No. 874,532. PATENTED DEC. 24, 1907.

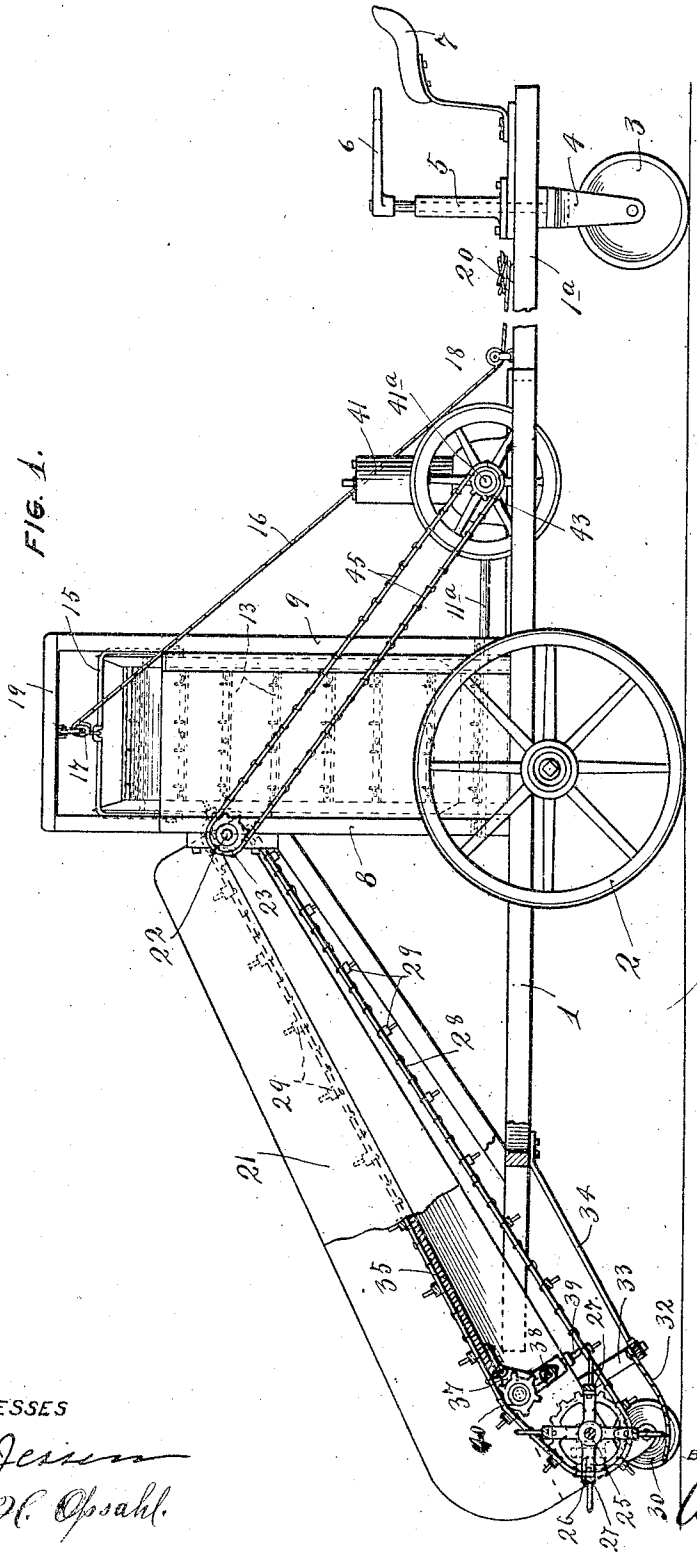
W. J. OHM.

LOADING MACHINE.

APPLICATION FILED DEC. 31, 1906.

3 SHEETS—SHEET 1.

FIG. 1.



WITNESSES

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2 SHEETS—SHEET 2.

