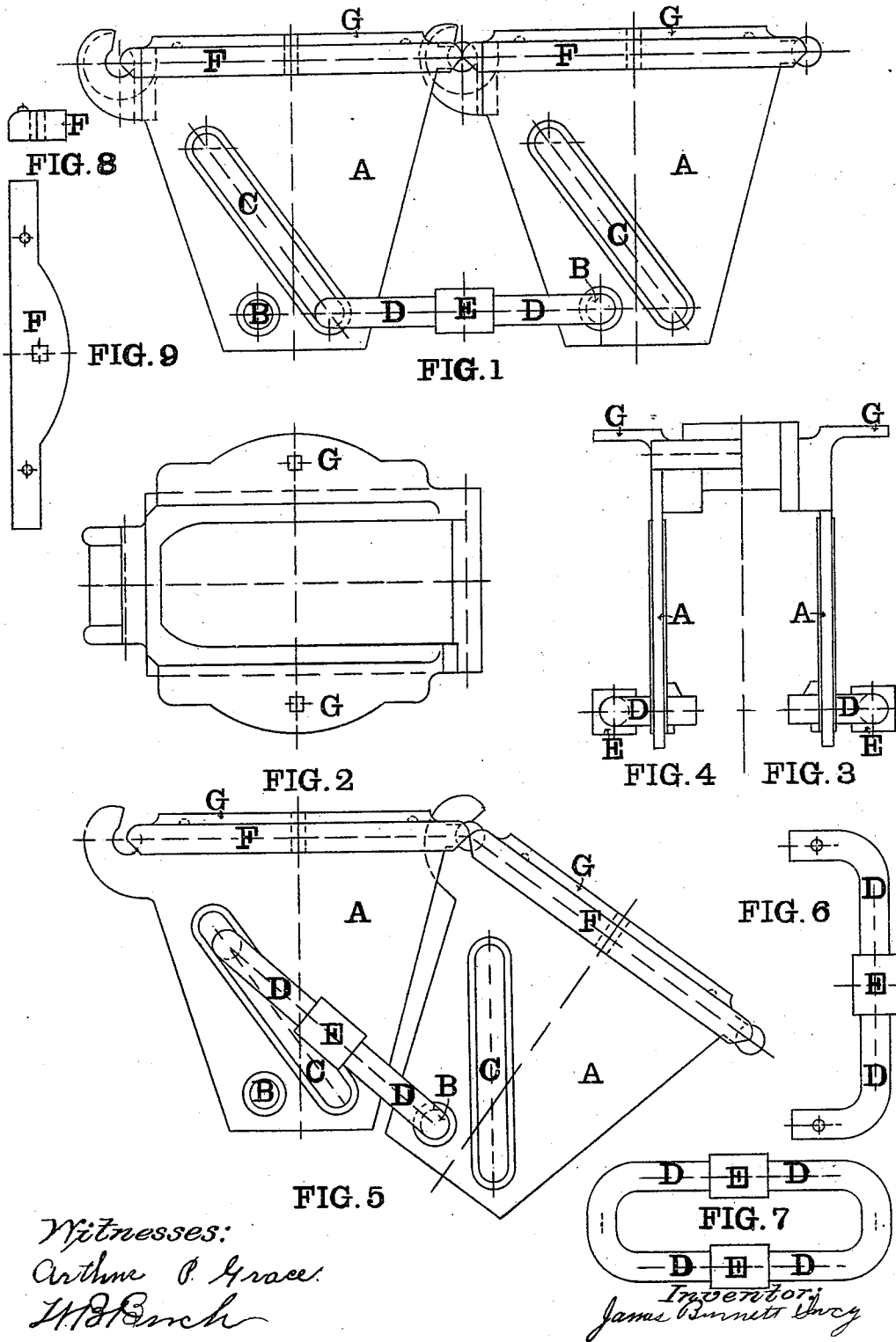


(Model.)

J. B. IVEY.
DRIVE CHAIN.

No. 470,141.

Patented Mar. 1, 1892.



UNITED STATES PATENT OFFICE.

JAMES BURNETT IVEY, OF MACON, GEORGIA, ASSIGNOR OF ONE-HALF TO
SAMUEL A. CHARPIOT, OF SAME PLACE.

DRIVE-CHAIN.

SPECIFICATION forming part of Letters Patent No. 470,141, dated March 1, 1892.

Application filed July 30, 1890. Serial No. 360,417. (Model.)

