No. 885,618. PATENTED APR. 21, 1908.

M. A. HEFFNER.

GATHERING AND LOADING FORK.

APPLICATION FILED JULY 10, 1907.

2 SHEETS—SHEET 1.

Fig. 1.

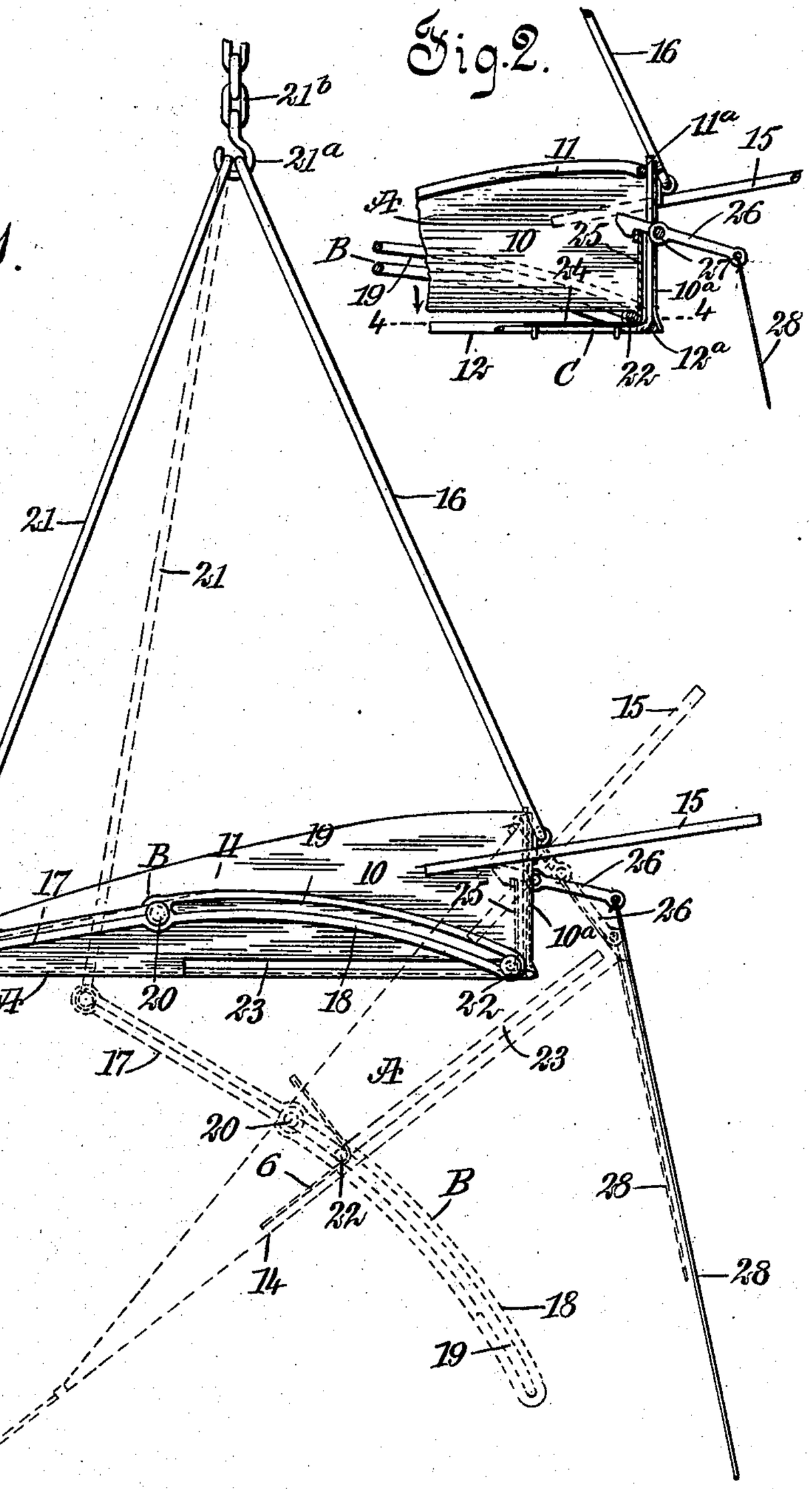

Fig. 2.