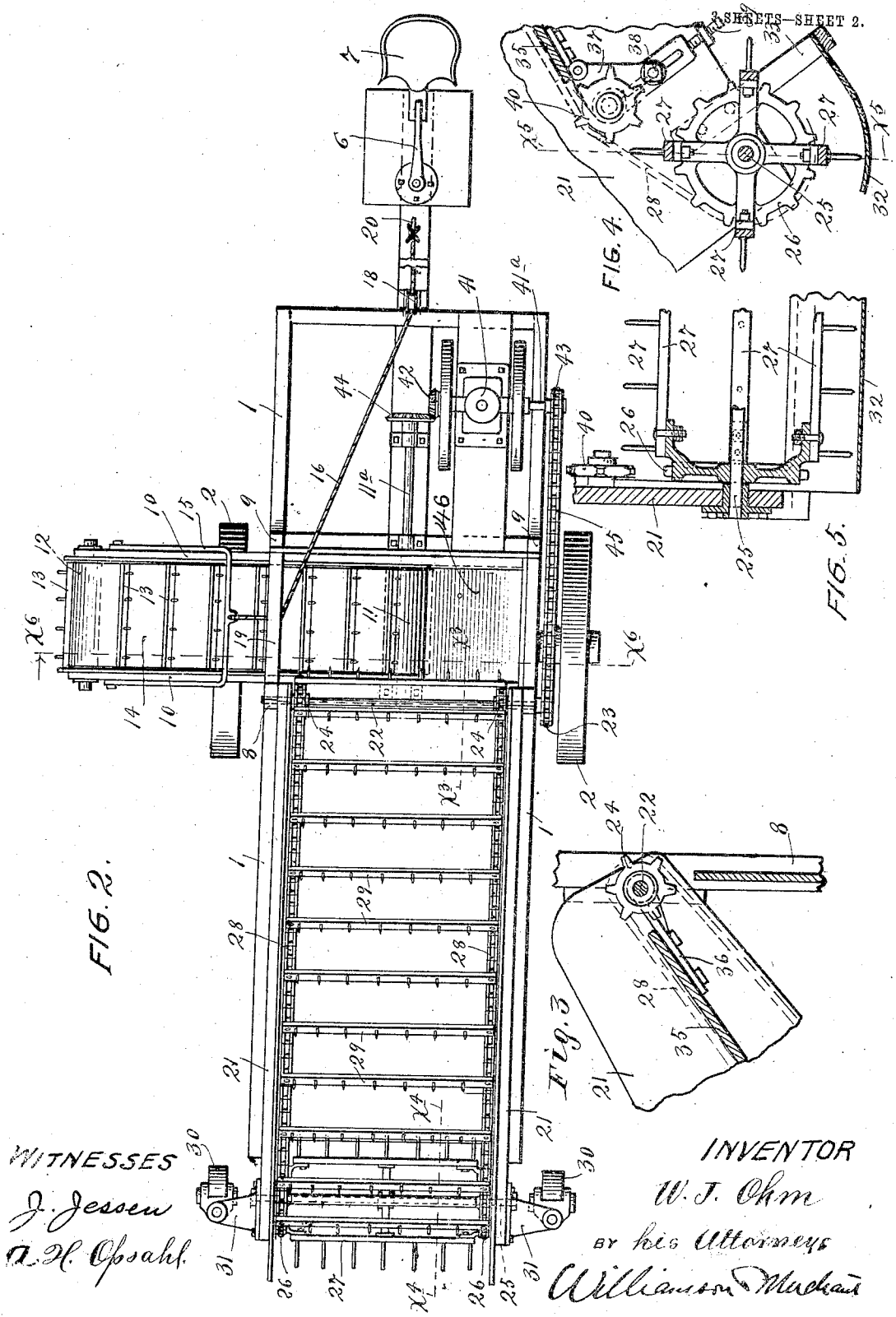


FIG. 2.

FIG. 4.

FIG. 5.

Fig. 3

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3 SHEETS—SHEET 3.

FIG. 6.