To all whom it may concern:

Be it known that I, JAMES BURNETT IVEY, a citizen of the United States, residing at Macon, in the county of Bibb and State of Georgia, have invented a new and useful Link for Chain Belts, of which the following is a specification.

This invention relates to that class of chain belts in which each link is formed into a frame admitting of suitable engagement with the teeth of sprocket or toothed wheels, said teeth being admitted into the open space in the interior of the link; and the object of my invention is to provide a bracing for these chain belts, so as to prevent them as much as possible from sagging down in the middle when stretched in position. I accomplish this result by the means illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of two of my improved links coupled together, the chain of which they are a part being stretched out straight in position. Fig. 2 is a plan of one of these links. Fig. 3 is half of a back end elevation of one of these links. Fig. 4 is half of a front end elevation of one of these links. Fig. 5 is a side elevation of two of these links coupled together, both being supposed to be in position against the rim of the wheel with whose teeth they engage. Fig. 6 is a plan of one style of my link-coupling. Fig. 7 is a plan of another style of my link-coupling. Fig. 8 is an end elevation of a brace or butting piece to be bolted to and underneath the link's upper flange or to the slats attached to the link, as hereinafter to be explained. Fig. 9 is a plan of this brace or butting piece.

Underneath the link and attached to one or both of its longitudinal sides is a vertical brace-flange A, of considerable depth and sufficient thickness to have ample tensile strength. In this flange is a hole B and a slit C. A brace-coupling D has its front end inserted in the hole B and the back end in the slit C in the next link, so that said front end can turn freely in the hole B, while said back end can slide freely in the slit C, and any suitable mode of securing the coupling in the links—whether by pins, as here shown, or by nuts, keys, &c.—may be used. Now the coupling

is to be made of such a length that when the chain is stretched out straight the coupling's two ends will be both subjected to a pulling strain, the back end being brought into the front end of the slit in which it slides, as can be seen in Fig. 5 of the drawings; also, when a load is thrown on top of the chain's straight portion a part of the strain is sustained by the coupling, which likewise evidently resists the tendency of the chain to sag down; but when the chain attempts to bend around its sprocket-wheels the coupling allows this by sliding its back end in the link-slit, as is also shown in Fig. 5 of the drawings. If desired, a flange A can be attached to and underneath the other longitudinal side of the link also, and can likewise be provided with a slit C and coupling D, arranged to operate like those already described.

That form of the coupling D which is used in Figs. 1, 3, 4, and 5 is shown in plan in Fig. 6, being kept in place by pins or keys. If preferred, however, other forms may be used, among them being the double-U-shaped one exhibited in plan in Fig. 7. In this case no pins or keys are needed to keep this coupling in place. In both forms here shown each coupling consists of two portions, which are threaded at the ends, so as to enter a turn-buckle nut E. This nut has a right-handed thread at one end and a left-handed one at the other, and the coupling's portions' ends are threaded to correspond therewith, so that by turning the nut the coupling may be lengthened or shortened at pleasure. The object of this arrangement is to enable the coupling to be adjusted so as to suit link-length variations arising from wear or other causes.

The upper portion of the link has two horizontal flanges G G, to which can be bolted the slats or floor-pieces of the belt, if such are used. Beneath and attached to these flanges G G are bolted horizontal butting-pieces F, whose duty is to receive each other's thrust when the chain attempts to sag down; but the ends of these butting-pieces are so sloped by beveling them off underneath as to allow them to approach each other like the leaves of a book when their links attempt to pass around

the sprocket-wheels engaging them. These butting-pieces may, if desired, be attached to the slats mounted on the links, instead of to the links themselves, as here shown.

5 Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

10 1. The combination, with chain-links hinged together at one point, said links having each one or more depending flanges, of couplings extending from one of these depending flanges to a flange on an adjacent link, substantially as set forth.

15 2. In braced drive-chains and in braced conveyer-chains, the link provided with one or two depending side flanges, each of these flanges containing an aperture and an oblique slot, and a brace-coupling device pivoted in

the aperture of one flange of the link and adapted to slide in the oblique slot of the 20 flange of the next adjacent link, substantially as described.

3. In braced drive-chains and in braced conveyer-chains, a brace-coupling device adjustable in length and attached to each of two 25 consecutive links, one end of said coupling being pivoted in an aperture in the depending side flange of one link, while the other end of the coupling slides in an oblique slot in the depending side flange of the other link, 30 substantially as described.

JAMES BURNETT IVEY.

Witnesses:

ARTHUR P. GRACE,
W. B. BIRCH.