

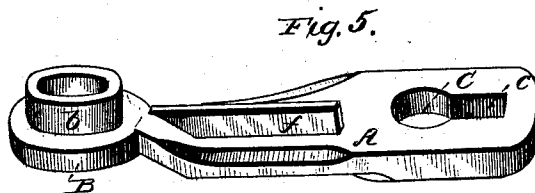
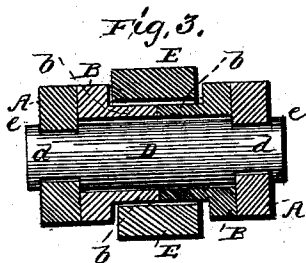
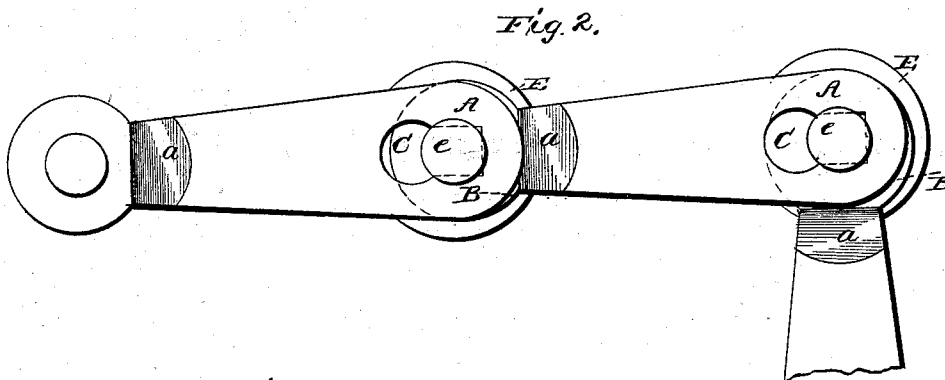
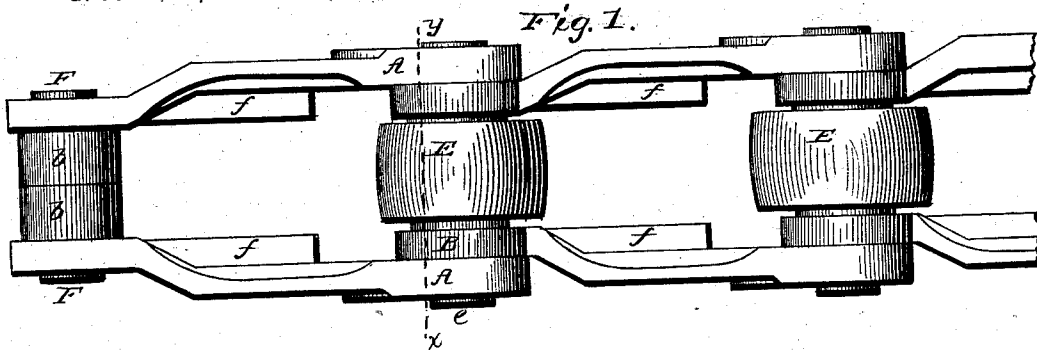
(No Model.)

B. A. LEGG.

CHAIN.

No. 282,536.

Patented Aug. 7, 1883.



Witnesses:  
Jno. H. Stockett  
Jos W. Calhoun.

Inventor:  
Benjamin A. Legg  
by Doubleday and Osborn  
attys

# UNITED STATES PATENT OFFICE.

BENJAMIN A. LEGG, OF COLUMBUS, OHIO, ASSIGNOR TO JOSEPH A. JEFFREY,  
OF SAME PLACE.

## CHAIN.

SPECIFICATION forming part of Letters Patent No. 282,536, dated August 7, 1883.

Application filed December 11, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, BENJAMIN A. LEGG, 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 Chains, of which the following is a specification, reference being had therein to the accompanying drawings.

Figure 1 is a plan view of my improved chain. Fig. 2 is a side view, two of the links being in position to be detached. Fig. 3 is a transverse section on line *xy*, Fig. 1. Fig. 4 is a detached view of the connecting spindle or pin, and Fig. 5 is a detached view in perspective of one of the side bars.

The invention has for its object the construction of a detachable driving-chain in such manner that the parts may be readily connected with each other and disconnected when placed in certain arbitrarily-selected positions.

