

**No. 708,924.**

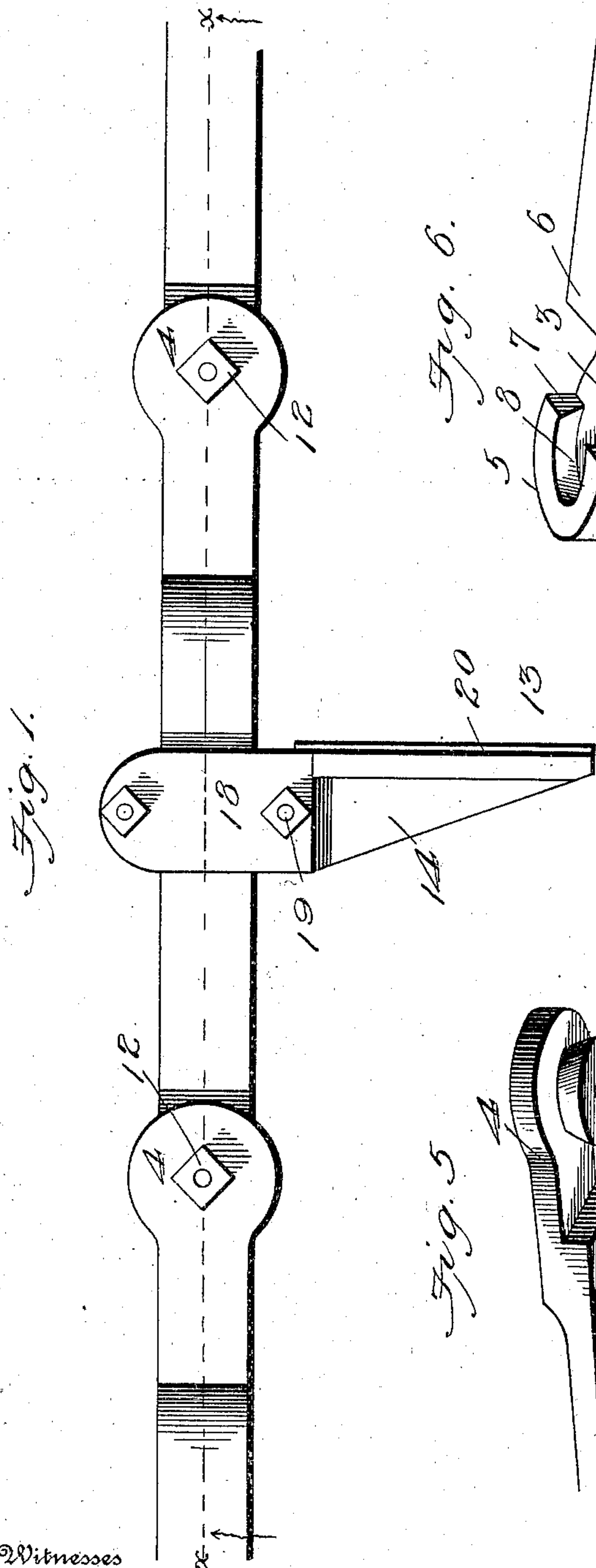
Patented Sept. 9, 1902.

**J. G. SCOTT & J. C. BRECKER.**  
**CONVEYER CHAIN.**

(Application filed Apr. 18, 1902.)

(No Model.)

