(No Model.)

E. SCHENCK.

DRIVE CHAIN.

No. 382,057. Patented May 1, 1888.

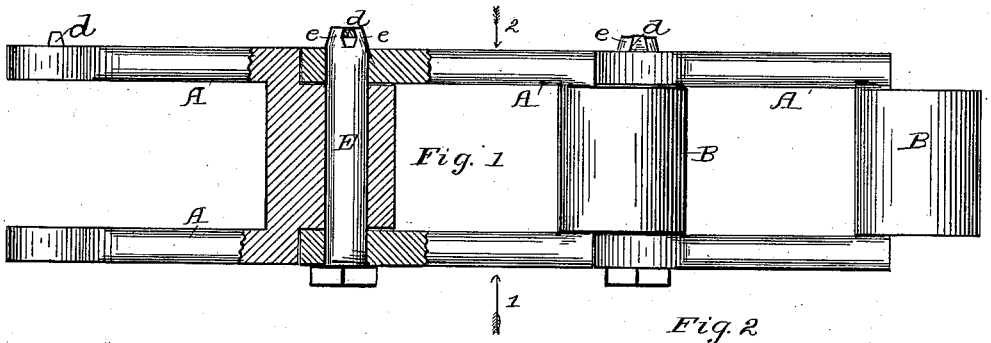

Fig. 1

Fig. 2

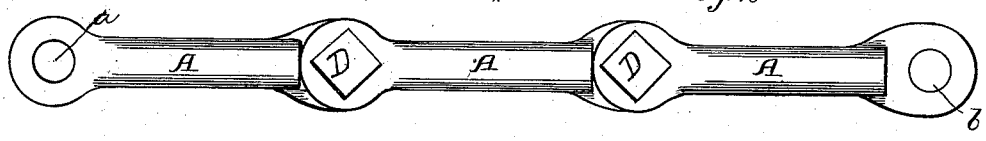

Fig. 3

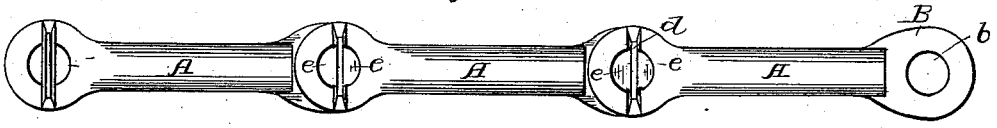

Fig. 4

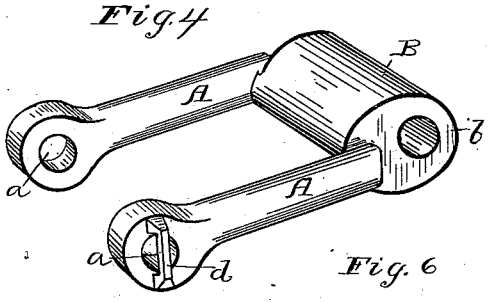

Fig. 6

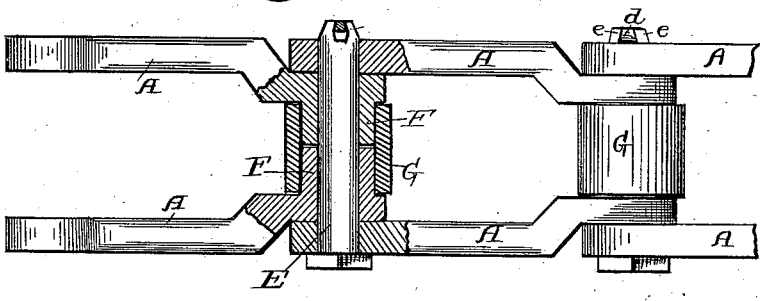

Fig. 5.

Witnesses:

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Inventor:

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UNITED STATES PATENT OFFICE.

EDWARD SCHENCK, OF COLUMBUS, OHIO, ASSIGNOR TO THE LECHNER MANUFACTURING COMPANY, OF SAME PLACE.

DRIVE-CHAIN.

SPECIFICATION forming part of Letters Patent No. 382,057, dated May 1, 1888.

Application filed October 16, 1886. Serial No. 216,451. (No model.)

To all whom it may concern:

Be it known that I, EDWARD SCHENCK, 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, partly in section, of a chain containing my invention. 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 perspective view, detached and enlarged, of one of the links. Fig. 5 is an elevation of the pintle. Fig. 6 is a modification.

Like letters indicate like parts in all the figures.

A A are the side bars, and B the tubular end bar, provided with a pintle-seat, *b*, which is of circular form in cross section and of practically uniform diameter throughout. The free ends of the side bars are expanded and provided with pintle-seats *a a*, which are preferably circular in form in cross section and of the same diameter as the pintle-seat *d*. The pintle-seats *a a* are both alike, but there is combined with one of them a stop-bar, *d*, upon the outer face of the end bar and cast integral therewith. The stop is preferably wedge shape in cross-section, as is indicated clearly at *d d*, Fig. 1, with its base or widest portion inward, its narrower part or edge, in case it be made triangular, projecting outward from the side bar, for a purpose which will be explained.