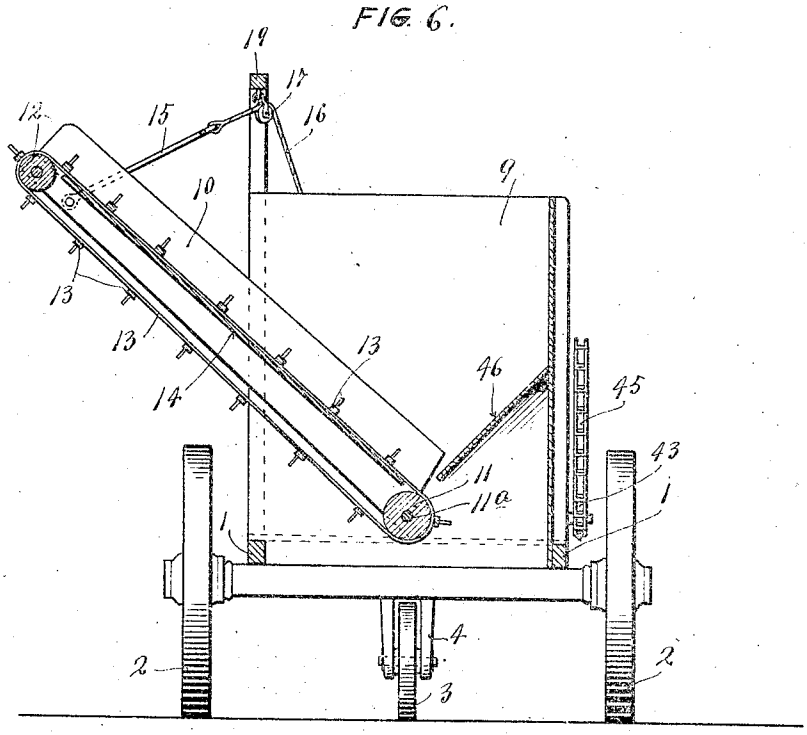
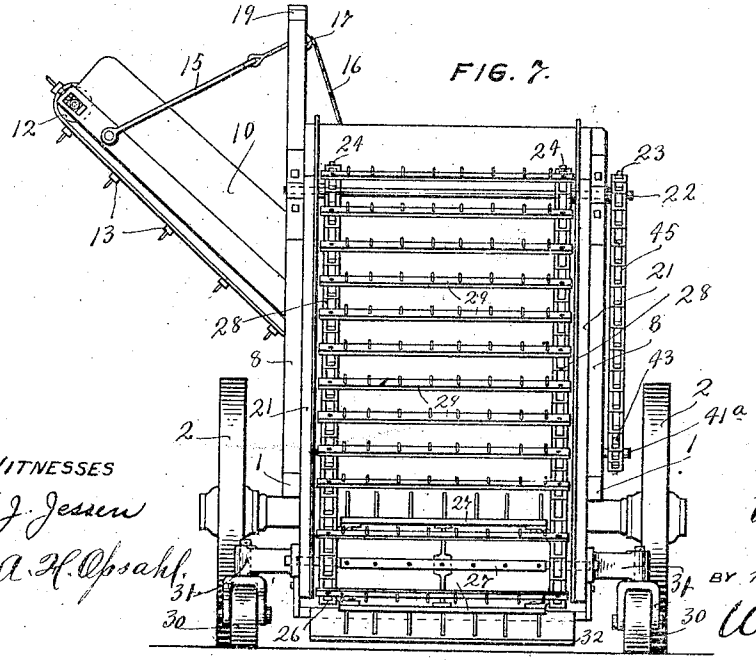


FIG. 7.



WITNESSES

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UNITED STATES PATENT OFFICE.

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LOADING-MACHINE.

No. 874,532. Specification of Letters Patent. Patented Dec. 24, 1907.

Application filed December 31, 1906. Serial No. 350,107.

To all whom it may concern:

Be it known that I, WILLIAM J. OHM, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Loading-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has for its object to provide a simple and efficient device for picking up shocks or bundles of grain, winnows or cocks of hay, and the like, and depositing the same in a suitable receptacle such as a wagon driven along by the side of a loading machine.

