J. G. STEWART.

GRAIN SHOCKER.

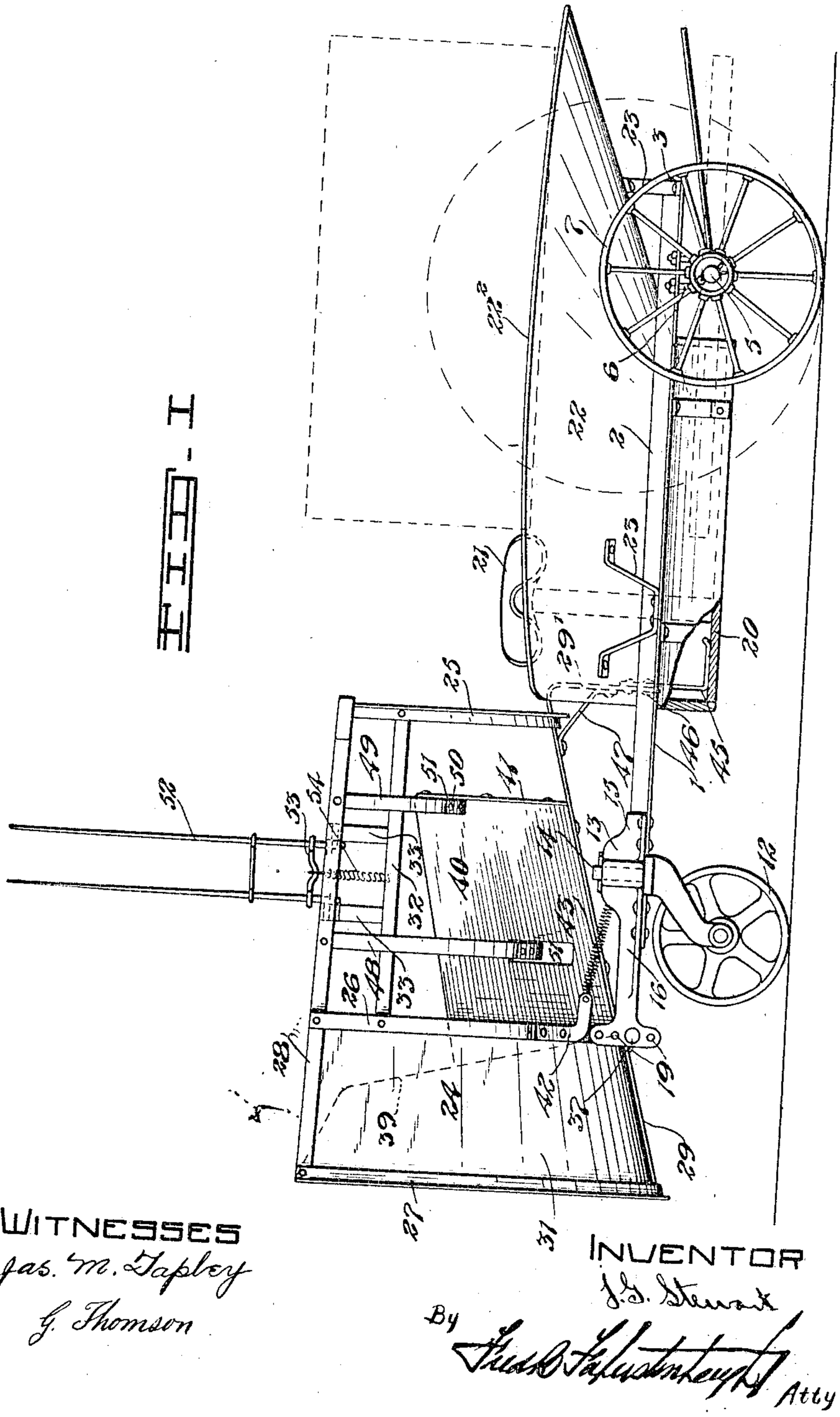
APPLICATION FILED JUNE 7, 1909.

958,190.

Patented May 17, 1910.

