

(Model.)

J. M. DODGE

DRIVE CHAIN.

No. 330,004.

Patented Nov. 10, 1885.

FIG. 1.

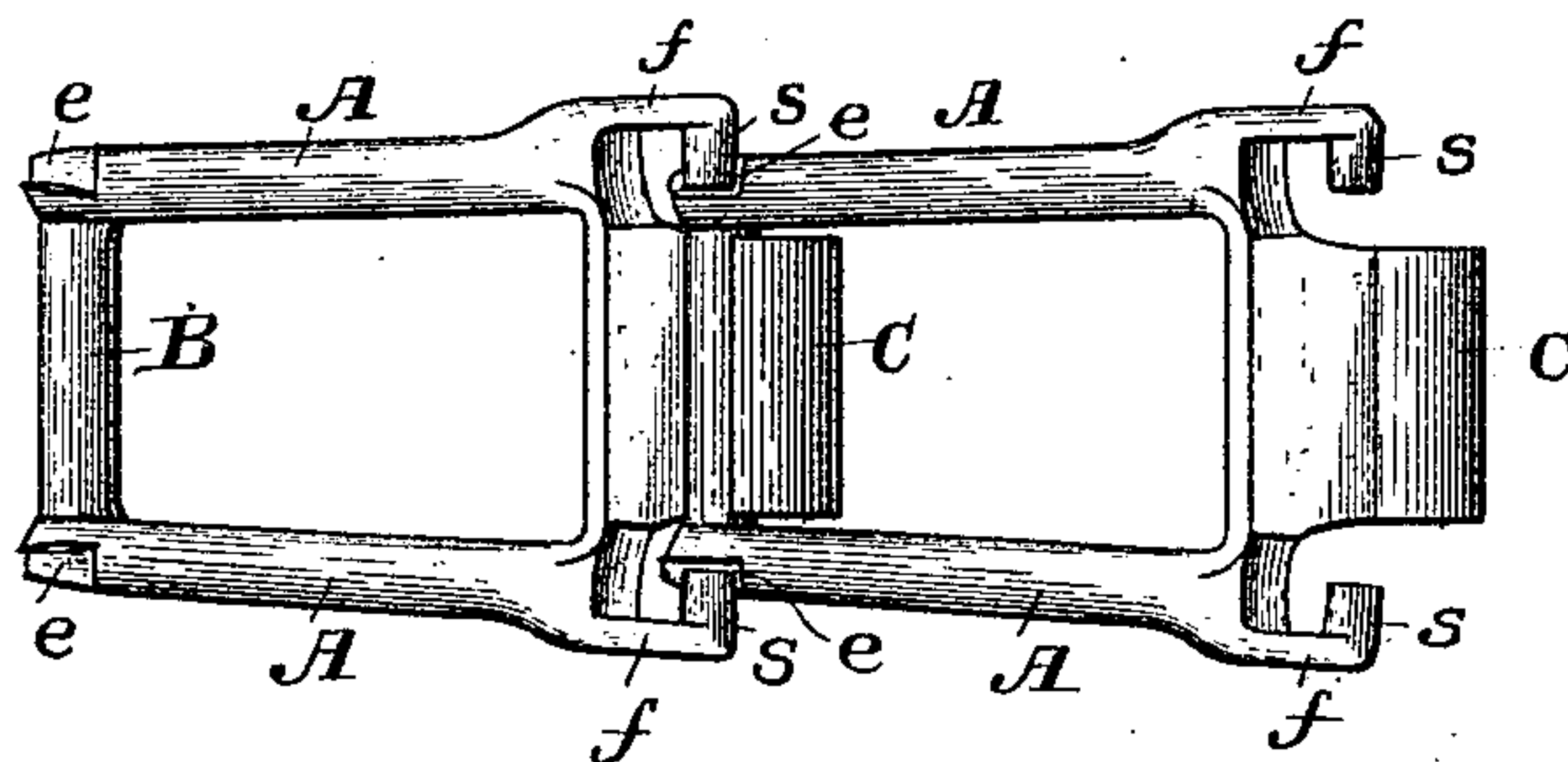


FIG. 2.

