

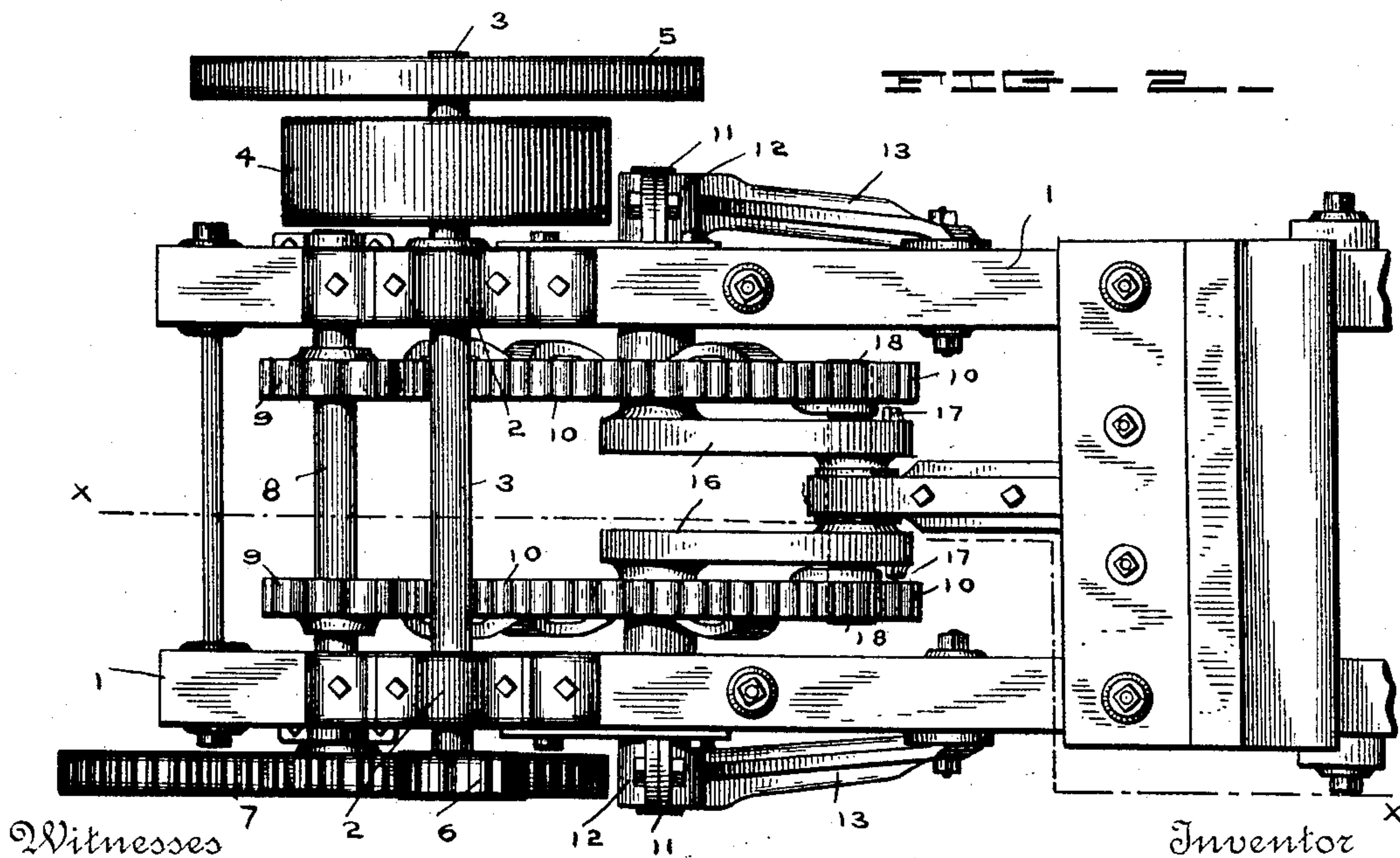