3 SHEETS—SHEET 1.

FIG. 1



WITNESSES

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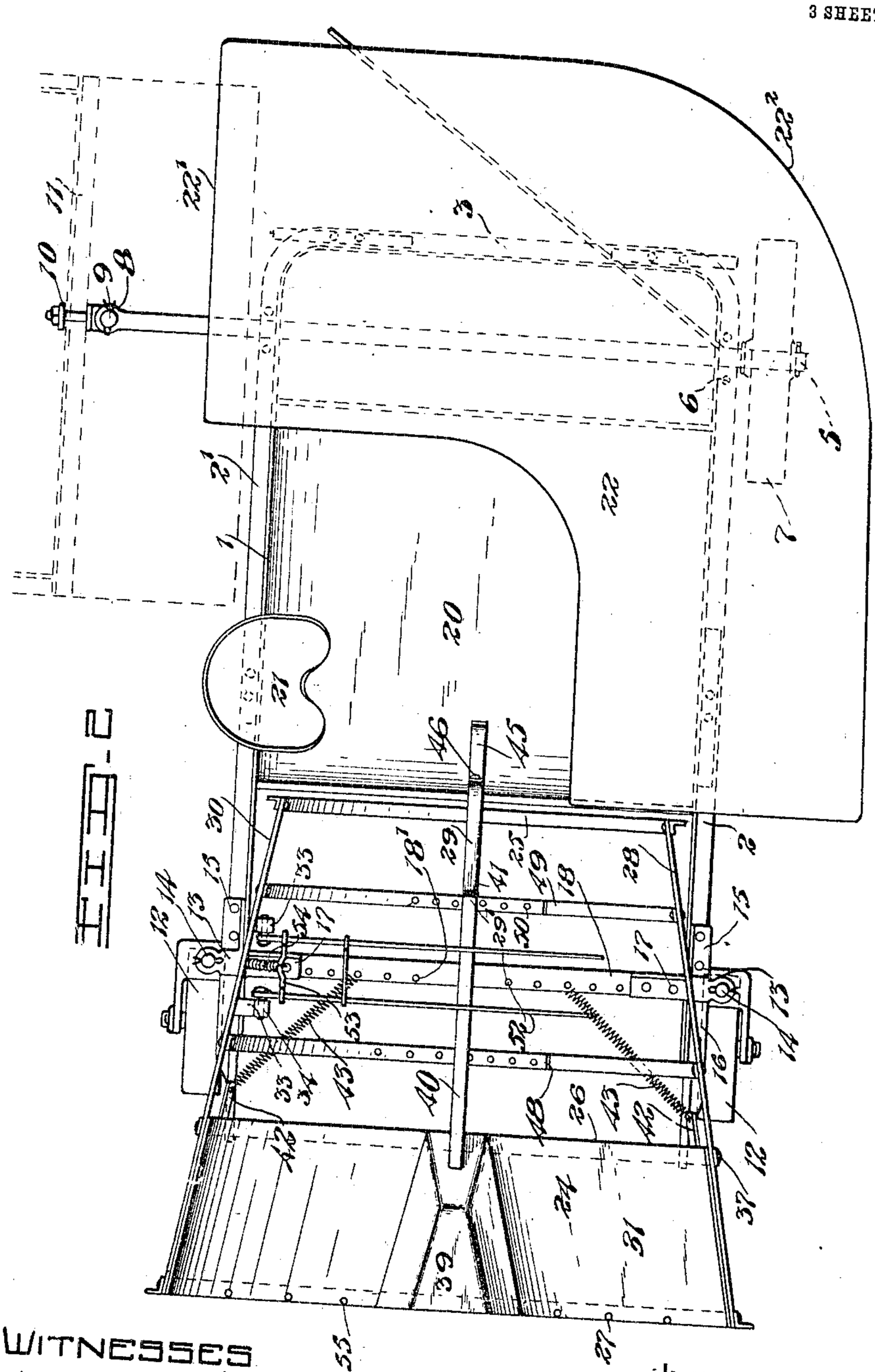

FIG. 2

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3 SHEETS—SHEET 3.