WITNESSES

Marlene Browne

H. E. Acker

INVENTOR

Marius A. Heffner.

BY Munn & Co

ATTORNEYS.

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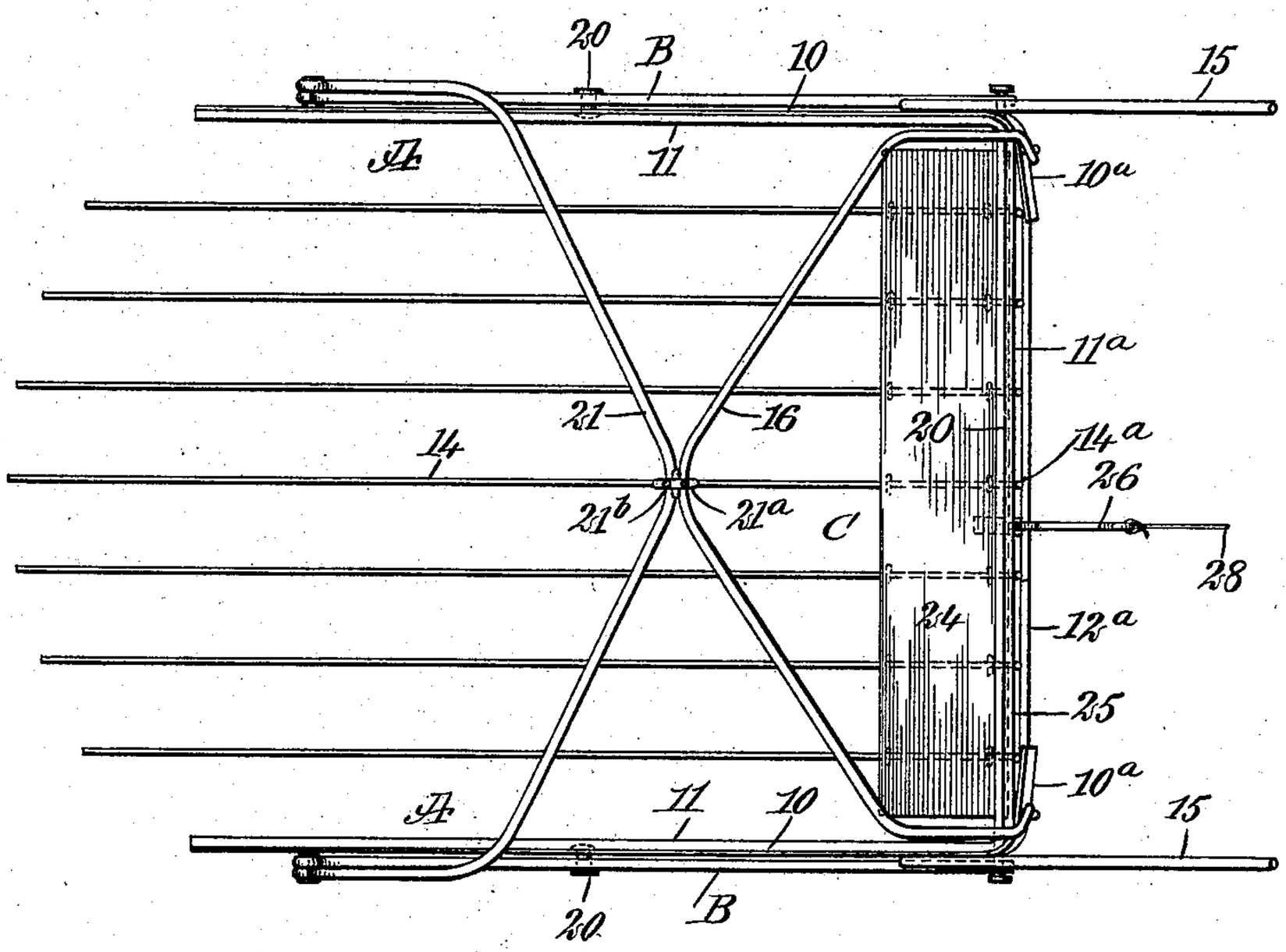
2 SHEETS—SHEET 2.