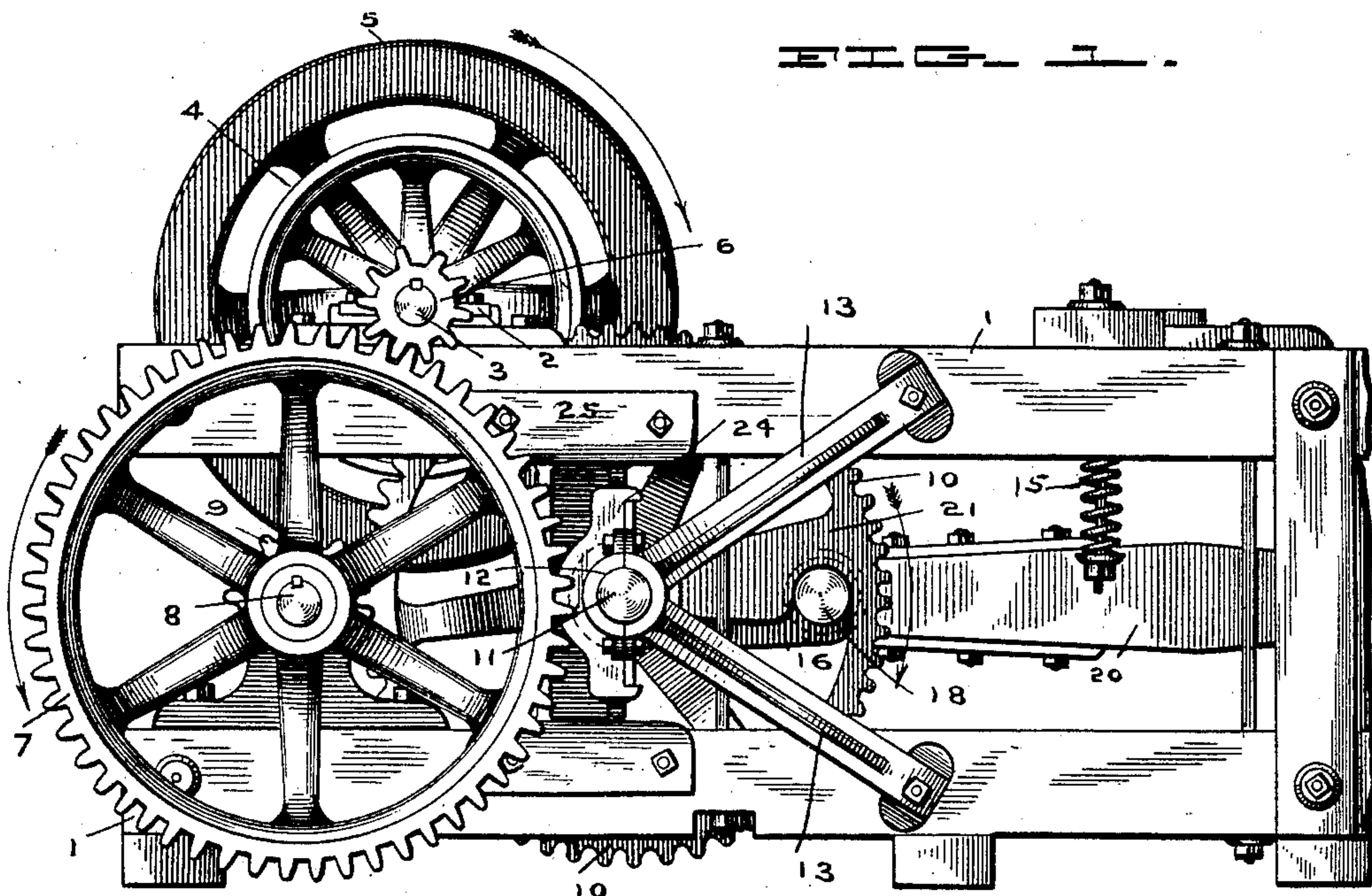
(No Model.)