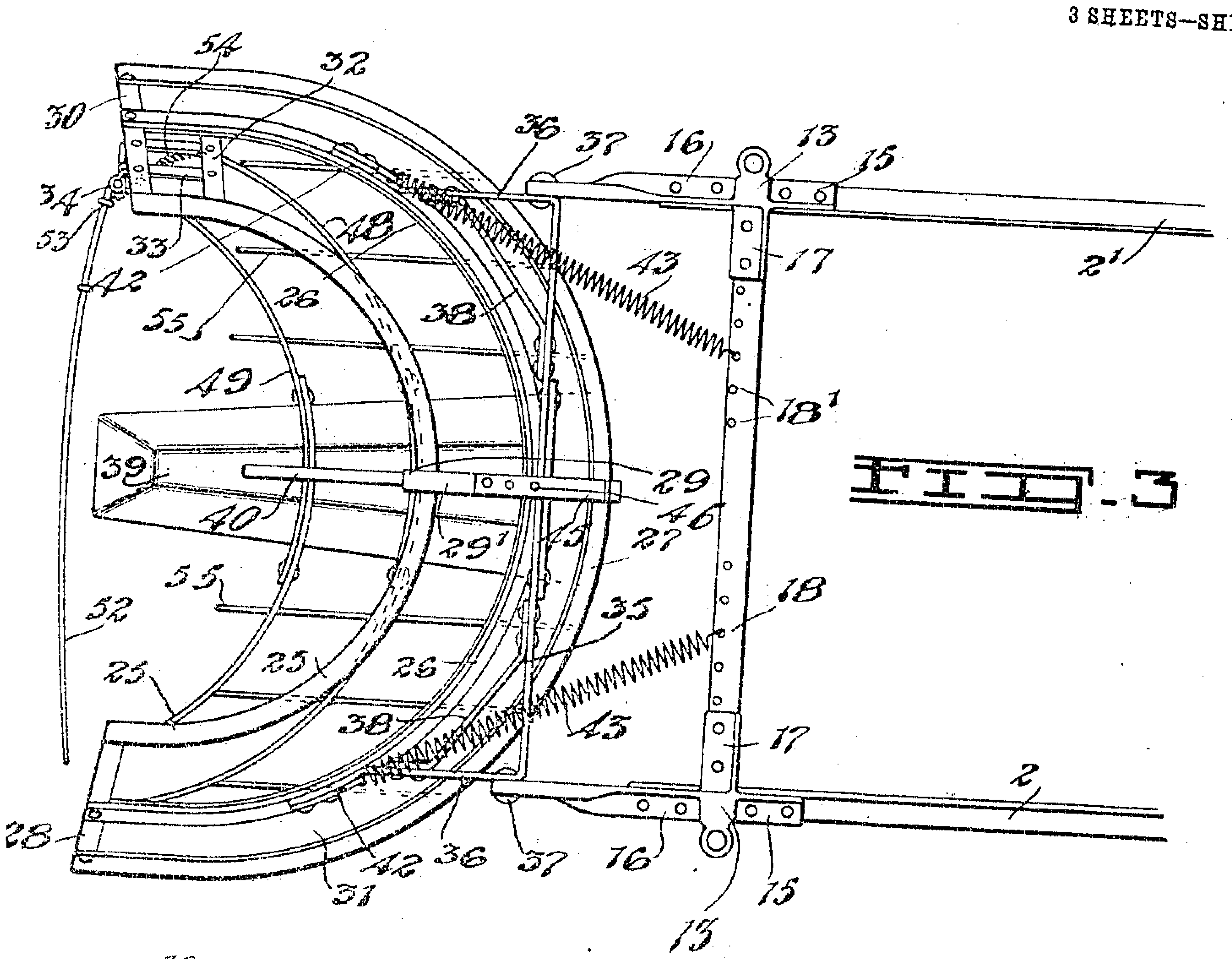

FIG. 3

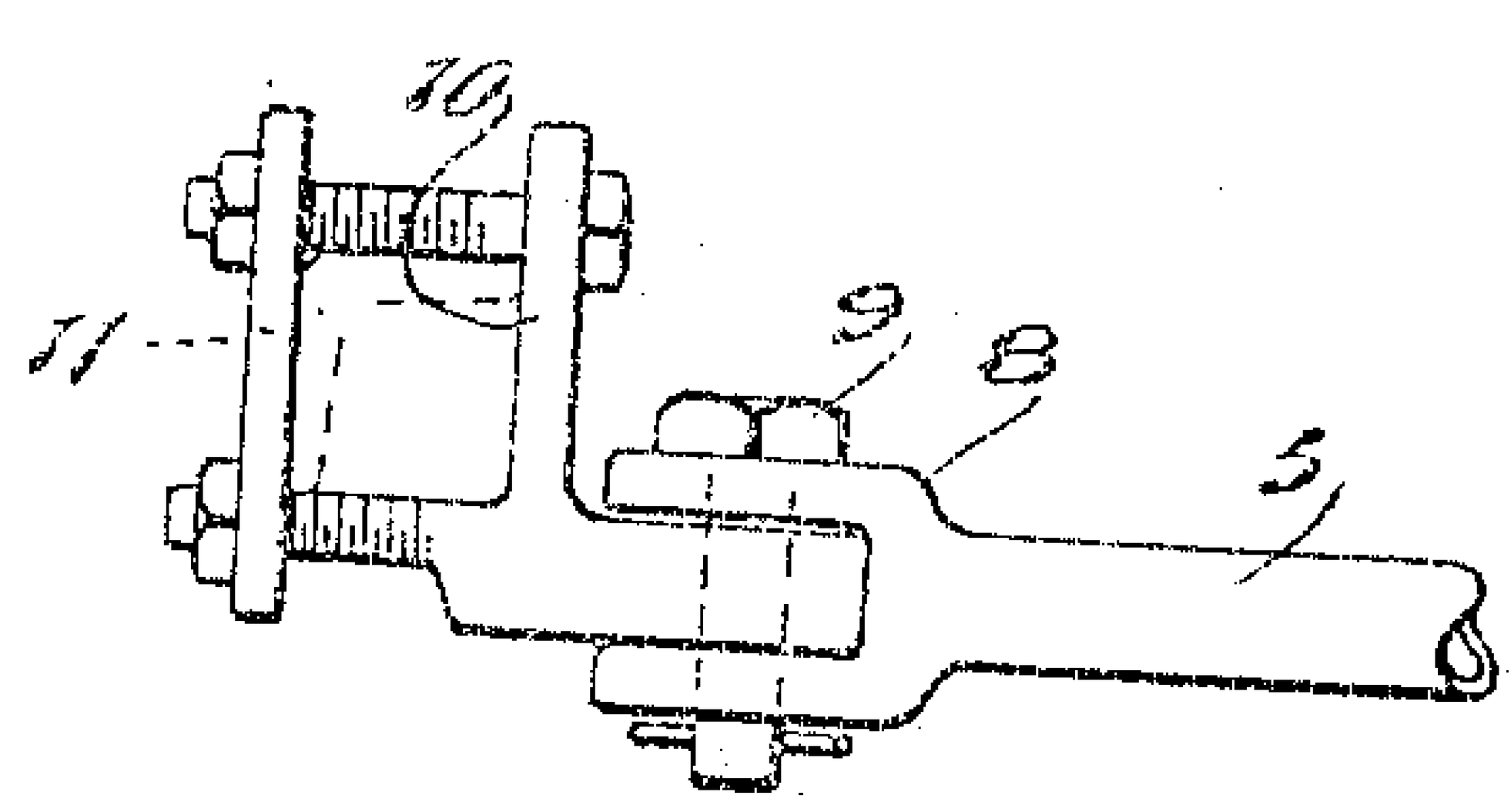

FIG. 4

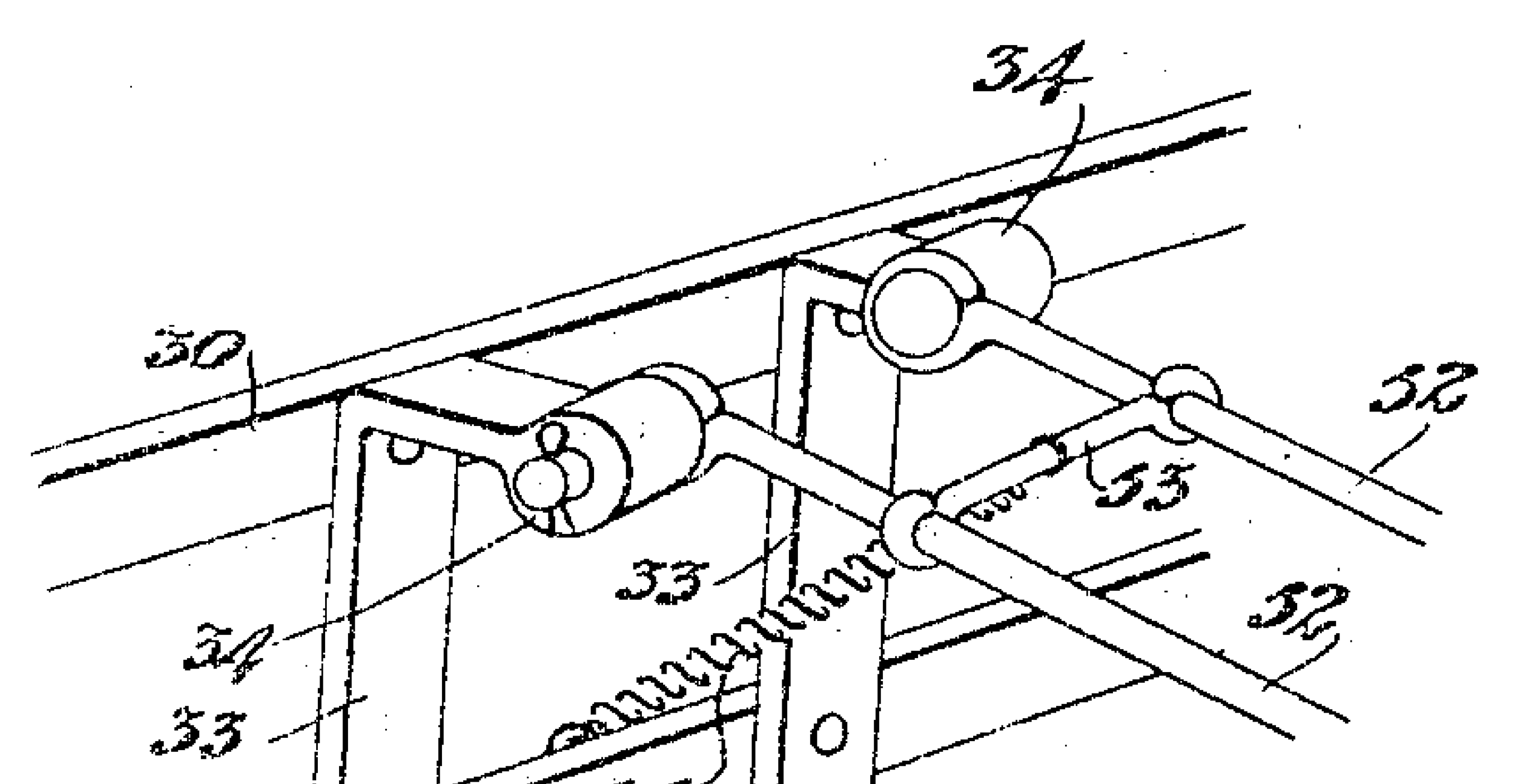

FIG. 5

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UNITED STATES PATENT OFFICE.

GRAHAM STEWART, OF MONMOUTH, ILLINOIS.

GRAIN-SHOCKER.

958,190. Specification of Letters Patent. Patented May 17, 1910.

Application filed June 7, 1909. Serial No. 500,745.

To all whom it may concern:

Be it known that I, JOHN GRAHAM STEWART, a citizen of the United States of America, residing at Monmouth, in the county of Warren, in the State of Illinois, have invented certain new and useful Improvements in Grain-Shockers, of which the following is the specification.

