provide it with a bolt-opening 21, and 22 is a bolt extending from the section 8 to the forward end of the spring 4, as shown in Fig. 3, and serves to hold the upper section of the fifth-wheel fast with the spring 4 and the head-block 5, which is mounted on top. The upper section 8 is also provided on opposite sides with lateral-extending flanges 23, by which it is secured to the head-block 5 by bolts 24. 25 is a bracket having lips 26, in which lower edge of the axle 1 rests. The bracket 25 is also provided with a bolt-opening 27, the upper end of which is enlarged for receiving the head of the bolt 28 which passes through the opening 6 of the spring 4, that is held in position by an ordi-

nary nut. By providing the enlarged end in the bolt-opening the bolt is prevented from rotating.

It will be observed that when the forward axle 1 is placed in position, as shown in Fig. 3, and the fifth-wheel placed on top and clamped by the bolt 22, as shown, the gear may be clamped readily in either direction.

In Figs. 4 and 5 we show more clearly the manner in which the two sections are placed together. This is acomplished by providing the rib 11 with a pair of diametrically oppositely disposed cut-out portions 11′, so as to divide the rib into two portions which pass through, during the coupling operation, cut-out portions in the bulged portion or rib of the depending flange of the upper member. After the portions of the rib 11 have been thus inserted through the openings or cut-out portions of the last-named ribs the upper member is given a partial turn, so as to prevent accidental displacement of the two sections.

In Fig. 2 we show a machine-screw 30 passing down through the upper plate, the lower end of which is adapted to engage with the abutting end or wall of the removed portion, so as to prevent its being rotated beyond a certain position.

The lower edge of the axle 1 is convex, as indicated at 31, whereby it will snugly seat in the bracket 25.

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

1. A fifth-wheel comprising upper and lower members having central bores, the lower member thereof having its upper face formed with a centrally-arranged annular recess and an annular cavity encircling the same, the outer edge of which merges in a rib arranged at the upper edge of said member, and having suitable spaced cut-out portions, the sides of the lower member having a groove formed therein, with its lower edge extending outwardly beyond its upper edge, the upper member at its edge having an annular depending flange carrying an annular rib having cut-out portions registering with the rib-sections of the lower member, the lower portion of the inner face of the flange of said upper member conforming to the contour of the lower edge of the lower member, the lower member having its lower side provided with downwardly-extending lips adapted to engage the axle, a headed bolt passing through the bores of the said members and having its head seated on the upper side of the axle, and engaging in an enlarged opening in the lower portion of the lower member provided therefor, a bracket having lips secured to the lower side of the axle, a headed bolt engaging the under side of the axle and seated in an enlarged recess provided therefor in the bracket, said bolt having a nut therein for securing the outer spring of the gear, and a lip having an opening therein formed integral with the upper member, with a bolt passing through said opening and rigidly secured to the center spring, substantially as described.

2. A fifth-wheel comprising two sections, the upper section being formed with an annular opening or recess, the side wall of which is provided with an inwardly-extending curved bead, said bead being formed with cut-out portions, the top or inner wall of said recess being formed with a centrally-arranged depending portion having inclined sides, said depending portion and side walls of the recess being connected by downwardly-curved portions, the lower member being formed in its upper face with a centrally-arranged recess having inclined walls to receive the depending portion of the upper member lying directly thereabove, and having its upper face on each side of said recess curved inwardly, the vertical walls of said lower member being formed with a groove whereby a rib is formed at the upper edge thereof, said rib being formed with cut-out portions, and a bolt passing through said members.

In witness whereof we have hereunto set our hands this 20th day of February, 1900.

IRA TEETER.
BYRON E. SLY.

Witnesses:
FRANCIS H. FITCH,
WALLACE YOST.