2 Sheets—Sheet 1.

J. R. JOHNSON.
BALING PRESS.

No. 452,755.

Patented May 19, 1891.



Witnesses

H. B. Neely.

E. B. Griffith.

Inventor

Joseph R. Johnson.

By his Attorney

C. C. Jacobs,

(No Model.)

2 Sheets—Sheet 2.

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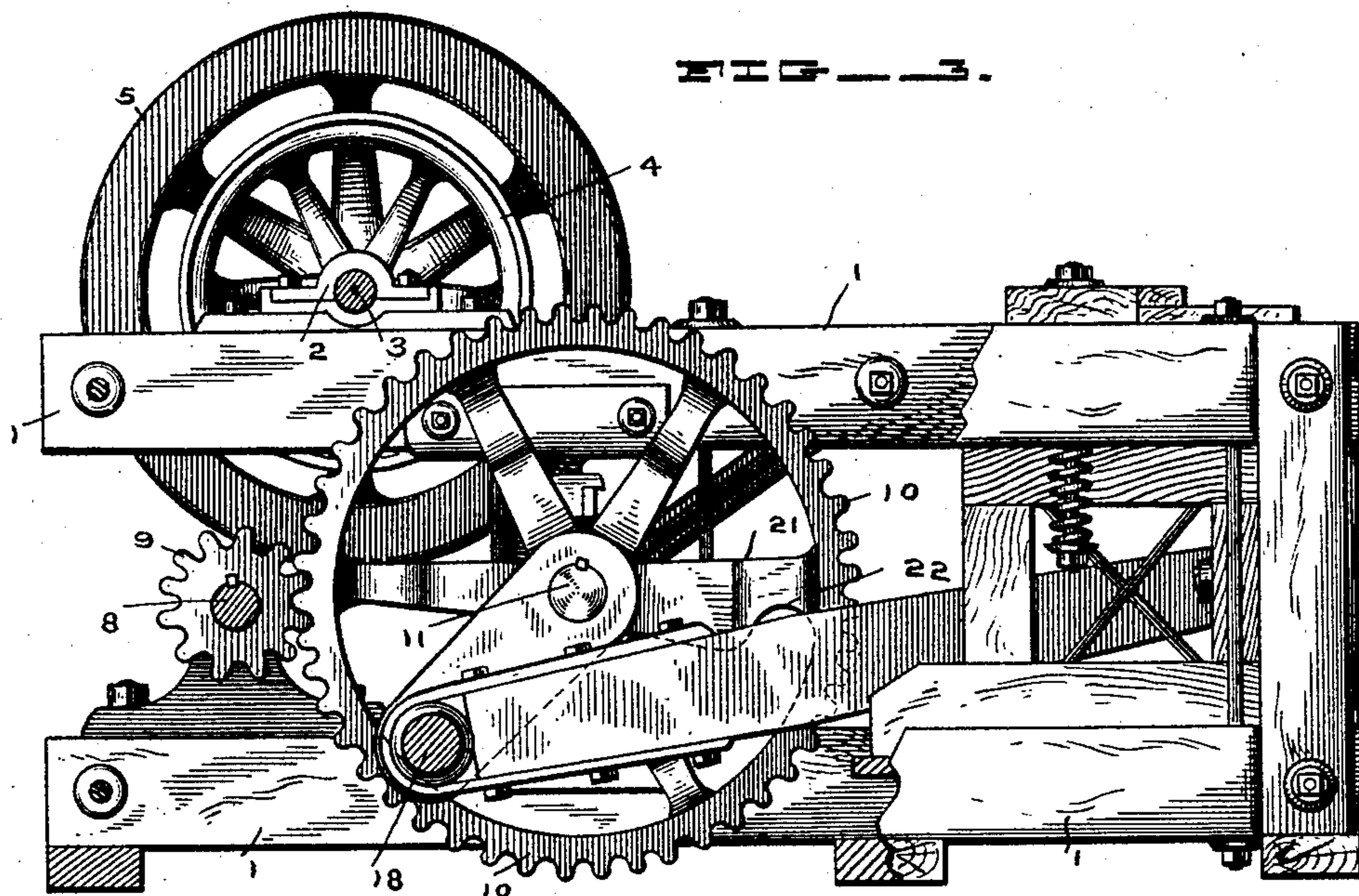


FIG. 4.