My invention relates to grain shockers, and the object of the invention is to provide a shocker attachable to a binder which will effectually form and set up a shock of grain without having to tie the shock or stop the binder, said shocker being adaptable for both long and short sheaves and adjustable to different heights so as to permit it to be used effectually with varying heights of stubble.

A further object is to provide on the shocker a tray or deck which will direct the sheaves flung down from the binder to a position in front of the operator of the shocker, the parts being arranged and constructed as hereinafter more particularly described.

Figure 1 represents a side elevation of the machine, the drive wheel of the binder being shown in dotted outline. Fig. 2 is a plan view as in Fig. 1. Fig. 3 is a plan view of a portion of the shocker frame showing the receptacle or basket in the delivering position. Fig. 4 is an enlarged detailed side elevation of the bracket securing the shocking machine to the binder. Fig. 5 is an enlarged detailed perspective view of a portion of the compression fingers showing the manner in which they are secured to the basket.

In the drawings like characters of reference indicate corresponding parts in each figure.

1 represents the shocker frame which is formed from longitudinal members 2 2′ and a transverse member 3.

5 is a supporting shaft secured firmly to the shocker frame by brackets 6, said shaft being supplied at its one end with a carriage wheel 7 and having its other end forked as at 8 and connected by means of a pin 9 to a bracket 10, said bracket being securely fastened to the usual cross bar 11 of the binder frame. In this way the shaft is pivotally secured to the binder frame.