2 Sheets—Sheet 1.



2 Witnesses

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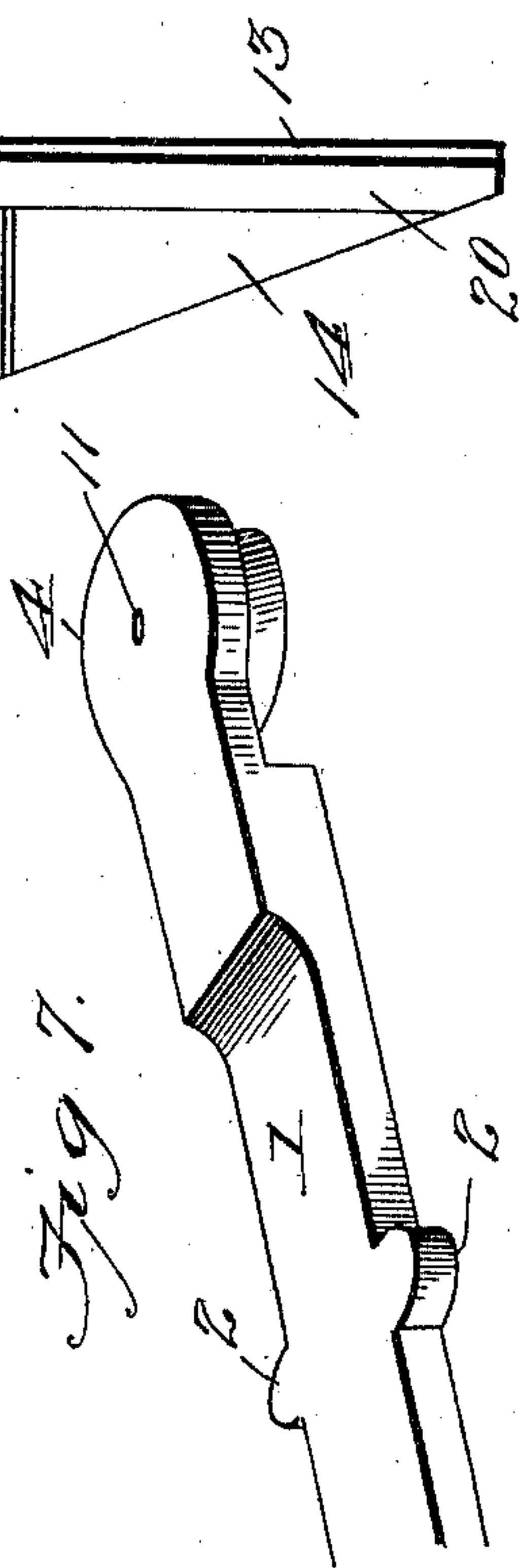
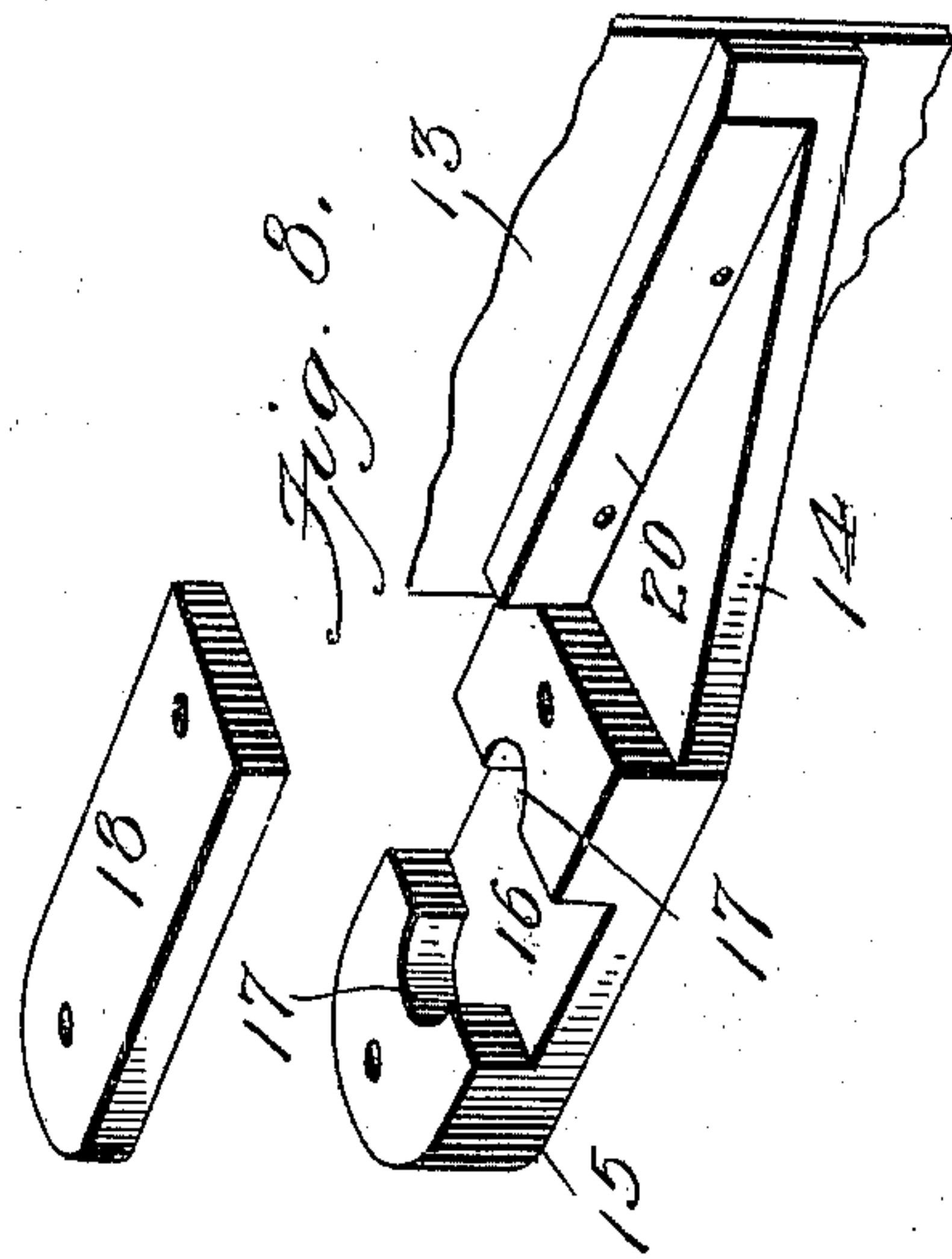
