

(No Model.)

I. FETTERS.
CAR COUPLING.

No. 547,248.

Patented Oct. 1, 1895.

Fig. 1.

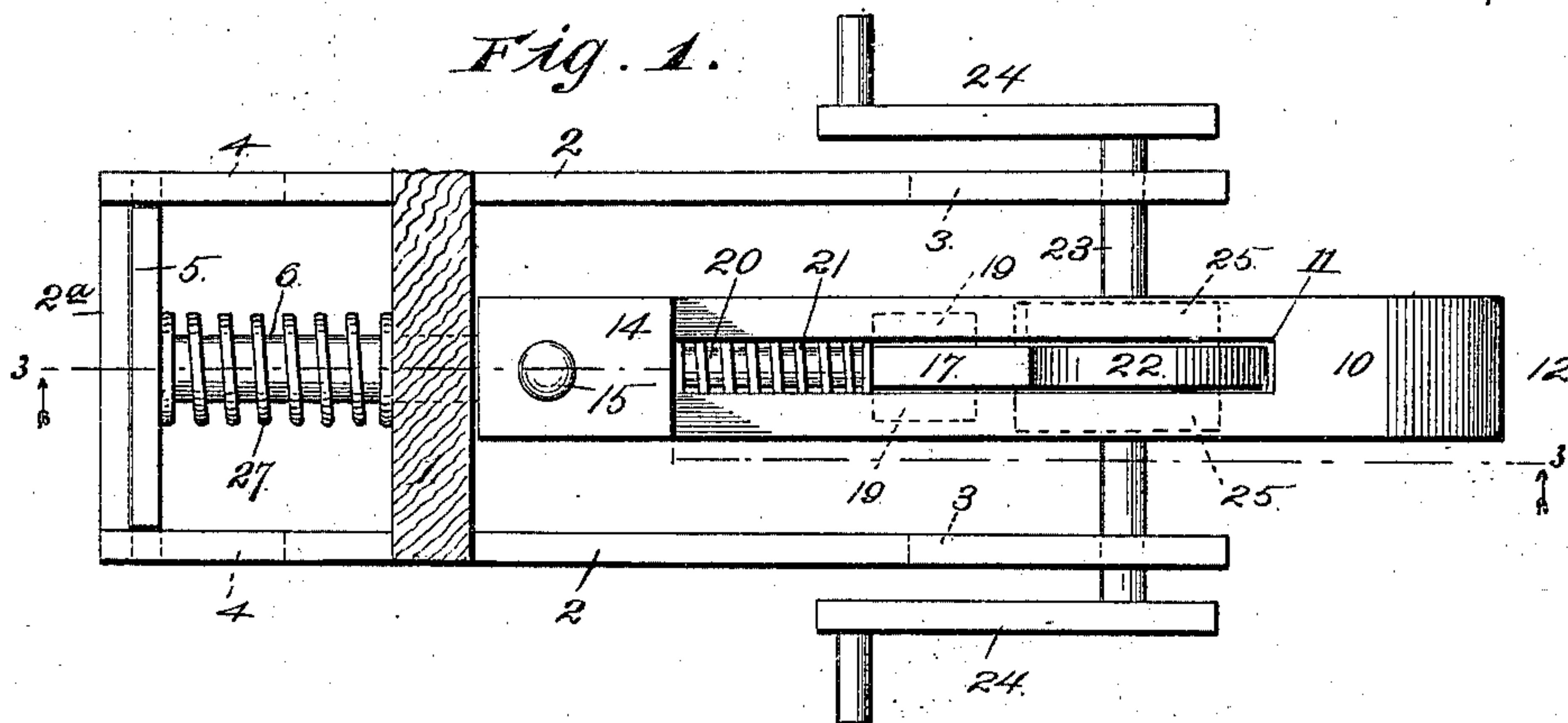


Fig. 2.