To the above ends, the invention consists of the novel devices and combinations of devices hereinafter described and defined in the claims.

In the accompanying drawings which illustrate the invention, like characters indicate like parts throughout the several views.

Referring to the drawings, Figure 1 is a view in left side elevation with some parts broken away and some parts sectioned, showing my improved loading machine: Fig. 2 is a plan view of the said machine. Fig. 3 is a detail taken in section on the line x^3 x^3 of Fig. 2. Fig. 4 is a detail taken in section on the line x^4 x^4 of Fig. 2. Fig. 5 is a detail taken in section on the line x^5 x^5 of Fig. 4, some parts being broken away. Fig. 6 is a transversely vertical section taken on the line x^6 x^6 of Fig. 2, some parts being left in full; and Fig. 7 is a front elevation of the loading machine.

The main frame 1 of the machine is, as shown, approximately rectangular, and is supported at its intermediate portion by a pair of heavy wheels 2 and at its rear portion by a centrally located steering wheel 3, the fork 4 of which is pivoted in a bearing 5 on said frame 1, and is provided with a steering lever 6. The steering lever 6 is positioned within easy reach of a person seated on the seat 7 shown as secured to a rearwardly projecting beam 1^a of the frame 1.

Rigidly secured to the intermediate portion of the frame 1, extending transversely thereof and spaced apart longitudinally thereof, is a pair of upright frames 8 and 9. Working between the frames 8 and 9 and pivotally connected thereto at its lower inner portion is an endless conveyer or elevator made up of an oscillatory supporting frame 10, rollers 11—12 and an endless slat and belt conveyer 13. The belt 13 runs over the rollers 11—12, and, as shown, over the deck 14 secured to the frame 10. The said frame 10 is pivotally mounted between the frames 8 and 9 on the shaft 11^a of the roller 11, and hence is free for oscillatory movements in a vertical plane extending transversely of the machine. To support the projecting free end of the frame 10 a bail 15 is shown as pivotally attached thereto, and to said bail is attached a hoisting cable 16, which cable, as shown, runs over guide sheaves 17 and 18. The guide sheave 17 is shown as mounted on the bar 19 that connects the frames 8 and 9, while the sheave 18 is mounted on the frame beam 1^a. As shown, the cable 16 is anchored to a securing device 20 on said frame beam 1^a.

Projecting forward of the frame 1 and working freely between the laterally spaced front end bars of said frame is a supplemental frame 21 pivotally connected at its upper end to a part carried by the main frame 1. As shown, this pivotal connection is made to the frame 8 by means of a transverse shaft 22, which shaft at its left hand end carries a sprocket 23, and within the sides of the supplemental frame 21 carries sprockets 24. Mounted in suitable bearings in the forwardly projecting lower ends of the said portion of the supplemental portion 21 is a shaft 25. This shaft 25 carries large sprockets 26 having projecting flanges to which toothed pick-up bars 27 are bolted or otherwise rigidly secured. The said sprockets and toothed bars constitute what might be designated as a skeleton pick-up drum or cylinder. Sprocket chains 28 run over the alined sprockets 24 and 26 of the shafts 22 and 25 respectively. The transversely extended toothed bars 29 are attached at their ends to the sprocket chains 28, and together therewith constitute an endless toothed slat and belt conveyer or elevator.

The forwardly projecting free end of the supplemental frame 21 is supported by a pair of caster wheels 30 pivoted to brackets 31 secured on the sides of said frame 21. These caster wheels support the free end of the supplemental frame 21 at such elevation that the teeth of the pick-up or cylinder bars 27 will not come into contact with the ground. To protect the teeth of said bars, however, from irregular or rough surface projections, a shoe plate 32 is placed below

the toothed cylinder made up of the sprockets 26 and bars 27. This shoe plate, as shown, is secured to the sides of the supplemental frame 21 by a yoke 33, which yoke is yieldingly connected to the frame 1 by a spring thrust bar 34.