In the drawings, *A a* represent one of the side bars, the part *a* constituting an angular shank, which connects the parts *A B* with each other, and may occupy an inclined position relative to the parts *A B*, as shown; or the bar may be constructed with a right-angled shoulder at this point, either construction subserving a purpose which will soon be explained. The part *A* is provided with a key-hole-shaped opening, *C*, and the part *B* is provided with a lateral tubular projection, *b*.

*f* is a web upon the inner face of the side bar.

*D d d e e* is a spindle or pin, the central portion, *D*, of which is round in cross-section, the ends *d d* being squared in cross-section, or, when preferred, they may be made with three flat sides, two of which are at right angles to the third, the fourth side being circular, and by preference of the same curve as the part *D*. *e e* are circular flanges upon the outer ends of the parts *d d*, and preferably of the same diameter as the central part *D*.

*E E* is an anti-friction roller.

By an examination of the drawings it will be readily understood that the chain may be put together in the following manner: Place the inner ends of two of the tubular parts *b b* in contact with each other and thrust the spindle *D* through them. Then slip the circular part *C* of the key-hole-shaped opening over

the flanged end *e* of the spindle, the bar thus added being held at a right angle to the other pair of bars. Next move this newly-added bar longitudinally until the squared part *d* is drawn into the angular portion *c* of the key-hole-shaped opening. Another side bar is then applied in like manner to the opposite end of the spindle, after which this newly-added pair of side bars may be swung into line with the first-named pair, the operation being continued until a chain of the desired length is formed.

Upon an inspection of Fig. 1 it will be readily understood that while the links are in substantially the position there shown the engagement of the parts *a a* with the opposing ends of the parts *A A* retain the squared ends *d d* of the spindles in the angular portions *c c* of the key-hole-shaped openings, and hence the ends *A A* cannot spread apart or slip off from the parts *d d* by reason of the flanges *e e*.

When it is desired to use anti-friction rollers *E E*, they must be placed upon the tubular extensions *b b* before the spindles are thrust through said parts *b b*.

The webs *f f* serve not only to strengthen the side bars, but also to form guides adapted to engage with opposite sides of the sprocket-wheel spurs, and thus insure that the chain shall run steadily, and that the anti-friction rollers or the tubular extension *b b* shall properly engage with the working-faces of the teeth.

I do not wish to be limited to forming a tubular projection, *b*, upon the inner faces of both of the side bars, which are placed next to the part *D* of the spindle, because the tubular extension upon one side bar of the pair might be made as long as the anti-friction roller is wide, the other side bar of the pair being provided with a round hole or seat corresponding in diameter to the portion of the spindle.

By making the side bars separable, as above indicated, whether the tubular portion be formed in two parts or be formed wholly in the same piece with one of the side bars, I secure some very important advantages. Again, I am enabled to mount an anti-friction roller upon the tubular end bar of each and every link in the chain. Another difference in operation between my chain and any preceding

one of which I have knowledge is this: In my construction the pintle, in addition to forming a pivotal connection between two adjacent links and being so connected at its ends to the side bars that it shall vibrate with said bars, also serves to hold in close contact the adjacent ends of the divided tubular end bar, and thereby prevents the side bars themselves from spreading, it being apparent that were it not for the projecting flanges or an equivalent therefor at the ends of the pintle, it would be possible in ordinary use for the divided tubular end bar and the separable side bars to spread to such an extent that the entire chain would fall apart.

What I claim is—

1. In a drive-chain, the combination of the separable parallel side bars, each having a key-hole-shaped opening in one end and separable tubular bearing for the pintle at the other, and the pintle provided at its ends with

lateral projections, said pintle being seated in the tubular end bar and the key-hole shaped openings and operating to retain the tubular bearing and the separable side bars in close contact, substantially as set forth.

2. In a drive-chain, the combination of the separable side bars, each having a key-hole-shaped opening in one end and the separable tubular bearing in the other, with the anti-friction roller, and the pintle provided at its ends with lateral projections, and operating as a pivotal connection for the links, and also to retain the tubular bearing, the separable side bars, and the anti-friction roller in proper working relation, substantially as set forth.

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

BENJAMIN A. LEGG.

Witnesses:

JOHN M. TIBBETTS,

WM. BELL, Jr.