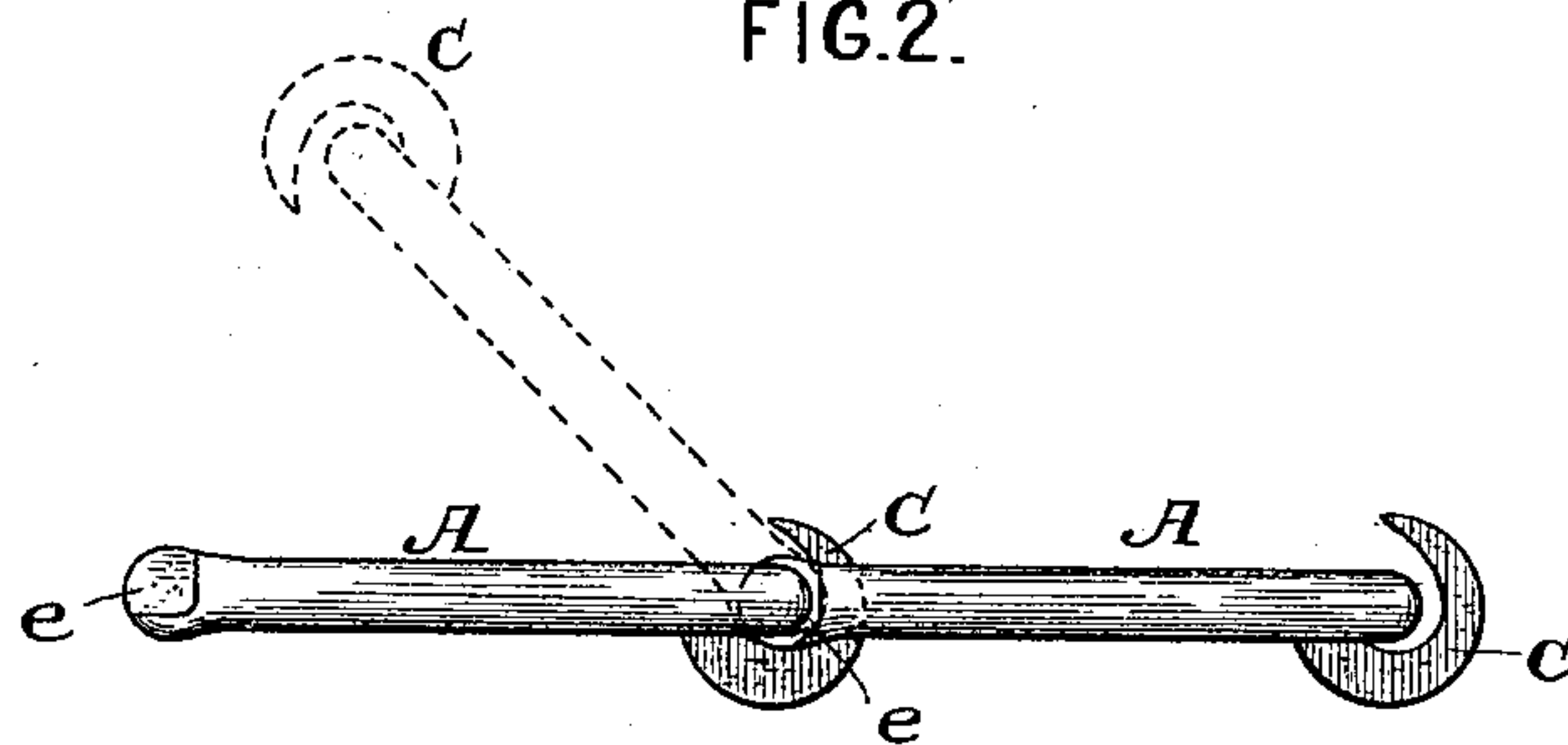
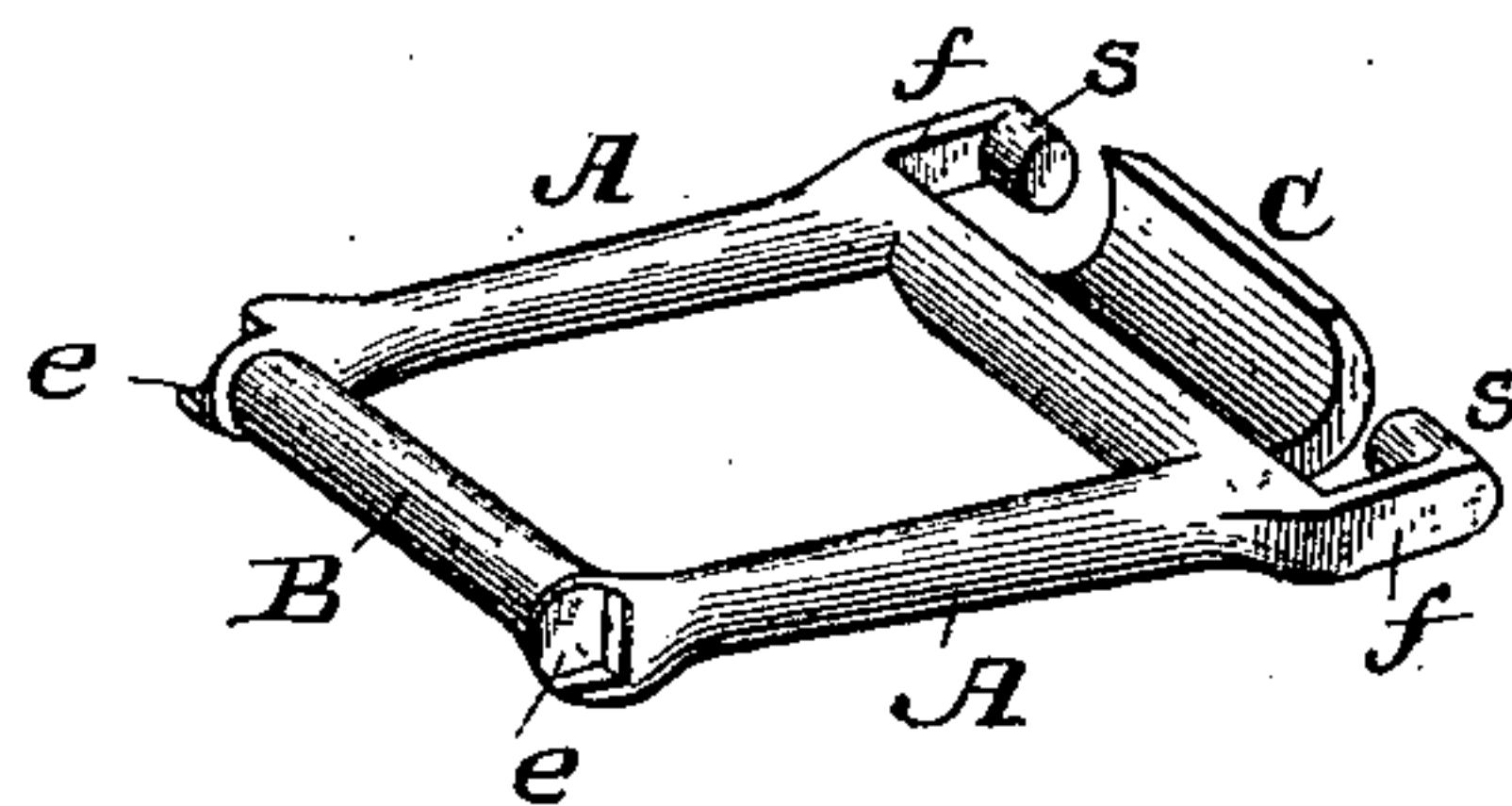