The upper portions of the chain 28 run over an inclined deck 35, which, at its upper end is provided with hinged straps 36 pivotally mounted on the shaft 22. The lower end of this deck 35 is hinged to a pair of brackets 37 (see Figs. 1 and 4), which brackets are adjustably mounted on the sides of the supplemental frame 21 and are adapted to be held where set, as shown, by nutted bolts 38 and adjusting screws 39. Journaled to each of the brackets 37 is an idle sprocket 40 which serves as a tightener for the alined elevator chain 28. It will thus be seen that adjustment of the brackets 37 simultaneously adjusts the chain tightening sprockets 40 and the lower edge of the deck 35.

The machine described is capable of being driven in different ways, but as illustrated in the drawings, it is intended to be pushed forward by a pair of horses, while the conveyers or elevators are positively driven by an engine carried by the truck of the machine. This engine, which may be assumed to be an explosive engine, is indicated as an entirety by the numeral 41, and is shown as mounted on the rear portion of the frame 1. The crank shaft 41^a of said engine is shown as provided at one end with a beveled pinion 42, and at its other end with a sprocket 43. The beveled pinion 42 meshes with a beveled gear 44 on the roller shaft 11^a and hence imparts motion to the elevator or conveyer 12—13. A sprocket chain 45 runs over the sprocket 43 and over the sprocket 23 of the shaft 22, and thus transmits motion from the engine to the elevator or conveyer 28—29, and of course also to the toothed pick-up cylinder or drum.

The pivotal or yielding action between the main frame 1 and supplemental frame 21 permits all of the wheels 2, 3 and 30 to keep contact with the ground in running over irregular or rough surfaces. Primarily this device is intended for use as a shock loader for picking up bundles placed in loose shocks and elevate the same into a wagon driven along by the side of the machine.

Under the forward movement of the machine, when the toothed bars 27 of the pick-up cylinder come into contact with bundles of grain, either loose or in shocks, they will pick up and carry the same upward where they will be taken hold of by the toothed bars 29 and carried on upward over the deck 35 and deposited on the receiving end of the transversely extended elevator or conveyer 12—13. As shown in Figs. 2 and 6, a deflector plate 46 secured to and between the upright frames 8 and 9 assists in delivering the bundles onto said transversely extended elevator. The bundles delivered to the said transversely extended elevator 12—13 will be carried up thereby and to one side of the machine, and will be dropped or discharged into the box of a wagon which may be driven along beside the machine.

As already indicated, the device may be used for picking up hay or other materials from the ground, and loading the same into wagons. The loading device is well adapted for use in picking up loose flax and depositing the same in a wagon.

What I claim is:

1. In a loading machine, the combination with a main frame and wheels supporting the same, of a forwardly and downwardly projecting supplemental frame pivotally connected at its rear upper portions to said main frame and provided with supporting wheels at its forwardly projecting free end, a pick-up device rotatively mounted in the free end of said supplemental frame, and an endless toothed slat and belt conveyer mounted on said supplemental frame and running over said rotary pick-up device and driving the latter, substantially as described.

2. In a loading machine, the combination with a main frame and wheels supporting the same, of a forwardly and downwardly projecting supplemental frame pivotally connected at its rear upper end to said main frame and provided with supporting wheels at its forwardly projecting free end, a rotary toothed pick-up device mounted in the free end of said supplemental frame, an endless toothed slat and belt conveyer mounted on said supplemental frame and running over and driving said rotary pick-up device, and an adjustable deck and belt tightening device mounted on said supplemental frame and over which said endless elevator runs, substantially as described.

3. In a loading machine, the combination with a main frame and wheels supporting the same, of a forwardly and downwardly projecting supplemental frame pivotally connected at its rear upper portion to said main frame and provided with supporting wheels at its forwardly projecting free end, a toothed rotary pick-up device mounted in the free end of said supplemental frame, an endless elevator belt mounted on said supplemental frame and running over and driving said rotary pick-up device, and a shoe plate supported below said rotary pick-up device, substantially as described.

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

WILLIAM J. OHM.

Witnesses:
MALIE HOEL,
F. D. MERCHANT.