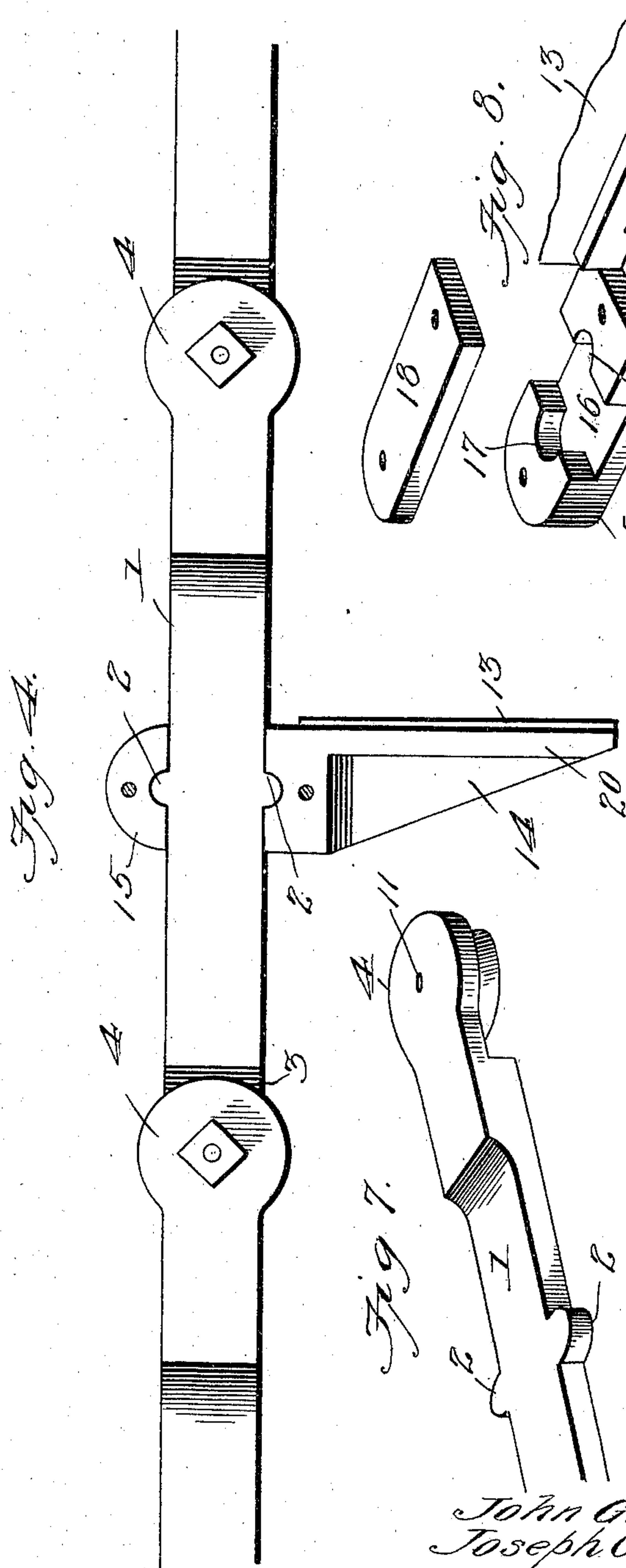
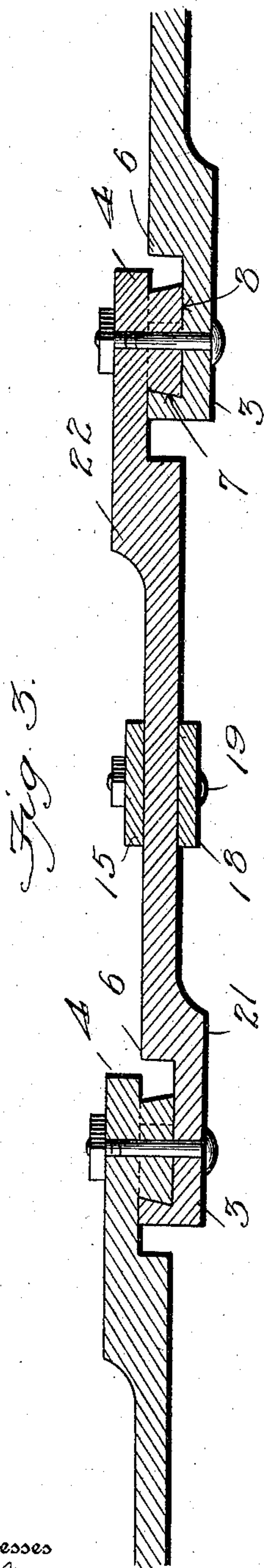
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Witnesses