12 are caster wheels supporting the extending ends of the longitudinal members 2 2′, said caster wheels being secured to the shocker frame through the agency of especially designed bearings 13 which are now described. The bearing receives the shank 14 of the caster wheel pivotally and has three extending arms 15, 16, and 17 of angle iron cross section, the arm 17 being positioned at right angles to the arms 15 and 16, and in a somewhat higher horizontal plane so that when the arms 15 and 16 are bolted to the members 2 and 2′ the arms 17 escape over the top of the frame members, as best shown in Fig. 3. The arms 17 are united by a cross bar 18 of angle iron section which prevents the shocker frame from spreading. Each of the arms 16 is provided with a vertically directed set of openings 19 which receive the pivot pins of the basket as later to be described, such openings allowing adjustment of the basket.

20 is a box secured to the center of the shocker frame in any convenient manner and 21 is a seat of any suitable form supported from the frame and located to the side next the binder so that the person operating has his back to the binder.

22 is a deck or tray secured to the shocker frame by means of brackets 23, such tray inclosing the box 20 at two sides and having the end 22′ thereof located so as to receive the sheaves delivered from the binder tray. The tray 22 inclines from the outer edge 22^2 downwardly toward the box 20 so that the sheaves delivered from the binder are forced along the tray and delivered directly in front of the seat 21 thereby avoiding any necessity of lifting each sheaf before it is finally placed in the basket. The tray 22 and the brackets can be made reversible so that the shocking machine can be used with either a right or left hand binder it being necessary in such a case to reverse the position of the seat 21, changing it to the opposite side of the frame.

24 is the basket or receptacle which receives the sheaves and forms them into a shock, such receptacle being composed from more or less semi-circular bars 25, 26, 27 connected by longitudinally extending members 28, 29 and 30. It is to be noted that the construction of the bars 25, 26 and 27 is such that the longitudinal bars 28, 29 and 30 converge toward the platform when the basket is in the horizontal position.

31 is a strip of sheet metal secured to the

bars 26, 27, 28, 29 and 30, in this way closing the opening appearing between the bars 26 and 27.

The basket is supplied with a bar 32 which unites the bars 25 and 26 and is tied to the bar 30 by brackets 33 having bearings 34 formed thereon for a purpose hereinafter explained.

35 is a cross member secured centrally to the lower side of the bar 26 of the basket and having its ends 36 upwardly directed and returned again to said bar where they are fastened.

37 are pivot pins extending from the ends 36 of the bar 35 and entering the openings 19, hereinbefore referred to, in the bearings 13. The basket is in this manner pivoted from the frame.

38 are stays secured to the oppositely directed portions of the bar 35.

39 is a divider carried by the basket and extending from the bar 27 to bar 26, and passing upwardly the full height of the basket, such divider being tapered in form so as to permit it to withdraw readily from the shock after the shock is set up.

40 is a vertically directed dividing plate extending from the divider toward the bar 25 and passing longitudinally centrally of the basket to which it is firmly secured by means of an end brace 41.

42 are opposing lugs secured to the bar 26 and united by springs 43 to the bar 18, such bar being provided with openings 18′ whereby the tension of the spring can be adjusted.

The bar 29 of the basket is directed downwardly at the forward end at 29′ and has connected thereto a foot piece 45 which is rendered adjustable by means of bolts 46.

47 is a brace reinforcing the downwardly extending end 29′ of the bar 29. The foot piece is designed so as to rest on the box 20 when the basket is being filled.

48 and 49 are two piece semi-circular bars fastened at their upper extremities to the bars 28 and 30 and at their lower extremities to each other, by bolts. The adjoining ends are each provided with a series of openings 50 so that when the bolts are removed they can be adjusted to a new position by placing them in a second set of openings.

It is to be noticed that the plate 40 is provided with transverse openings 51 through which pass the bars 48 and 49.

52 are arched fingers having their inner ends pivotally secured within the bearings 34 of the brackets 33 hereinbefore referred to, such fingers being directed across the basket and tied together by a rod 53 which is connected to the bar 32 by means of a spring 54. According to the position of the rod 53 and the action of the spring the fingers can be retained in the open or vertically directed position when desired, and will pass to the horizontal position as soon as the rod is passed over the dead center, as will readily be understood.

