(Model.)

J. M. DODGE.

DRIVE CHAIN.

No. 255,949. Patented Apr. 4, 1882.

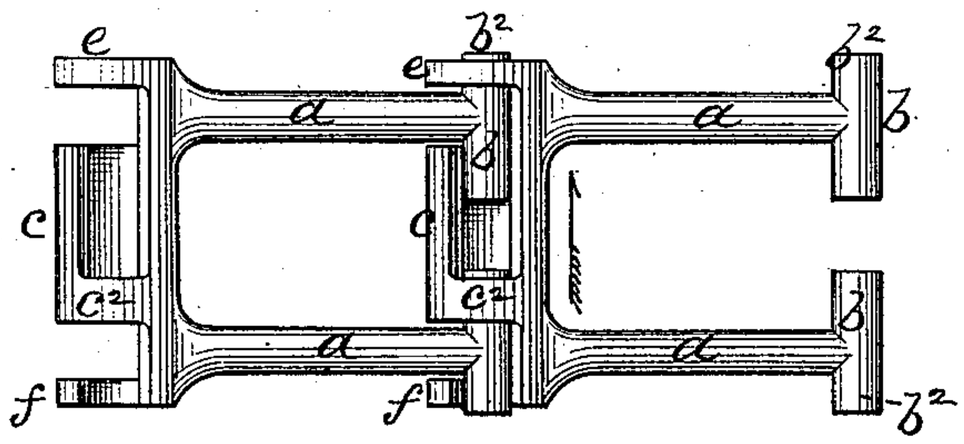

Fig. 1.

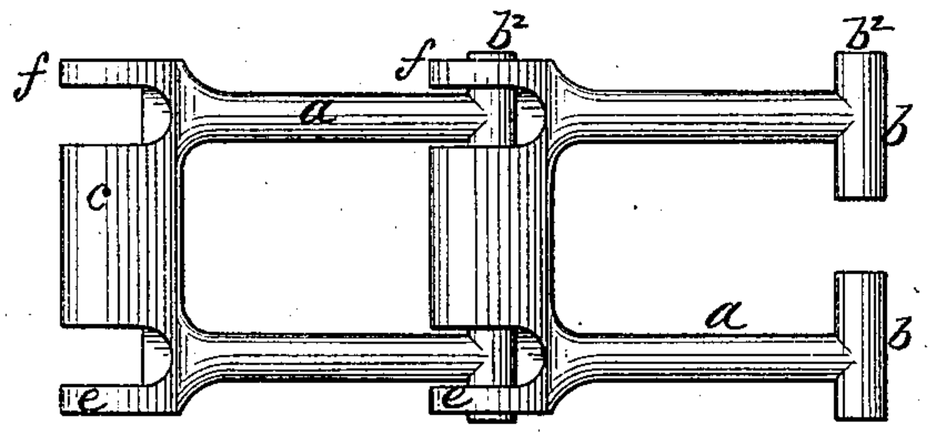

Fig. 2.

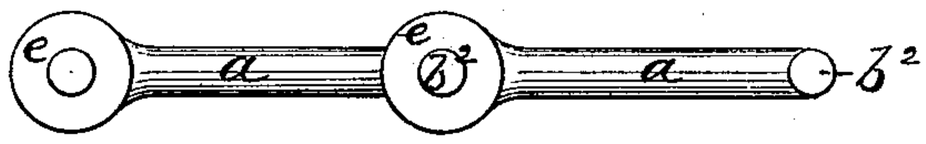

Fig. 3.

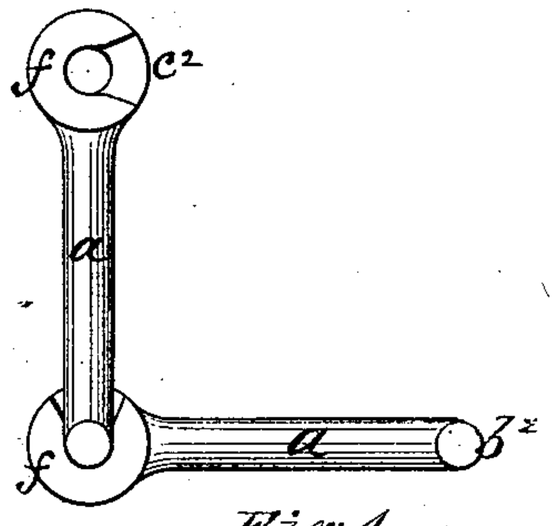

Fig. 4.

Witnesses;
C. C. Perkins.
Jacob Felbel.

Inventor;
Jas. M. Dodge
By atty.
J. N. McIntire

UNITED STATES PATENT OFFICE.

JAMES M. DODGE, OF CHICAGO, ILLINOIS.

DRIVE-CHAIN.

SPECIFICATION forming part of Letters Patent No. 255,949, dated April 4, 1882.

