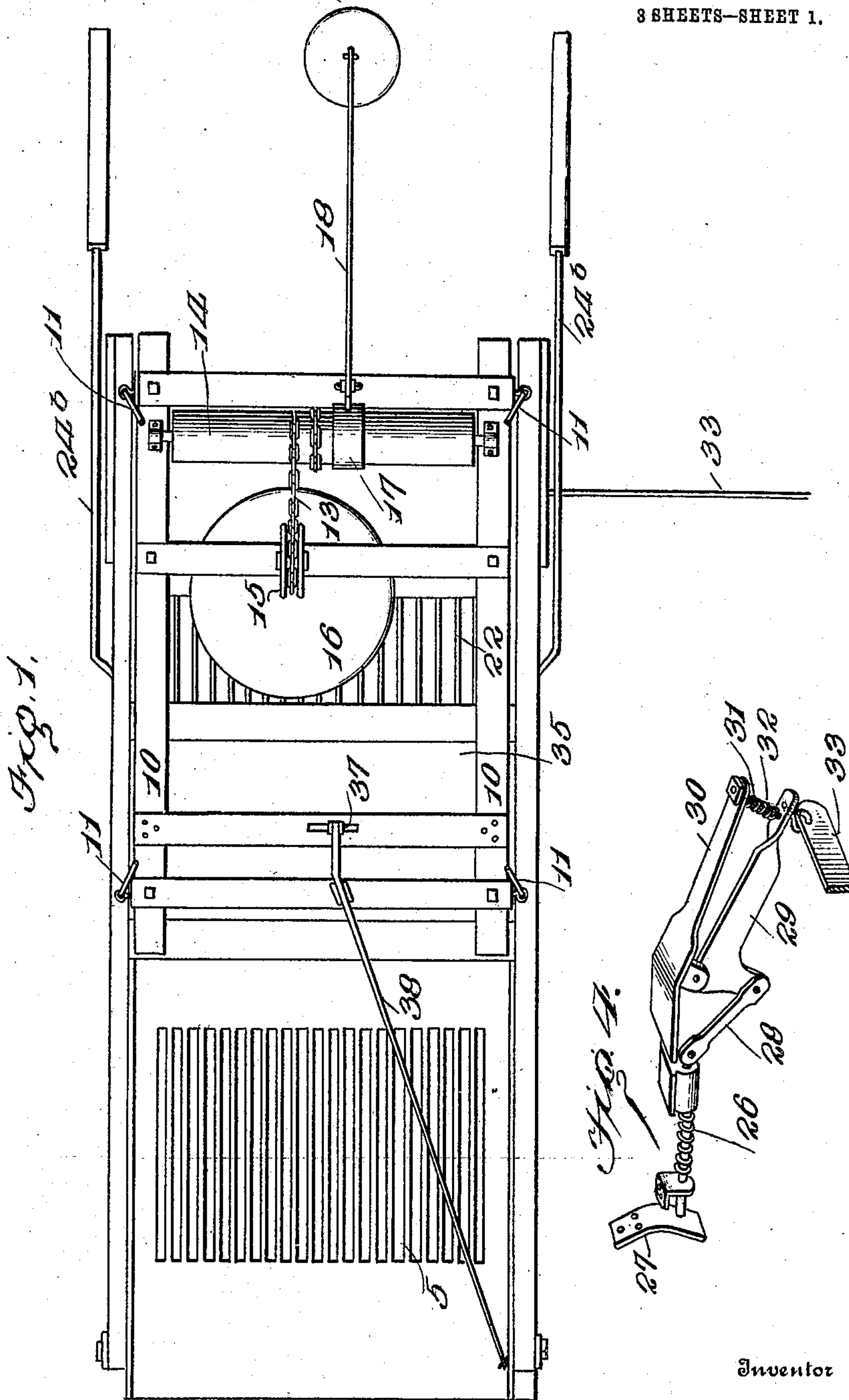


J. L. GREEN.
 TIPPLE.
 APPLICATION FILED JUNE 4, 1908.

919,852.

Patented Apr. 27, 1909.

3 SHEETS—SHEET 1.



Witnesses

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 Alice H. Bennett.