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# UNITED STATES PATENT OFFICE.

JOHN G. SCOTT AND JOSEPH C. BRECKER, OF GIRARDVILLE, PENNSYLVANIA.

## CONVEYER-CHAIN.

SPECIFICATION forming part of Letters Patent No. 708,924, dated September 9, 1902.

Application filed April 18, 1902. Serial No. 103,612. (No model.)

*To all whom it may concern:*

Be it known that we, JOHN G. SCOTT and JOSEPH C. BRECKER, citizens of the United States, residing at Girardville, in the county of Schuylkill and State of Pennsylvania, have invented new and useful Improvements in Conveyer-Chains, of which the following is a specification.

Our invention relates to new and useful improvements in conveyer-chains, and is especially designed as an improvement upon those generally used in connection with coal-conveyers. The ordinary or open-link chains heretofore used have been found objectionable, because of the large amount of coal which becomes clogged within and between the links and is either crushed to powder and rendered practically useless or disables the apparatus by breaking the chain or throwing it from its sprockets. The continuous services of a special attendant have been found necessary in order to maintain the chain in working order. Moreover, in the forms of chains usually employed the links are secured together by rivets, which receive practically all the strain and are soon worn out.

The object of our invention is to overcome the above disadvantages by providing a chain formed of solid one-piece links having means of novel construction whereby the adjacent ends of the links interlock, but can be readily and quickly detached, as when it is desired to remove or replace a link.

A further object is to employ simple and inexpensive means whereby the flights or scrapers of the conveyer can be securely fastened to the chain-links.

With the above and other objects in view the invention consists in the novel construction and combination of parts hereinafter more fully described and claimed, and illustrated in the accompanying drawings, showing the preferred form of our invention, and in which—

Figure 1 is a side elevation of a section of the conveyer-chain. Fig. 2 is a bottom plan view thereof. Fig. 3 is a longitudinal section on line *x x*, Fig. 1. Fig. 4 is a view similar to Fig. 1 with the face-plate of the flight-arm

removed. Fig. 5 is a detail view of the stud end of a link. Fig. 6 is a similar view of the opposite or socket end of a link. Fig. 7 is a detail view of a link, showing the flight-arm-engaging lugs. Fig. 8 is a view of a flight-arm with its parts detached.