Application filed January 30, 1882. (Model.)

To all whom it may concern:

Be it known that I, JAMES MAPES DODGE, of Chicago, in the county of Cook and State of Illinois, 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 that species of detachable drive-chains in which the end bar of each link that serves as the pintle of the hinge-joint is divided or has its continuity broken by an open space near the middle of the end of the link; and my invention has for its main objects to improve the construction of this species of chain by, first, avoiding the liability of the side bars of each link to bend or spring apart in the vicinity of the ends adjoining the divided end bar; and, second, by compensating for the reduction of the bearing-surface of the pintle of the joint usually occasioned by the use of a divided end bar.

To these main ends and objects my invention consists in the novel features of structure in the link and chain which I will hereinafter more fully explain, and which will be hereinafter more specifically set out in the claims of this specification.

To enable those skilled in the art to make and use my improved link and chain, I will now proceed to more fully explain the construction and operation of the same, referring by letters to the accompanying drawings, in which—

Figure 1 is a plan view of a chain made according to my invention. Fig. 2 is a similar view, but of the opposite side of the chain. Fig. 3 is an edge view. Fig. 4 is a similar view, showing the opposite edge of the chain, and also showing the relative position into which two links must be turned to permit an uncoupling of them.

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

a a are the side bars of the link and *b b* is the divided end bar, which forms the pintle where two links are hinged together. This divided end bar has, so to speak, extensions b^2 at either side of the link, as clearly shown. That end of the link which is opposite to the divided end bar is continuous, and is formed with a coupler-hook, *c*, which, in lieu of being open all along, as some coupler-hooks are, is bridged over at c^2, so that the device is for the greater part of its length an open coupler and for the rest of its length a hinge-like eye, the entire length of the device $c\,c^2$ being very nearly equal to the distance between the inner surfaces of the side bars, *a a*, of the link.

At the same end of the link where the coupler device $c\,c^2$ is located are two other coupler devices, *e* and *f*, one of which, *e*, is a circular eye arranged at one side of the link, and the other, *f*, an open narrow hook arranged at the other side, all as clearly shown. The spaces between the eye *e* and one end of the device $c\,c^2$ and between the hook *f* and the other end of $c\,c^2$ are such as to permit the free working in them of the side bars of another link, and the width of the bridge-piece at c^2 is such relatively to the cut-out of the divided end bar, *b b*, that said bridge will easily pass through the said cut-out. When a series of such links, as shown, are coupled together, as illustrated, the divided end bar of one link works pintle-like in the three coupler devices of the adjoining link, one of the portions *b* working in the open part and the other of the portions *b* in the annular part of the device $c\,c^2$, while one of the extensions b^2 works in the eye *e* and the other in the open hook *f;* and so long as the articulated parts of the chain are in a working relative position these parts are inseparable and work as if they were permanently hinged together; but when any two adjoining links shall be turned out of a working position and into the relationship shown at Fig. 4, then by moving one link sidewise of the chain, as indicated, for instance, by the arrow at Fig. 1, the links may be easily separated by thus bringing the cut-out of the divided end bar in line with the bridge-piece c^2, and then lifting the pintle-like devices of one link out of the coupler devices of the other link.

It will be seen that in a chain composed of such links, as shown, any spreading apart of the side bars, *a a*, is effectually prevented, because they are bound or held in their proper relative position by the eye *e* at one side and the open hook *f* at the other side of the adjoining link. The device $c\,c^2$, which works in be-

tween the bars *a a*, insures them against any undue crowding together. By bridging over the main coupler-hook at c^2 said device is rendered stronger, and by the combination with said main coupler of the auxiliary laterally-arranged coupler devices *e* and *f*, I am enabled to use the divided end bar to facilitate uncoupling and recoupling, and at the same time have the coupled links held together even more durably than in that kind of chain in which the continuity of the end bars is not broken. The actual bearing and wearing surfaces of the pintle-like devices are as great as or greater than those of an unbroken end bar, while by the arrangement, as shown, of the bridge c^2 at one end of the long main coupler and the annular device or eye *e* nearest to the other end of said main coupler two annular and consequently very durable and strong coupler devices are formed, one near each side bar of the open-ended link.

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

1. A chain-link formed at one end with a divided end bar and lateral extensions b^2 thereof, and provided at the other end with a main coupler device, $c\ c^2$, partially open and partially closed, as specified, and two auxiliary coupler devices, one at either side of the link, and the two in line with the main coupler.

2. A detachable chain composed of duplicate parts, each of which is a link having a divided end bar at one end and three coupler devices, $c\ c^2$, *e*, and *f*, at the other end, substantially as set forth.

In witness whereof I have hereunto set my hand this 3d day of January, 1882.

JAMES M. DODGE.

In presence of—
T. S. FAUNTLEROY,
GLENN G. HOWE.