

(Model.)

2 Sheets—Sheet 1.

D. J. SHELDRIK.
DRIVE CHAIN.

No. 428,863

Patented May 27, 1890.

Fig. 1

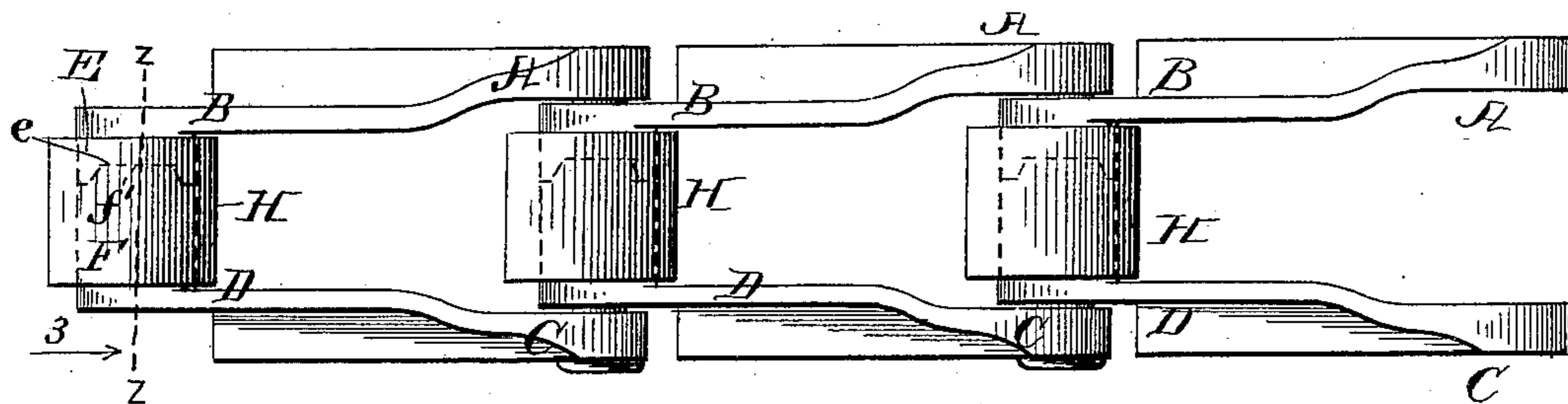


Fig. 2.

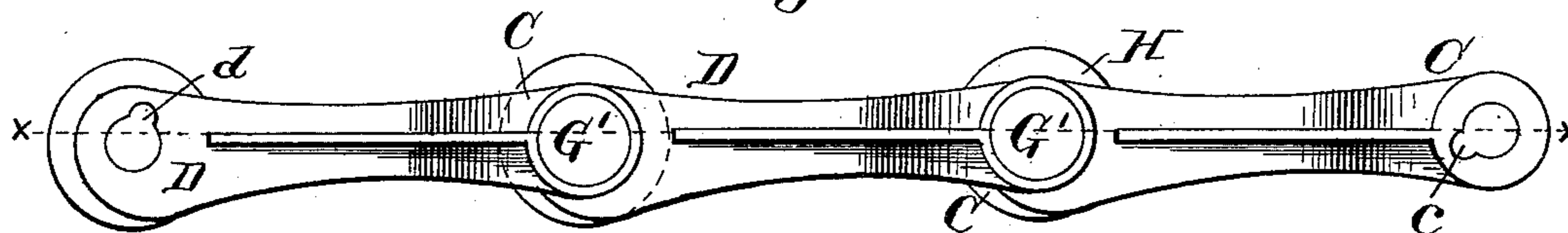


Fig. 3.