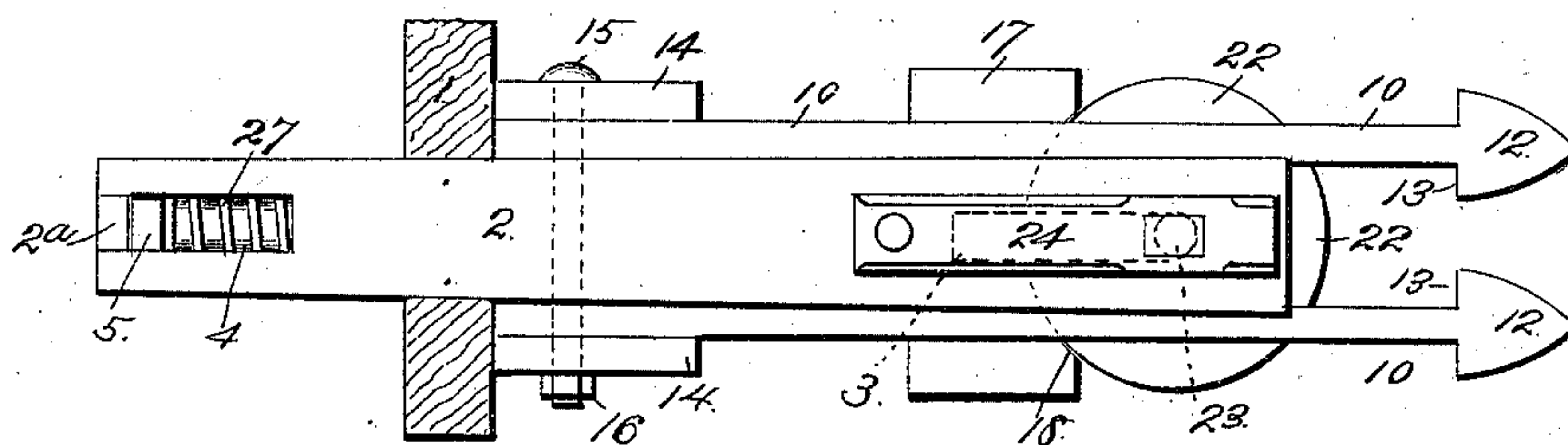
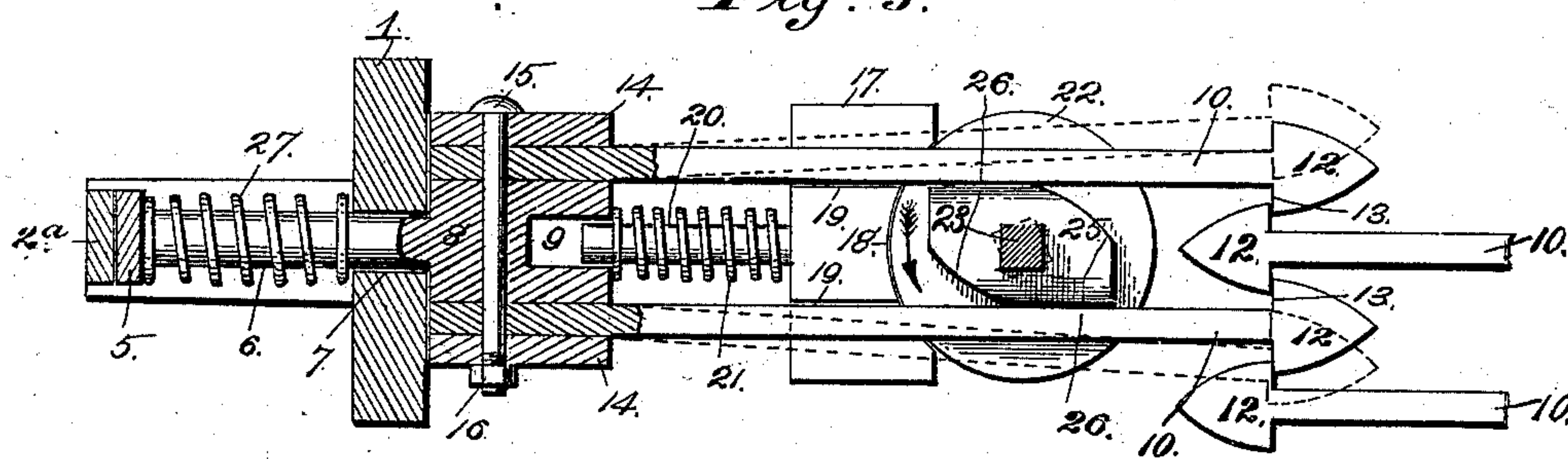


Fig. 3.