The operation of the device is as now described. The sheaves deposited in front of the operator by the tray 22 are placed in the basket by him with their butts resting on the metallic sheet 31 and their heads bearing on one or other of the spring bars 48 and 49, it being understood that the spring bar 49 is in commission with long sheaves, and that 48 with short ones. As soon as the basket has been filled to either side of the divider and plate the fingers 52, which up to this time were extending vertically, are swung downwardly and closed on the heads of the sheaves. When the basket is being filled the operator has his foot on the foot piece 45 which prevents the basket from overturning prior to being filled. As soon as it is filled and the fingers 52 closed he releases his foot from the foot piece and the basket immediately overturns swinging on the pivot pinion and actuated by the weight of the butts. As soon as the butts are deposited on the ground the divider 39 passes from them as the machine progresses and the basket is returned to the horizontal position by the action of the springs 43. However if the tension of these springs be not sufficient the operator can grasp the basket and swing it to its normal position, being aided by the springs.

In order that the butts of the shocks may be built up evenly in the basket I have provided upwardly directed forks 55 which are secured to the bar 27 of the basket and appear at either side of the divide.

In order to adjust the basket for long or short stubble it is only necessary to raise or lower the position of the pivot pins 37 and at the same time adjust the foot piece 45.

What I claim as my invention is:

1. In a grain shocker, the combination with the shocker frame having two longitudinal members and a transverse member, the basket and the supporting caster wheels having vertically directed shanks, of bearings secured to the extending ends of the longitudinal members and adapted to receive the shanks of the caster wheels, said bearings being provided each with three extending arms, one of which in each instance is supplied with a vertically directed set of openings, a set of bolts passing through the openings and secured to the basket and a cross bar passing between the longitudinal members and united with a pair of the arms which extend transversely of the frame, as and for the purpose specified.

2. In a grain shocker, the combination with the shocker frame having longitudinal members, the basket pivotally secured to the frame, and a cross bar located beneath the basket and secured to the longitudinal members of the frame, of lugs carried by the

basket, and springs secured to the lugs and adjustably fastened to the cross bar, as and for the purpose specified.

3. In a grain shocker, the combination with the shocker frame having longitudinal members, the basket pivotally secured to the frame, and a cross bar located beneath the basket and secured to the longitudinal members of the frame, said cross bar having a series of openings therein, of lugs secured to the basket and at opposite sides thereof, coiled springs secured permanently to the lugs and having their free ends hooked and adapted to pass within the openings formed in the bar, as and for the purpose specified.

4. In a grain shocker, the combination with the shocker frame having a box secured centrally thereto, of a deck secured to the shocker frame and surrounding two sides of the box, said deck having its outer edge in a higher horizontal plane than the inner edge adjoining the box, as and for the purpose specified.

5. In a grain shocker, adapted to be used in conjunction with a binding machine, the combination with the binder frame and shocker frame adapted to be secured to the binder frame adjoining the binder delivery tray and the box secured centrally to the frame, of a deck carried by the shocker frame and extending over two sides of the box, said deck being constructed so as to receive at one end the sheaves delivered from the binder tray and direct them to the opposite end, as and for the purpose specified.

6. In a grain shocker the combination with a basket having a divider located centrally therein, and a vertically directed dividing plate extending forwardly from the divider and within the basket, of two piece semi-circular bars fastened at their upper extremities to the upper edges of the basket and at their lower extremities adjustably to one another, said plate being provided with transverse openings to admit the bars, as and for the purpose specified.

7. In a grain shocker, the combination with the shocker frame, of a basket pivotally secured rearwardly to the frame, said basket consisting in a set of semi-circular bars of different radii spaced apart and united by longitudinally extending and converging members, a metallic strip secured to the semi-circular bars and the longitudinal members and upon which the butt of the shock is adapted to rest, and two piece semi-circular bars fastened at their upper extremities to the longitudinal members and at their lower extremities to each other, such semi-circular bars being of different radii and adapted to support the head of the shock, as and for the purpose specified.

8. In a grain shocker, the combination with the basket having a vertically extending divider located therein and extending from the rear end forwardly, of a vertically directed dividing plate secured to the basket and to the divider and located centrally of the basket, as and for the purpose specified.

Signed at Toronto in the Province of Ontario this 21st day of April 1909.

JOHN GRAHAM STEWART.

In the presence of—
B. Boyd,
R. Cobain.