Fig. 3.



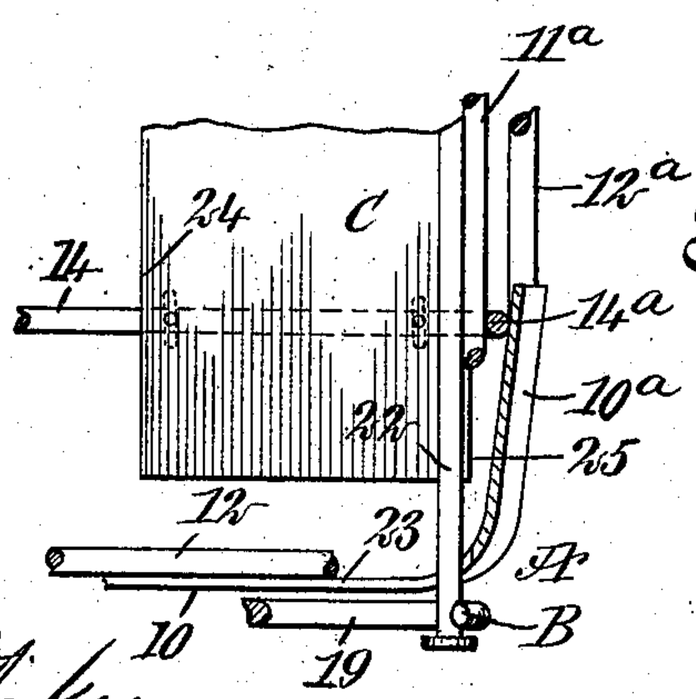


Fig. 4.

WITNESSES

Anthony Browne.

Fred. C. Ackerman.

INVENTOR

Marius A. Heffner.

BY Munn & Co

ATTORNEYS.

UNITED STATES PATENT OFFICE.

MARIUS AMEDE HEFFNER, OF NEAR ARENZVILLE, ILLINOIS.

GATHERING AND LOADING FORK.

No. 885,618. Specification of Letters Patent. Patented April 21, 1908.

Application filed July 10, 1907. Serial No. 383,068.

To all whom it may concern:

Be it known that I, MARIUS A. HEFFNER, a citizen of the United States, and a resident near Arenzville, in the county of Morgan and State of Illinois, have invented a new and useful Improvement in Gathering and Loading Forks, of which the following is a full, clear, and exact description.

The purpose of the invention is to provide a simple, durable and readily operated dumping fork for gathering and loading such material as manure, hay and grain, and to so construct the fork that an operator may conveniently release the carrying or load sustaining section of the fork from its locking device while said fork is elevated, while at such time the weight of the load will automatically carry the fork to dumping position.

It is a further purpose of the invention to provide the fork with a scraper, which as a load is dumped will automatically pass over the said load sustaining section, cleaning the same while assisting also in the discharge of the load.

Another purpose of the invention is to so construct the fork, that when it reaches the ground its load sustaining section willl be automatically restored to carrying position and the scraper to its normal position.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth and pointed out in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of the improved fork, illustrating it in full lines in carrying position and in dotted lines in dumping position; Fig. 2 is a detail vertical section through the rear portion of the fork, the parts being in carrying position; Fig. 3 is a plan view of the improved fork; and Fig. 4 is a detail sectional plan view of a rear corner portion of the fork, the section being taken practically on the line 4—4 of Fig. 2.