Witnesses:

F. G. Fischer
W. Thorpe

Inventor:

Isaac Feters,

By Higdon & Higdon,
Attys.

UNITED STATES PATENT OFFICE.

ISAAC FETTERS, OF ATTICA, KANSAS.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 547,248, dated October 1, 1895.

Application filed May 8, 1895. Serial No. 548,573. (No model.)

To all whom it may concern:

Be it known that I, ISAAC FETTERS, of Attica, Harper county, Kansas, have invented certain new and useful Improvements in Car-Couplers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part thereof.

My invention relates to car-couplers, and my object is to provide a coupler which is positive and reliable in its operation and may be easily and quickly uncoupled when required.

A further object is to provide a car-coupler which is simple, strong, durable, and inexpensive of construction.

With these objects in view the invention consists in certain novel and peculiar features of construction and combinations of parts, as will be hereinafter described and claimed.

In order that the invention may be fully understood, I will proceed to describe it with reference to the accompanying drawings, in which—

Figure 1 represents a plan view of a car-coupler embodying my invention. Fig. 2 represents a side elevation of the same, and Fig. 3 represents a vertical section taken on the line 3 3 of Fig. 1.

In the said drawings, 1 designates a vertically-arranged block or portion depending from a car, (not shown,) and secured in recesses at opposite sides of the same are longitudinally-extending and horizontal side bars 2, which are joined together at their rear ends by a cross-bar 2^a, and are provided at their front ends with longitudinal slots 3. (Shown in dotted lines.) Said side bars at their rear ends are also provided with longitudinal slots 4, in which the opposite ends of a cross-head 5 fit. Projecting centrally and forwardly from the cross-head 5 is the stem 6 of a block 8. Said block 8 rests against the front side of the portion 1, and the stem 6 projects through an opening 7 in said portion. The block 8 is provided in its front side with a longitudinal and cylindrical cavity or recess 9. Fitting upon the upper and lower sides of the block 8 are the rear ends of the forwardly-extending arms 10 of spring-steel, and said arms are provided with the longitudinal slots 11 and terminate at their front ends in arrow-heads

12, so as to form the rearwardly-disposed shoulders 13. Said spring-arms are interposed between said block 8 and the plates 14, which are clamped firmly in position by the bolt 15 and the clamping-nut 16. A follower 17 projects at its upper and lower ends through the elongated slots 11 of the spring-arms 10, and is concaved in its front side, as shown at 18. Said follower is also laterally widened at each side (see Figs. 1 and 3) to form the shoulders 19, which fit snugly against the opposing surfaces of the arms 10 and prevent the dislocation of said follower. A longitudinal stem 20 projects from the rear side of said follower and has its rear end engaging the guide cavity or recess 9 of the block 8. A spiral spring 21 surrounds said stem and bears at its opposite ends against the block 8 and the follower and tends to hold the latter always in its advanced position, as shown in Fig. 3. A vertically-arranged disk 22 snugly engages the segmental surface 18 of said follower and projects through slots 11 of said arms 10, and is mounted rigidly upon the rock-shaft 23, provided with crank-arms 24 upon its opposite ends. Formed at opposite sides of said disk, or secured thereto or upon the shaft 23 in any suitable manner, are the wedge-blocks 25, forming parallel flat surfaces which terminate in cam or eccentrically-extending surfaces 26. At all times, except when the device is in the act of coupling, said flat shoulders lie contiguous to the opposing faces or arms 10, as shown clearly in Fig. 3, so that the spring-arms are permitted to extend parallel with each other.