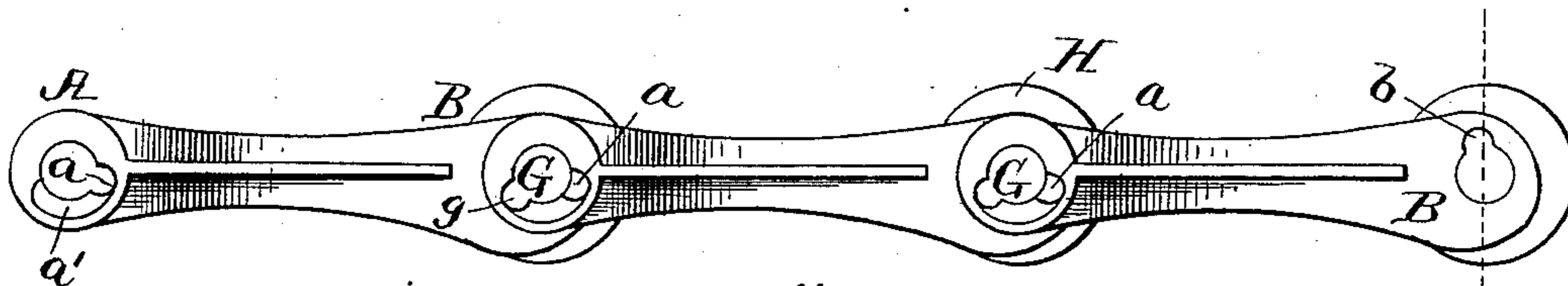


Fig. 4.

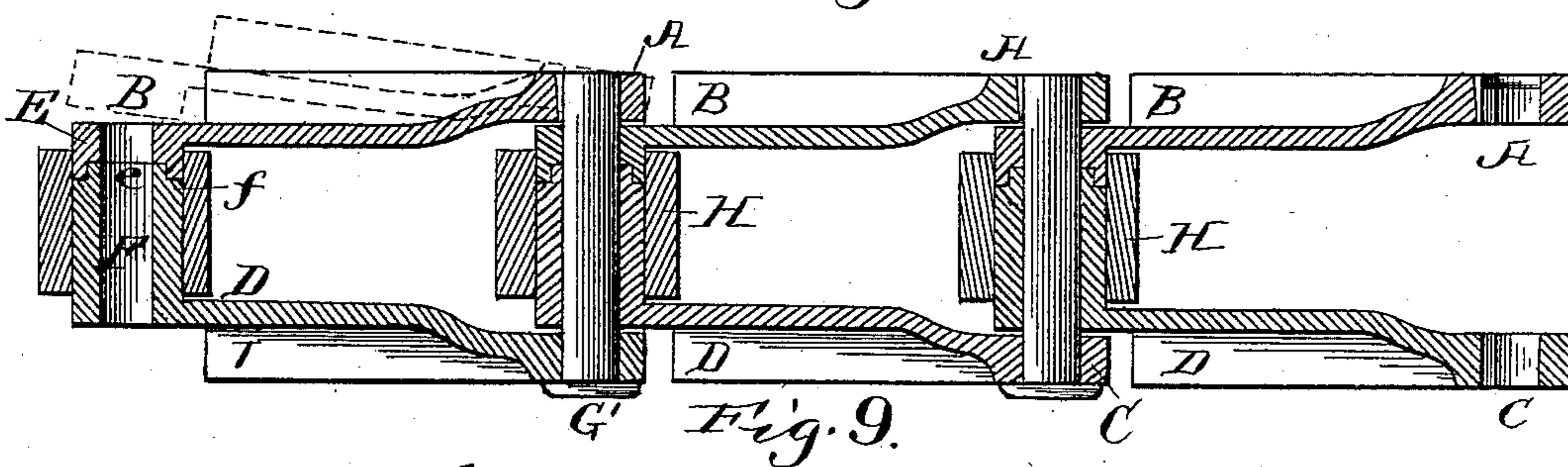
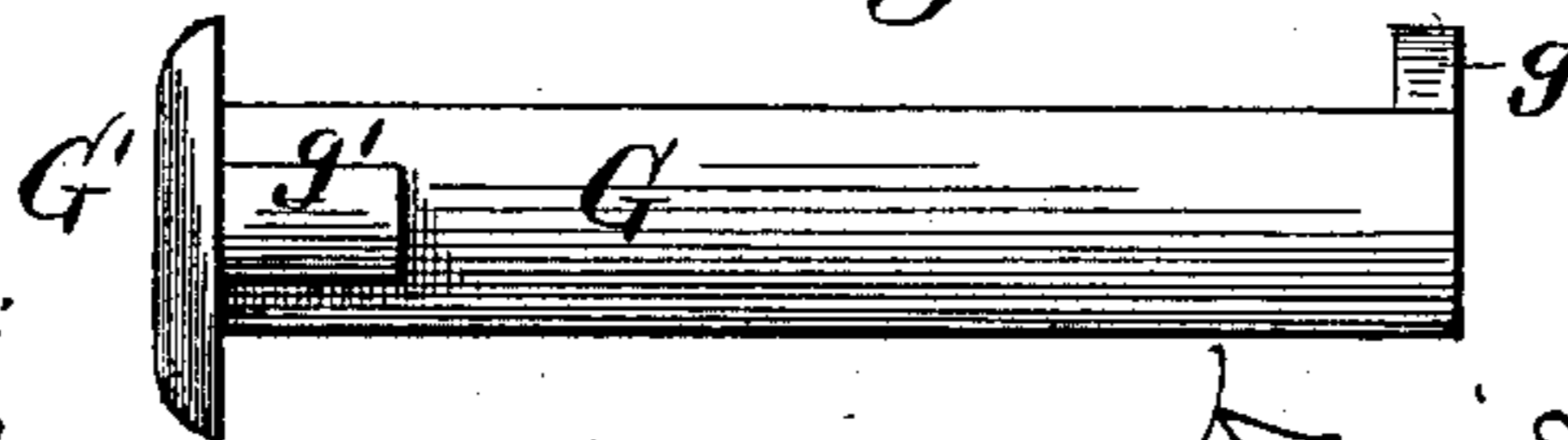