Jasper L. Green

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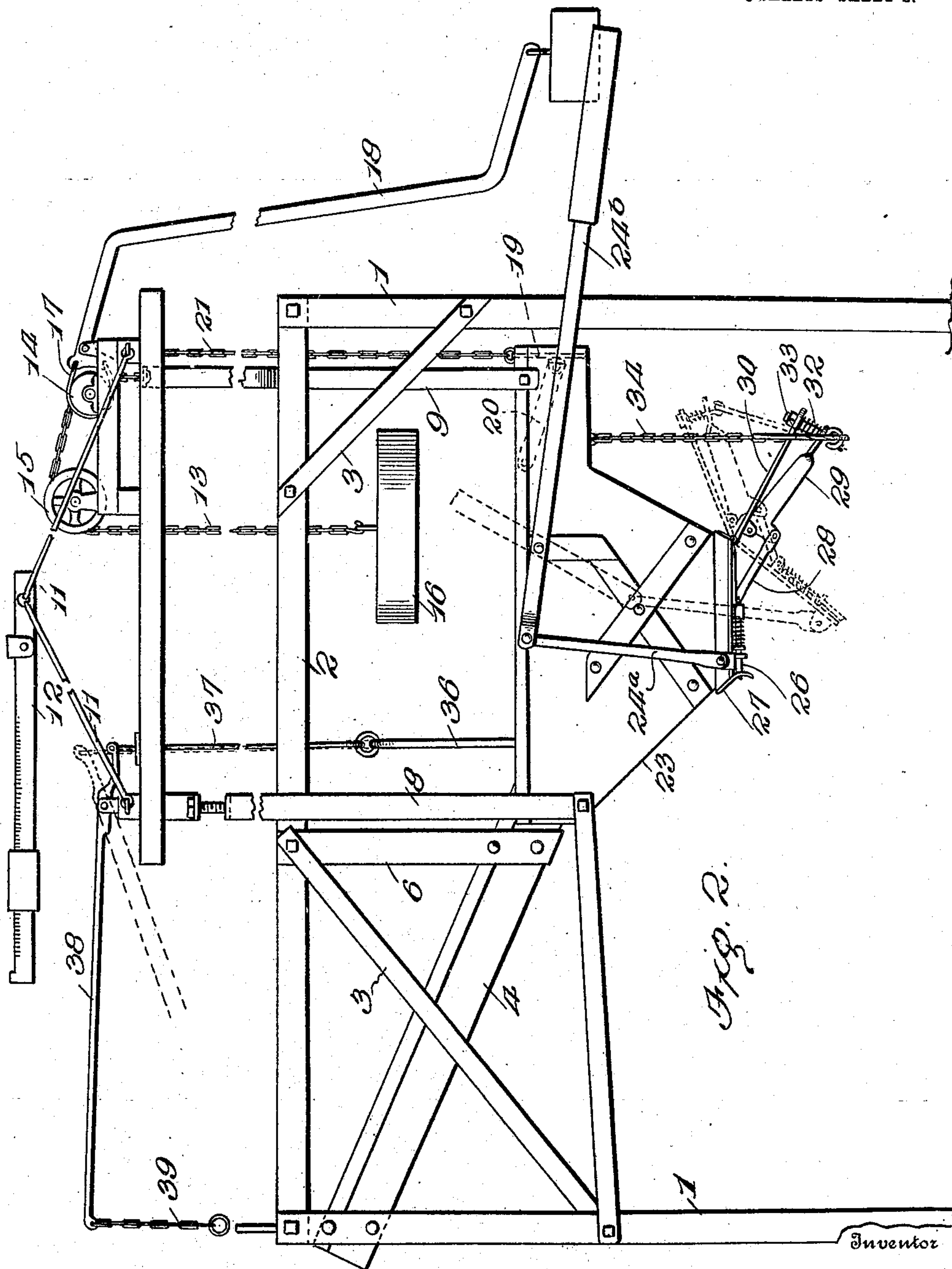
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3 SHEETS—SHEET 2.