Referring to the figures by numerals of reference, 1 is a link formed in a single solid piece of metal and provided, preferably at the center of its top and bottom edges, with lugs 2, for the purpose hereinafter more fully described. The ends of the link are cut away on opposite sides, respectively, as shown at 3 and 4, and each is practically circular in form. One of the ends 3 is provided with a semicircular flange 5, which extends from the edge of its depressed face and the ends of which terminate at a distance from a shoulder 6, formed by the depressed or cut-away face. The inner face 7 of the flange 5 is inclined inwardly and forms a semicircular socket 8. The opposite end 4 of the link is provided with a laterally-extending stud 9, arranged concentric to the edge of said end, tapered inwardly from its outer end to fit snugly within a socket 8 of another link. All the links are similar in construction and are assembled by placing the studs 9 on the depressed ends 3 of the adjacent links and in rear of the flanges 5. The studs are then drawn forward into the sockets 8, and their inclined faces engage the inclined walls of said flanges and prevent disengagement unless forced backward. In order to prevent the accidental detaching of the links, as when the chain becomes very slack or is folded, we employ bolts 10, which pass loosely through apertures 11, formed in the centers of the ends 3 and 4 and are secured in position by means of nuts 12 or other suitable means which can be readily removed.

The flights or scrapers 13 are adapted to be secured to the links by means of arms 14. These arms each comprises a head 15, having a transverse recess 16 adapted to receive the link and the walls of which are cut away, at 17, to receive the lugs 2, hereinbefore referred to. A face-plate 18 is fitted over the recess 16 and the link therein and is secured



to the head 15 in any suitable manner, as by means of bolts 19. The arm 14 extends downward from the head 15, and the front straight edge thereof is provided with a flange 20, to which the flight 13 is adapted to be secured.

It will be seen that the flights are rigidly secured to the links, but in such a manner that they can be quickly and easily detached. The circular enlarged ends of the links are adapted to fit in recesses formed in a suitable sprocket, (not shown,) whereby the two are moved in unison. By examining the drawings it will be seen that the ends of the links are offset in opposite directions, respectively, as shown at 21 and 22. This is done in order to bring the bodies of the links in alinement with the line of draft.

In the foregoing description we have shown the preferred form of our invention; but we do not limit ourselves thereto, as we are aware that modifications may be made therein without departing from the spirit or sacrificing the advantages thereof, and we therefore reserve the right to make such changes as fairly fall within the scope of our invention.

Having thus fully described the invention, what is claimed as new is—

1. In a chain, a link formed in a single solid piece and having a depressed end, a flange partly inclosing said end, and an inclined wall to the flange forming a socket.

2. In a chain, a link having depressed ends, a semicircular flange partly inclosing one of said ends and forming a socket having its greatest diameter at the bottom, and a tapered circular stud extending laterally from

the other end of the link, said stud having its greatest diameter at its outer end.

3. In a chain, a link having enlarged offset ends depressed on opposite sides respectively, a semicircular flange partly inclosing one of said ends and forming a socket having its greatest diameter at the bottom, and a tapered circular stud extending laterally from the other end of the link, said stud having its greatest diameter at its outer end.

4. The combination with a link having depressed ends provided with a socket and stud respectively, of a lug upon the link, an arm, a head thereto having a recess for the reception of the link and lug, means for securing the head to the link, and a flight secured to the arm.

5. A chain comprising a series of links each having enlarged offset ends depressed on opposite sides respectively, a semicircular flange upon one end forming a socket having its greatest diameter at the bottom, a circular tapered stud at the other end of the link having its greatest diameter at its outer end, said stud being adapted to engage a socket and interlock therewith, a lug upon each link, and a flight-arm engaging each lug and its link.

In testimony whereof we affix our signatures in presence of two witnesses.

JOHN G. SCOTT.  
JOSEPH C. BRECKER.

Witnesses:

RICHARD AYRE,  
JOHN B. GRANGER.