Fig. 9.



Witnesses:

J. B. McGinn

March 3 May.

Inventor:

David J. Sheldrick

London & Bliss aty.

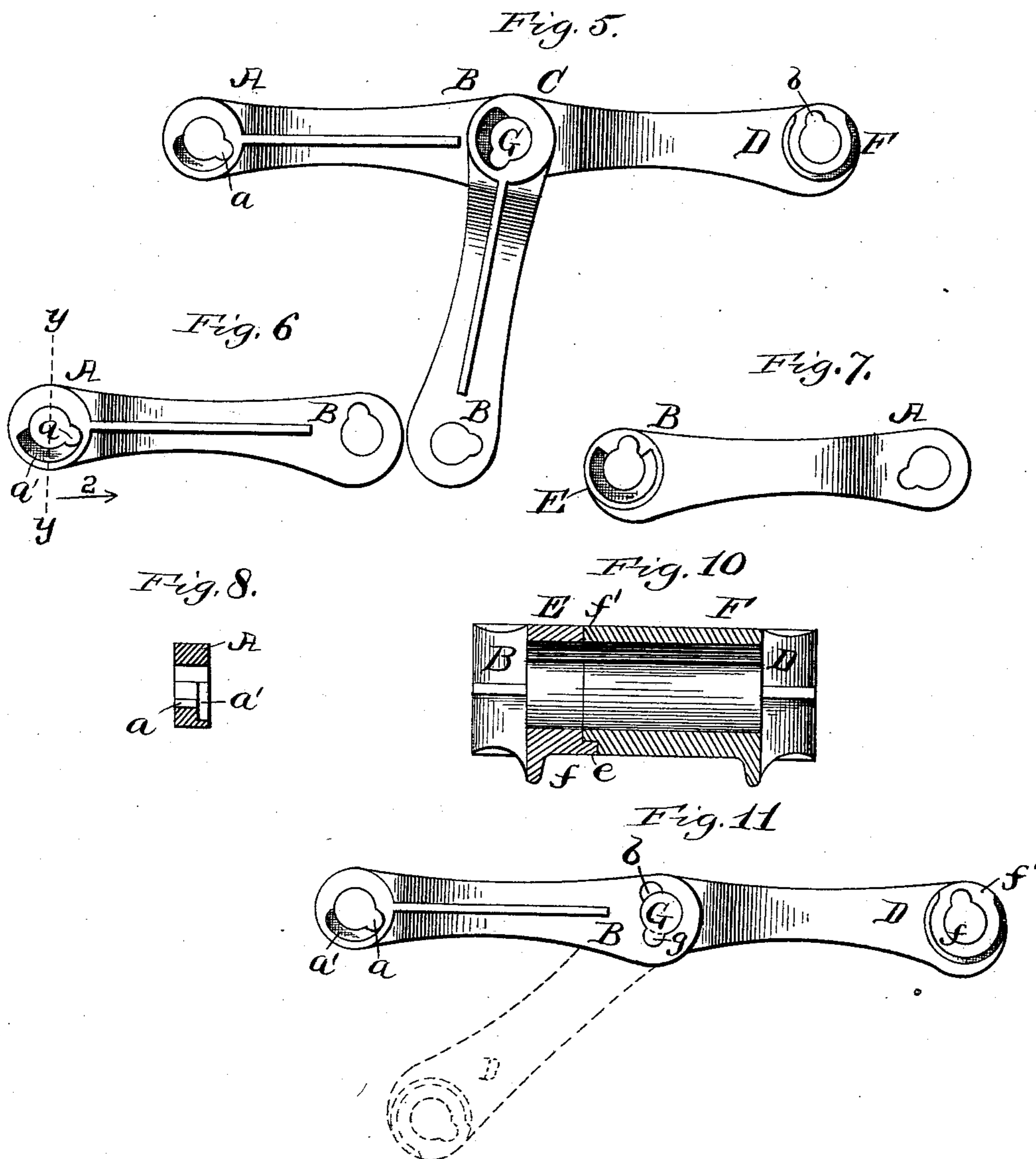
(Model.)