Witnesses

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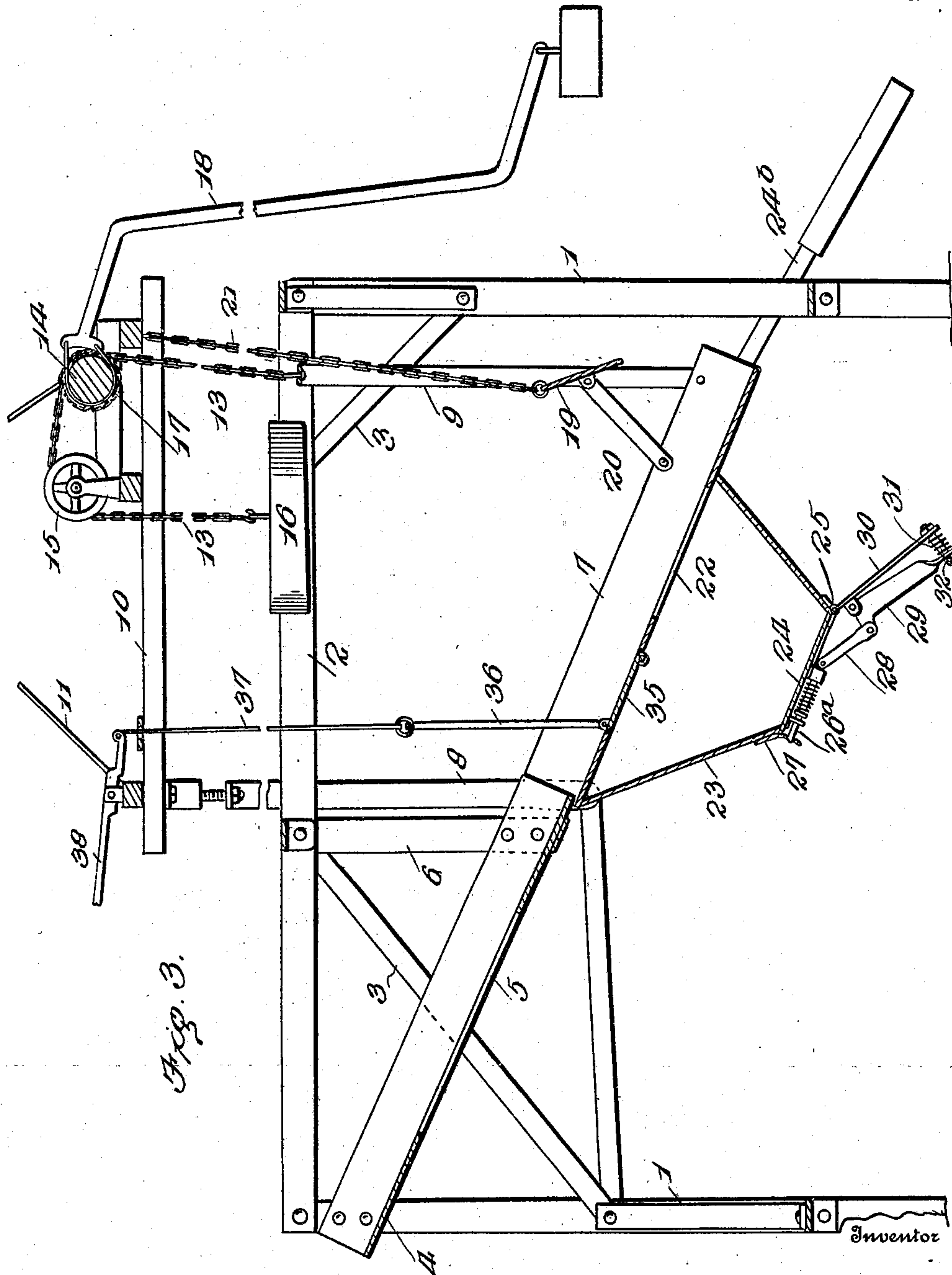
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3 SHEETS—SHEET 3.



Witnesses

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UNITED STATES PATENT OFFICE.

JASPER L. GREEN, OF MASSILLON, OHIO, ASSIGNOR OF ONE-HALF TO CHARLES W. SOMERS,
OF CLEVELAND, OHIO.

TIPPLE.

No. 919,852.

Specification of Letters Patent.

Patented April 27, 1909.

Application filed June 4, 1908. Serial No. 436,736.

To all whom it may concern:

Be it known that I, JASPER L. GREEN, citizen of the United States, residing at Massillon, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Tipples, of which the following is a specification.

This invention comprehends certain new and useful improvements in tipples, and relates particularly to apparatus for separating or grading coal.