FIG. 3.



ATTEST-

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Att'y

UNITED STATES PATENT OFFICE.

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DRIVE-CHAIN.

SPECIFICATION forming part of Letters Patent No. 330,004, dated November 10, 1885.

Application filed May 8, 1885. Serial No. 164,814. (Model.)

To all whom it may concern:

Be it known that I, JAMES M. DODGE, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Drive-Chains; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this application.

My invention relates to a novel construction of that type of drive-chains which is known to the trade as a "detachable" drive-chain; and it consists in a new and useful improvement in that species of detachable drive-chains in which the throat or opening of the coupler-hook of one link, with which engages a plain end bar of another link, is quite equal in width to the diameter of the socket-like portion of the coupler-hook and to the greatest width or diameter of the end bar of the link which engages therewith, but in which the said coupler-hook of one link and the said end bar of another link can be engaged with and disengaged from each other only when the two links are turned into a given and unusual relative position.

To enable those skilled in the art to which my invention relates to make and use the same, I will now proceed to more fully describe the construction and operation of my improved detachable drive-chain, referring by letters to the accompanying drawings, which form part of this specification, and in which I have illustrated my invention carried out in that form in which I have so far practiced it, and which is the best now known to me.

In the drawings, Figure 1 is a plan or face view of two links of a chain made according to my invention, arranged together in a working condition. Fig. 2 is a side or edge view of the parts as shown at Fig. 1, and illustrating by dotted lines the relative position into which the two links must be turned in order to disengage and re-engage them. Fig. 3 is a perspective view of one of the links separated from the other.