2 Sheets—Sheet 2.

D. J. SHELDRIK.
DRIVE CHAIN.

No. 428,863.

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Witnesses:

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Inventor:

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UNITED STATES PATENT OFFICE.

DAVID J. SHELDRIK, OF COLUMBUS, OHIO, ASSIGNOR TO JOSEPH A. JEFFREY, OF SAME PLACE.

DRIVE-CHAIN.

SPECIFICATION forming part of Letters Patent No. 428,863, dated May 27, 1890.

Application filed July 23, 1889. Serial No. 318,361. (Model.)

To all whom it may concern:

Be it known that I, DAVID J. SHELDRIK, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Drive-Chains, of which the following is a specification, reference being had therein to the accompanying drawings.

Figure 1 is a plan view of my chain straightened out. Fig. 2 is an edge view looking in the direction of the arrow 1, Fig. 1. Fig. 3 is an edge view looking in the opposite direction. Fig. 4 is a horizontal section on the line $x x$, Fig. 3. Fig. 5 is a view of the edge of the chain shown in Fig. 4 with the links in position for detaching them from one another. Figs. 6 and 7 are reversed views of one of the links detached. Fig. 8 is a vertical section on line $y y$, Fig. 6, looking in the direction of the arrow 2 of that figure. Fig. 9 is a detached view, enlarged, of the pintle. Fig. 10 is a vertical section on line $z z$, Fig. 1, looking in the direction of the arrow 3 of that figure, the anti-friction roller being omitted. Fig. 11 is an edge view of three links.

Like reference-letters refer to like parts in all the figures.

A B C D are side bars provided with sleeves E F cast integral therewith, and with pintle-seats having notches which can be made to register with each other by placing the side bars at angles to each other, but which do not thus register when the links are straightened out into working position, as will be explained. The end A is somewhat expanded and provided with a pintle-seat, which is preferably round in transverse section, except that it is notched at a , and is constructed with a sunken portion or recess a' on its outer face. The opposite end B has a similar pintle-seat and notch b , with also an inward-projecting short sleeve E, the inner end of which is formed with a peripheral flange, as indicated at e , (see figures,) leaving a recess which is continuous, except at e' . The opposite side bar of the pair has at the end C a pintle-seat and notch c , and at its opposite end a similar pintle-seat and notch d , with an inward-projecting sleeve F, which is reduced, leaving the shoulder f extending around its periphery,

except at f' , where it is of full diameter to fit the corresponding part e' of the sleeve E. These overlapping shoulders serve to mutually support each other to maintain the inside pintle-seats in line with each other, and also operate to prevent dirt from working through into the articulation.