In the construction of the fork, two side sections A are provided, and each side section consists of a plate 10 having a straight lower edge and an upper edge that inclines or curves from the back downward and forward, practically meeting at its forward end the lower edge, as is shown in Fig. 1. These two side sections A are strengthened and connected by upper and lower substantially U-shaped bars designated respectively as 11 and 12. The side members of the upper bar extend along the upper inclined edges of the plates 10 at their inner faces, and the corresponding members of the lower bar are carried correspondingly along the lower edges of the said plates. The bow sections of the said bars 11 and 12, designated respectively as 11^a and 12^a, form the rear portion of the frame of the fork, and the lower bow section 12^a extends further rearward than does the upper bow section 11^a, whereby these two sections are out of vertical alinement, and the forward ends of the side members of the strengthening and connecting bars 11 and 12 are brought together at their forward ends and secured in any suitable and approved manner, as is shown in Fig. 3, rendering the forward ends of the side sections A practically pointed.

The load sustaining section of the fork consists of a series of tines 14 that extend in parallelism at suitable distances apart between the side sections A, and these tines 14 are graduated in length, the central ones being longest, and those adjacent the side sections A the shortest, as is shown in Fig. 3, and each tine 14 is provided at its rear end with an upwardly extending member 14^a, and these upwardly extending members of the tines 14 are passed to an engagement with the inner faces of the bow section 12^a of the lower connecting bar 12, and engage with the rear or outer face of the bow section 11^a of the upper connecting bar 11, as is shown in Fig. 4, and the said extensions 14^a of the tines are riveted, or otherwise secured, to the rear portions of the connecting bars 11 and 12. It may be here stated that the rear ends of the plates 10 of the side sections A are bent inwardly in direction of each other, to form corner extensions 10^a, and the outer tine extensions 14^a in addition to being attached to the connecting bars 11 and 12 are also secured to the aforesaid corner extensions 10^a, as is illustrated in Figs. 2 and 4. A suspension bail 16 is pivotally attached to the corner extensions 10^a of the side sections A.

In addition to the body portion of the fork just described, two rocker arms B are vertically located, one at the outer face of each plate 10 of the side section, and each rocker arm consists of a forward straight bar section 17, and a rear section 18 downwardly and rearwardly curved, which curved section 18

is provided with a longitudinal slot 19. These rocker arms are pivoted to the side sections A of the fork by means of pivot pins or studs 20, that are passed loosely through eyes located adjacent to the forward ends of the slots 19 in the said rocker arms, and are secured in any suitable or approved manner to the side sections A of the fork. A second suspension bail 21 is pivotally attached to the forward ends of the bar members 17 of the rocker arms B, the two bails 16 and 21 when the fork is to be hoisted, being brought together at their upper ends so as to be received by a hook 21^a connected with any hoisting mechanism 21^b. The pivots 20 for the rocker arms B are located at such a point between the center of the side sections A and the rear portion of the fork, that the preponderance of weight of the load sustaining section will be in direction of its forward end enabling the entire body under the influence of the load to be carried by said load to a dumping position unless locked to the rocker arms in the manner hereinafter described.

A bar 22 is passed loosely through longitudinal slots 23 made in the side sections A adjacent their ends, the slots extending from a point practically beneath the pivots 20 to the corner extensions 10^a of said side sections, as is best shown in Fig. 1. A scraper C is secured to this bar 22, which scraper is angular in cross section, comprising a lower horizontal member 24 that rests and is adapted to slide upon the tines 14 of the fork, and a rear vertical section 25, and when the body of the fork is in a horizontal or carrying position, as is shown in positive lines in Fig. 1, and in Figs. 2 and 3, the vertical member 25 of the scraper C will engage with the forward faces of the vertical extensions 14^a of the tines, being then practically below the bow section 11^a of the upper connecting bar 11, as is indicated in dotted lines in Fig. 3, and is more clearly shown in Fig. 4.