E is the pintle, circular throughout in cross-section, except at its end, where it is provided with a slot to straddle the stop *d*, thus leaving two projecting spurs or tangs, *e e*, one on either side of the slot and forming one wall thereof. At the opposite end of the pintle it is expanded into a button-head or other equivalent lateral projection, to prevent its being driven too far through the links. As will readily be understood from an examination of the drawings, these links and pintles can be readily put together to form a chain by placing the tubular end bars between the free ends of side bars in such position that their pintle-seats shall register, then thrusting the pintles into the seats and afterward bending the ends of the tangs *e e* over upon the stop *d* to such extent as will prevent the pintles from being accidentally moved backward. The engagement of the tangs with the stop will also prevent rotation of the pintles relative to their seats in the end bars, and thus practically preventing wear upon either of these parts, from the fact that the articulation will consist of the pintle and the tubular end bar.

The chain may be easily taken apart, when desired, by either bending backward the spurs or tangs *e e* to such distance that the pintles can be removed, or by cutting off or breaking off the tangs from the body of the pintle, which latter operation will sometimes be found the more convenient way of doing it.

Under ordinary conditions the pintles can be driven out by the use of a suitable "set" or punch; but in case it cannot be accomplished in this way the stop itself may be removed, in which case a punch the full size of the pintle in cross-section can be used.

In practice I prefer to make the slot in the end of the pintle somewhat V-shaped, to facilitate bending the ends of the tangs against the stop, which can be done without seriously weakening any of the parts, because the reduction in metal is made at a point where no serious strain or pull occurs under ordinary circumstances, although one of the useful functions of my pintle is to prevent the free ends of the side bars from spreading; but I do not wish to be limited to the use of a head D, either square or round, with links of the form shown in Figs. 1 to 5; but if a head is to be used I prefer it to be square, so that by the use of a wrench I can turn the pintle until the tangs will readily pass on either side of the stop, in case it be found desirable to do so in putting the chain together. Again, the head will frequently be found convenient in withdrawing the pintle by means of a claw or equivalent device.

In Fig. 6 the same construction of parts for preventing endwise movement of the pintle and for preventing its rotation relative to its seat, which has combined therewith the stop, is shown in combination with separable side

bars. In such chain the side bars are held from lateral spreading apart by means of the pintle-heads, the stops, and the tangs which engage with the stops. In this figure the construction of parts is substantially the same as that in the other figures, except that, instead of the tubular end bar, which unites two side bars into a U-shaped link, each side bar is provided at one end with an inward-projecting sleeve, F, the ends of the sleeves abutting and carrying a friction-roller, G.

I am aware that a drive-chain having a bar, V-shaped in cross-section, arranged transversely of the pintle-seat in one of the side bars and wholly within such pintle-seat, with a correspondingly-shaped expansion of the pintle-seat, in combination with a pintle having one end slotted and spread apart by the action of the wedge shaped bar as the pintle is being driven into position, is old, and hence do not claim such construction as my invention; but my chain possesses many advantages over such earlier construction. For instance, it is well known that chains of this character are frequently employed under circumstances where they are exposed to the action of water and other liquids, which rust or corrode them to such an extent that the pintles become united to their seats in the side bars so firmly that they are driven out only with difficulty, particularly where they are quite long and of large diameter, this being especially the case where the chain lies idle for quite long intervals. Now it is apparent that my pintles are much more easily removed by either cutting off the tangs or straightening them out than they would be if their ends were spread apart by the action of a wedge-shaped bar inserted bodily within the pintle-seat. Furthermore, by reason of the stop-bar being placed upon the outer face of the side bar, it is comparatively easy to remove the same and the tangs by the use of an ordinary cold-chisel or other tool, thus permitting the use of a punch or set of the same diameter as the pintle in cross-section. Again, in the form of chain shown in Fig. 6, having separable side bars, the pintle, having at one end a head and at its opposite end the tangs bent over the stop-bar, is very desirable because of the positive locking-support which it gives to the side bars against being spread apart when in operation.

I am also aware that a split or forked ended pintle has been used in combination with a washer, and that the split ends being spread outward against the adjacent surface of the washer is old, and therefore do not claim such construction as my invention.

What I claim is—

In a drive-chain, the combination, with the links provided in their ends with pintle-seats, and with stop-bars *d*, projecting from the outer faces of the side bars and crossing the pintle-seats, of the pintles round in cross-section and having their ends which project beyond the side bars slotted to form the tangs *e e*, said tangs being bent inward over the outer faces of the stop-bars, substantially as set forth.

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

EDWARD SCHENCK.

Witnesses:

ALEX. H. JOHNSON,

T. M. BIGGER.