I am aware that pintles have been made in sections which project inward from the side bars and have been formed with dovetailed parts to prevent the sections from being separated by an endwise movement, such sections being free to move laterally one upon the other; but the overlapping interlocking surfaces of my sleeves perform an entirely different function, in that, among other things, they prevent independent lateral movement of one sleeve relatively to the other, but do not support them against endwise separation.

The pintle (shown detached in Fig. 9) is circular in cross-section throughout its greater part or length, as at G, and has at one end a head G' , with a locking-spur g at its opposite end and a short spline g' adjacent to the head, the lug and spline being located in planes which intersect each other at the axis of the pintle at an angle of about ninety degrees.

In assembling the parts to form a chain the pintle may be first thrust through the end C of one of the side bars and then through the sleeves of two other side bars successively; or three side bars may be placed in about the position indicated by full and dotted lines, Fig. 11, when the pintle can be thrust directly through the pintle-seat of the end C and of the sleeves E F of adjacent side bars. Then these three links may be straightened out, as indicated in full lines, Fig. 11, at which time the spur g of the pintle will occupy the position indicated in Fig. 5. Then the fourth link A B may be placed in the position indicated in Fig. 5, when the spur will pass through the notch b of that side bar, after which it (the side bar) may be swung around on the pintle and the inner end of its sleeve engaged with the inner end of the sleeve F of the opposing side bar of the pair, substantially the same operation being repeated until a chain of the desired length is made up and its ends united.

When it is desired to add anti-friction roll-

ers, the first one may be applied to the sleeves of the first pair of side bars, which are mounted upon a pintle, the second one being applied to the long sleeve F before the swinging end of the downward-projecting link (shown in Fig. 5) is swung up into line with the other links, there being sufficient looseness of parts to permit the end B of such link to be moved outward into the position shown in dotted lines, Fig. 4, so that the inner end of its short sleeve E will pass the end or edge of the anti-friction roller and enter the roller, and the recess or socket within the flanged end of the shorter sleeve E will pass over and engage with the shouldered end of the longer sleeve F.

It is apparent that by reason of the sleeve E being very short anti-friction rollers can be applied as the parts of the chain are being assembled without necessitating the undesirable looseness of parts which would be required in case the sleeves were of such length as to meet in the centers of the rollers.

I prefer to have the section e' and the notch or cut-out part f' upon the upper sides of the sleeves, in order to insure that the parts of the articulation which are under the greatest tension may have as regular an outline as is possible to guard against undue wear.

While I have described the best mode now known to me for carrying out my invention, I do not wish to be limited to the details of construction herein shown, because many modifications can be readily devised by one skilled in the art of chain-making without departing from the scope of my improvement.

What I claim is—

1. In a drive-chain, the combination, with

the rollers, of the separable and independently-swinging side bars provided at their ends with inward-projecting sleeves of different lengths, substantially as set forth.

2. In a drive-chain, the combination, with the pintles, of the separable side bars provided at their ends with inward-projecting sleeves, the inner ends of which are formed with interlocking surfaces to prevent independent lateral movement of the sleeves, substantially as set forth.

3. In a drive-chain, the separable side bars provided with projecting sleeves, the sleeve of one side bar having a peripheral flange, the sleeve of the other side bar having a reduced end to enter within the peripheral flange, substantially as set forth.

4. In a drive-chain, the separable side bars provided with the sleeves, of which one is formed with a projection, as at e' , and the other is cut out, as at f' , substantially as set forth.

5. In a drive-chain, separable side bars having at their ends pintle seats and notches, the notches in the adjacent ends being at angles to each other, in combination with pintles having at their ends lugs projecting in different planes, whereby the links are adapted to be coupled only when the side bars are at angles to each other, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

DAVID J. SHELDRIK.

Witnesses:

LUCIAN LINDSEY,
E. E. CORWIN.