The invention has for its primary object an improved construction of device that may be readily embodied in any tipple of ordinary or conventional design, to separate the finer grades of coal such as egg or pea coal from the larger lumps in the weighing pan or hopper at the lower end of the screening chute, in addition to segregating the fine coal, slack, foreign matter or the like, the apparatus also providing means whereby the weight of said egg coal, for instance, thus separated, may be determined before the pan has been dumped, if desired. And a further object of the invention is a simple, durable and efficient construction of apparatus of this character that is so arranged that the entire load passing down the chute may at will be shunted therefrom directly into an egg pocket or casing forming a subjacent compartment of the weighing pan, instead of passing to the floor of the pan where the egg size would be separated from the larger lumps.

With this and other objects in view that will more fully appear as the description proceeds, the invention consists in certain constructions, arrangements and combinations of the parts that I shall hereinafter fully describe and claim.

For a full understanding of the invention and the merits thereof, and to acquire a knowledge of the details of construction, reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is a top plan view of a tipple embodying the improvements of my invention; Fig. 2 is a side elevation thereof; Fig. 3 is a longitudinal sectional view; and, Fig. 4 is a detail sectional view on an enlarged scale, of the means for locking the discharge door of the egg dump or pocket in a closed position.

Corresponding and like parts are referred to in the following description and indicated

in all the views of the drawings, by the same reference characters.

The framework of my improved apparatus may be of any desired construction or design, such as is ordinary with tipples, and it is to be understood that the framework shown in the present instance is selected for purposes of illustration only. The present framework here shown comprises uprights 1 connected at their upper ends to longitudinal sills 2, braces 3 connecting the sills to the uprights.

4 designates the ordinary chute which is formed with a series of longitudinally extending laterally spaced bars 5 forming a screen which is suspended in an inclined position in any desired way, for instance, by being bolted at its upper end to one pair of uprights 1 and being suspended at its lower end by means of a hanger 6.

The weighing pan 7 is suspended from the scales or weighing apparatus, with one end close to and underneath the lower end of the chute 4, hangers 8 and 9 being shown as the suspending means in the present instance, the hanger 8 being connected in any desired way to the frame or platform 10 of a weighing device which may be of any desired type and which by itself forms no part of my invention. Merely to show the operative structure, I have indicated that the platform or frame 10 is connected by link rods 11 to a scale beam 12 (see Fig. 2). The hanger 9 is connected to a chain or cable 13 which swings around a drum 14 carried by the scale platform or frame 10 and which thence extends around a sheave 15, the counterbalancing weight 16 being secured to the free end of said cable. In order to control the tilting or dumping operation of the pan 7, I have shown in the present instance a brake band 17 which encircles the drum 14 and which is provided with a weighted operating handle 18.

19 designates the end gate of the pan 7, said gate being pivotally connected to the sides of the pan by links 20, and being connected at its upper edge to a cable 21 which extends upwardly and is secured to the framework 10, for instance, so that as the pan is dumped, the end gate will be raised so as to permit the coal resting upon the pan to slide therefrom into the car.

It is to be understood that all of the above named parts may be of any desired construc-

tion and type, as my invention is not comprehended therein, but in an attachment or addition to the tipple, as hereinbefore set forth.

5 As has been before stated, my invention has for its object an attachment for the weighing pan 7, so that the egg or pea coal may be separated from the larger lumps. For this purpose, I provide the floor of the
10 pan 7 with a screen 22 formed by a series of longitudinally extending and transversely spaced rods, as shown, and I secure to the pan, underneath said floor, a casing 23 which preferably extends the full width of
15 the pan and to which the screen 22 leads. This casing 23 forms an egg dump or pocket, and it is provided with a bottom discharge opening controlled by a plate-like door 24, said door being hinged at one edge as indicated at 25, and being made to swing down-
20 wardly to permit the contents of the pocket to be discharged. In order to hold the door 24 closed, I have provided it with a latch bolt 26 which is encircled by a spring 26^a ex-
25 erting a tension upon said bolt so as to cause it to move into engagement with a keeper 27 secured to the front edge of the casing 23. The rear end of the latch bolt 26 is secured to a link 28, and said link is in turn pivotally
30 connected to one arm of a bell crank 29 fulcrumed at its elbow on the arm 30 secured to and extending rearwardly from the door 24. A pin 31 is connected to the other and rear-
wardly extending arm of the bell crank 29
35 and passes freely upwardly through the end of the arm 30, and a spring 32 encircles said pin and acts expansively upon the bell crank. 33 designates an operating handle for the door, said handle being secured at one end to
40 the rearwardly extending arm of the bell crank and being suspended intermediate of its ends by a chain or cable 34 secured to a portion of the weighing pan, so that by pull-
45 ing down upon the upper free end of the cable, the bell crank will first be rocked to retract the latch 36, and the continued up-
ward movement of the handle will swing the door downwardly, so as to permit the load within the casing 23 to be discharged. In
50 order to return the door to a closed position, it is connected at each end with a link 24^a, the two links being connected at their upper ends with counterbalancing levers 24^b ful-
crumed on the sides of the weighing pan 7.