The rocker arms are locked in their normal position shown in full lines in Fig. 1, by means of a latch 26 which is fulcrumed upon a suitable support 27 at the rear portion of the body of the fork, and the head of this latch when the fork is in carrying position, engages with the upper edge of the vertical member 25 of the scraper, thus locking the scraper to the body, and at the same time locking the rocker arms against movement so that at such time both bails have simply a lifting action. When, however, the load is to be dumped, the latch 26 is unlatched from the scraper C by drawing upon a downwardly extending attached rope 28, or its equivalent, and at such time the weight of the load on the sustaining section of the fork being greatest at its forward end will cause the forward portion of the fork to drop downward and as a fork is tilted the rocker arms at their forward ends will move slightly downwards, assisting to produce the downward or dumping position of the fork, and as the said rocker arms are thus depressed at their forward ends, their rear ends are carried upward and forward and cause the scraper C to move with them across the upper face of the load sustaining section of the fork to the extent of the length of the slots 23, and in thus moving the vertical section or member 25 of the scraper assists in forcing the load off from the tines, while the forwardly extending horizontal member or section 24 serves to clean the tines. The latch 26 is of such construction that the preponderance of weight is forward of its pivot, thus enabling the head of the latch to be always in position for locking engagement with the scraper.

When the fork is lowered to receive another load, as soon as the tines strike the ground they will be restored to their normal horizontal position and will lock in such position automatically by the aforesaid latch 26. The bail 21 is then released from the hoisting chain or cable 21^b, and the latter is slackened, and the said bail 21 is then carried forward and attached to any draft device, the fork being guided in its loading operation by an operator grasping the handles 15.

In order to insure the horizontal member 24 of the scraper traveling close to the tines 14 at all times, clips may be carried at the under face of said member to loosely receive sundry of the tines as is shown in dotted lines in Fig. 3.

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

1. In a gathering and loading dump fork, the combination with a pivotally mounted fork and suspension bails pivotally connected with the fork, of a latch for holding the fork in carrying position, and a scaper mounted for movement over the tines of the fork when in dumping position.

2. A gathering and loading dump fork comprising a body section, a movable load sustaining section carried by the body, a latch designed to normally hold the load sustaining section in carrying position, and suspension bails for the fork.

3. In a gathering and loading dump fork, a body section, rocker arms to which the body section is pivoted, a suspension bail pivotally attached to the body at its rear, a second suspension bail pivotally attached to the rocker arms, and releasable means for locking the body to the rocker arms.

4. In a gathering and loading dump fork, a body section, rocker arms to which the body section is pivoted at a point between the center and the rear of the said body, a suspension bail pivotally attached to the rear portion of the body, a second suspension bail pivotally attached to the forward ends of the rocker arms, a scraper having sliding

movement over the bottom of the fork, operated to and from the back portion of the fork by the movement of the rocker arms, and releasable means for locking the rocker arms and scraper carried thereby to the body.

5. In a gathering and loading dump fork, the combination with a body provided with a latch device at its rear, handles at it rear portion, and a suspension bail pivotally attached to said rear portion of the body, the said body at its lower side portion being provided with longitudinal slots, of rocker arms located at the sides of the side portions of the body, the said body being pivoted to the said rocker arms at a point between the center of the body and its rear portion, each rocker arm consisting of a substantially straight bar section extending forward of the said pivot, and a downwardly and rearwardly inclined curved section, which curved section is provided with a slot, pivots for the body, adjacent to the slot, a bar passed through the slots in the said body, and through the slots in the said rocker arms, and a scraper carried by the said bar adapted for movement over the bottom of the body, and having a member adapted for engagement with the said latch when the scraper is at the rear of the body.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

MARIUS AMEDE HEFFNER.

Witnesses:

HOWARD ZALM,

GEO. ENGELBACH.