When two cars provided with my improved couplers come together, one arrow-head 12 of each coupler engages and passes between the arrow-heads of the opposing coupler, as shown clearly in Fig. 3, and of course during this operation the arms of each coupler are sprung apart, as shown in dotted lines, Fig. 3. In said figure the action of one set of arms only is shown by dotted lines. In case the arrow-heads of said arms in the coupling operation should pass by each other a sufficient distance they will come in contact with the disks 22 of said couplers, and will be cushioned by the coiled springs 21 of the followers. Only one of said springs 27 is shown, and it bears at its opposite ends against the cross-head 5 and the

depending portion of the car. The springs 21 permit the follower-block, together with the shaft, disk, wedge-blocks, and crank-arms, to yield under the action of the arms of the opposing coupler.

When cars connected by my improved couplers are started there is no sudden wrench or strain on the couplers or cars, owing to the fact that the arms 10 move bodily forward a slight distance, the springs 27 yielding slightly to permit this forward movement. In this operation the cross-head 5 slides forward in the slots 4, as will be readily understood.

To uncouple, the operator, by grasping one of the crank-arms, turns the shaft 23 by applying his weight thereon, or in any other suitable manner, and springs the arms 10 apart by engaging therewith the curved cam or eccentric surfaces 26 of the wedge-blocks, so that the cars may be readily drawn apart, as will be understood.

From the above description it will be apparent that I have produced a car-coupler which is positive and reliable in operation, and simple, strong, durable, and inexpensive of construction.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A car-coupler, comprising parallel side-bars rigidly connected to a portion depending from a car, and slotted at their front ends, a cross-bar connecting the same, a block, spring-arms bolted thereto and terminating at their front ends in arrow-heads, a spring-actuated follower projecting through longitudinal slots in said spring-arms, a rock-shaft projecting through the slots of the side-bars, a disk mounted thereon and engaging said follower and projecting through the slots of said arms, wedge-blocks having cam or eccentrically curved surfaces, and crank-handles mounted upon said rock-shaft, substantially as set forth.

2. A car-coupler, comprising a pair of slotted side-bars, a bar connecting their rear ends, a depending portion of a car connecting said bars at a suitable point, a block arranged at the front side of said depending portion, having a recess or cavity in its front side, spring-arms bolted at their rear ends upon said block and terminating at their front ends in arrow-heads and provided with longitudinal slots, a follower projecting through the slots of said

arms having a concaved front face and a rearwardly projecting stem, which enters the cavity or recess of said block, an expansion-spring interposed between said block and said follower, a rock-shaft projecting through the slotted side-bars provided with wedge-blocks and with a disk which engages the concaved side of said follower and projects through the slots of said arms, and crank-arms carried by said rock-shaft, substantially as set forth.

3. A car-coupling, comprising parallel side-bars which are secured rigidly to a depending portion of a car and project both rearwardly and forwardly therefrom, and are provided with longitudinal slots both at their rear ends and at their front ends, a cross-bar connecting said parallel side-bars at their rear ends, a block arranged at the front side of said depending portion of the car and provided with a stem which projects rearwardly through an opening in said depending portion, and with a cross-head at the rear end of the said stem, which engages the slots at the rear ends of the side-bars, a spring encircling said stem and bearing at its opposite ends against said cross-head and said depending portion of the car, a pair of spring-arms resting upon the upper and lower sides of said block and terminating at their front ends in arrow-heads, plates upon said arms, a bolt extending through said plates, said arms and said blocks, a nut engaging the threaded end of said bolt, a rock-shaft projecting through the front slots of said side-bars, a disk mounted rigidly thereon and projecting through longitudinal slots in said spring-arms, wedge-blocks carried by said disk and said shaft, a follower also projecting through the slots of said spring-arms and provided with shoulders which rest against the opposing faces of said spring-arms, and with a rearwardly projecting stem which enters a cavity in the block carrying the spring-arms, and a spring spirally encircling said stem and bearing at its opposite ends against said block and the follower, substantially as set forth.

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

ISAAC FETTERS.

Witnesses:

J. D. BRADLEY,

J. A. SQUIRES.