55 In order that the entire load of coal passing down the chute 4 may be shunted directly therefrom into the egg dump or casing 23 so as to prevent the separation of the egg coal from the larger lumps, when such sepa-
60 ration is not desired, I provide the floor of the weighing pan 7 with a hinged section 35 located in advance of the screen 22 and leading into the casing 23. This hinged section is secured to a bail 36, said bail being in turn
65 connected to a link rod 37 fastened to one

arm of an operating lever 38. By pulling downwardly upon the chain 39 or similar means secured to the opposite end of the operating lever 38, it is obvious that the
hinged section 35 may be raised so as to 70 permit the coal to pass directly into the casing 23 as it leaves the chute 4, instead of passing on to the screen 22.

In the practical operation of my egg dump, the cars as they come from the mines are
75 dumped onto the chute 4, the coal passing down over the screen 5 for the usual screening operation. As the coal is thus passed onto the weighing pan 7, the smaller size coal, such as the grades known as egg or pea,
80 will pass through the screen 22 into the sub-
jacent egg dump 23. After this separation has been effected, the smaller coal in the casing 23 may be dumped into a car under-
neath said casing, and the larger lumps are
85 then discharged into another car by tilting or dumping the weighing pan 7 in the usual manner. Manifestly, if desired, the weight of the egg coal may be determined without
the necessity of weighing it in the car into 90 which it is discharged from the casing 23, by merely first determining the weight of the entire amount of coal in the pan 7 and its sub-
jacent pocket, then discharging the
egg coal from the pocket and again weighing 95 the coal remaining in the pan.

Having thus described the invention, what I claim is:

1. In an apparatus of the character de-
scribed, the combination of a chute, a weigh- 100 ing pan suspended at the lower end of the chute, and formed in its bottom with a screen, a casing secured to the pan underneath the bottom thereof and in operative relation to
the screen, said casing being formed with a 105 discharge opening and a door controlling said opening, the said bottom of the pan being provided with a movable section lo-
cated between the screen and the chute, and means for raising said section so as to form 110 an obstruction between the chute and the screen whereby the coal passing from the screen may be shunted directly into the cas-
ing and be prevented from passing upon the screen of the weighing pan. 115

2. In an apparatus of the character de-
scribed, the combination of a chute, a weigh-
ing pan suspended at the lower end of the
chute and formed in its bottom with a screen,
a casing secured to and forming part of the 120 weighing pan underneath and in operative relation to the screen, said casing being pro-
vided with a discharge opening and a hinged door controlling said opening, an arm pro-
jecting rearwardly from the door past the 125 hinged edge thereof, a bell crank fulcrumed on said arm, a latch bolt carried by the door, the casing being formed with a keeper for
said bolt, a link connecting said latch bolt
with one arm of the bell crank, an operating 130

handle connected to the other arm of said bell crank, and a support for said handle.

3. In an apparatus of the character described, the combination of a chute, a weighing pan suspended at the lower end of said chute and formed in its bottom with a screen, a casing secured to and forming part of the weighing pan underneath and in operative relation to the screen, said casing being provided with a discharge opening, a hinged door controlling the opening, an arm projecting inwardly from the door past the hinged edge thereof, a bell crank fulcrumed on said arm, a latch bolt carried by the door, the casing being formed with a keeper for the bolt, a link connecting said latch bolt

with one arm of the bell crank, an expansion spring encircling said bolt, a pin connected to the rearwardly extending arm of the bell crank, passing upwardly through said arm, an expansion spring encircling said pin and bearing against the bell crank and the first named arm, an operating handle connected to said last named arm of the bell crank, and a support for said handle.

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

JASPER L. GREEN. [L. s.]

Witnesses:

GEO. W. KRATSCHE,
O. E. GREEN.