In the several views the same part will be found designated by the same letter of reference.

As in the construction of my chain duplicate parts or links are employed, a description of one of the links as to its construction will suf-

fice to explain the structure of a series which, when put together, will form the chain.

In the several figures, A represents the side bars of the centrally-open links; B, the plain end bars, (which are preferably of about the same size and strength as the side bars,) and C the coupler-hook ends of the links of the usual C shape in cross-section. At the outer portion of the end of each side bar, near that extremity which joins it with the plain end bar, B, is formed a depression or seat-like recess, *e*, and at the coupler-hook end of each link are extension-like arms or portions *f f* on each side, and projecting longitudinally from the side-bar portions, each of which extension-like arms *f f* has projecting from its extremity, laterally and inwardly toward the C-shaped coupler-hook, a short cylindrical teat or pintle-like device, *s*, that is located or arranged about in line axially with an imaginary axis of the cylindrical portion of the C-shaped coupler-hook. A series of links thus constructed will, when coupled together, as shown at Figs. 1 and 2, work after the fashion of what is well known in the market as the "Ewart Detachable Drive-Chain," and can be uncoupled and recoupled only when turned into the particular and unusual relative position illustrated by the dotted lines at Fig. 2, for in any of the other and usual working positions of the links the engagement of the pintle-like devices *s* of one link with the recesses or depressions *e* of the next link will operate to prevent the end bar, B, of one link from moving bodily through the throat of the coupler-hook of the other link by reason of the abutment of the shoulder portion of the recesses *e* coming and working in contact with the pintles *s*.

As clearly illustrated by the dotted lines at Fig. 2, it is only in the relative position of the links indicated by said dotted lines that the recesses *e* with the shoulders formed thereby will be in such relationship to the pintles *s* as to permit a disengagement of said pintles and recesses, and thus allow at the same time a lateral bodily movement of the end bar, B, of one link through the throat or opening of the C-shaped coupler-hook of another link.

In the use or working of a chain such as shown and described the lateral play of the

coupled links relatively to each other may be controlled or regulated by contact of the ends of the pintle-like devices *s* with that portion of the seats or recesses *e* against which, as shown, the ends of said devices *s* abut, thus, if so desired, relieving the inner end portions of the side bars from frictional contact with and wear against the end portions of the C-shaped coupler-hooks.

10 I have shown the pintle-like devices *s* as formed integrally with and sustained by the extension-like portions *f*, that project longitudinally from and about in line with the outer portions of the side bars of the link; 15 but these pintle-like devices may of course be supported in proper positions relatively to the coupler-hook of one link and the recessed portion *e* of another link by bracket-like arms or extensions formed integrally with and projecting from the ends of the C-shaped coupler-hook sufficiently near its base or root to permit the coupled links to assume any relative position necessary while the chain is in a working condition.

25 The chain constructed after the fashion shown and described may have its duplicate parts conveniently and economically cast in final form and without any coring. Of course, the sizes and proportions, as well as the shapes of the side and end bars of the link, may be varied more or less without changing the principle of construction or mode of operation shown and described, and, therefore, without departing from the gist of my invention, which, 35 as will be seen, consists, essentially, in the

presence of the pintle-like detaining devices *s* of one link properly arranged and operating, substantially as described, in connection with the shoulder-like or abutting portions or devices of the other link. 40

In lieu of the recesses *e*, for producing the abutting shoulders, which coact with the pintle-like devices *s s*, lateral projections from the side bars of one link may be employed to coact with the pintle-like devices of another link, arranged somewhat differently from those (*s s*) shown in the drawings. 45

What I claim as new, and desire to secure by Letters Patent, is—

A detachable drive-chain of the species shown and described, each of the links of which is formed or provided at one end with pintle-like detaining devices arranged and operating substantially as described, and also with a coupler-hook about equal in length to the width of the central opening of the link, 55 and at the other end with abutting shoulders or stop-like surfaces located wholly within the end portions of the side bars of the link and adapted to co-operate with the said pintle-like devices at the opposite end of a similar link, all substantially as and for the purposes hereinbefore set forth. 60

In witness whereof I have hereunto set my hand this 2d day of April, 1885.

JAMES M. DODGE.

In presence of—

JAMES B. BOWMAN,
CHARLES A. FRY.