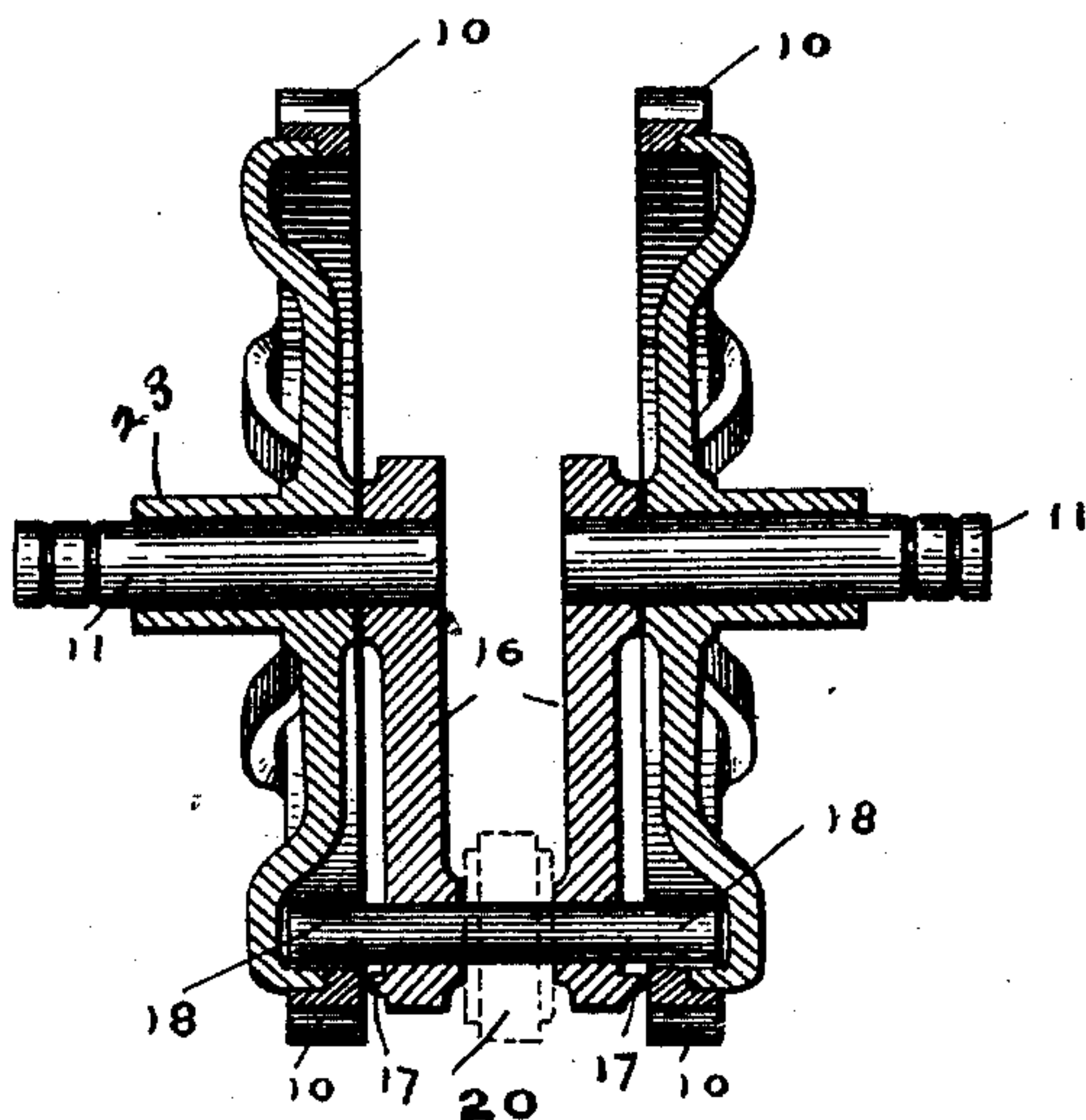
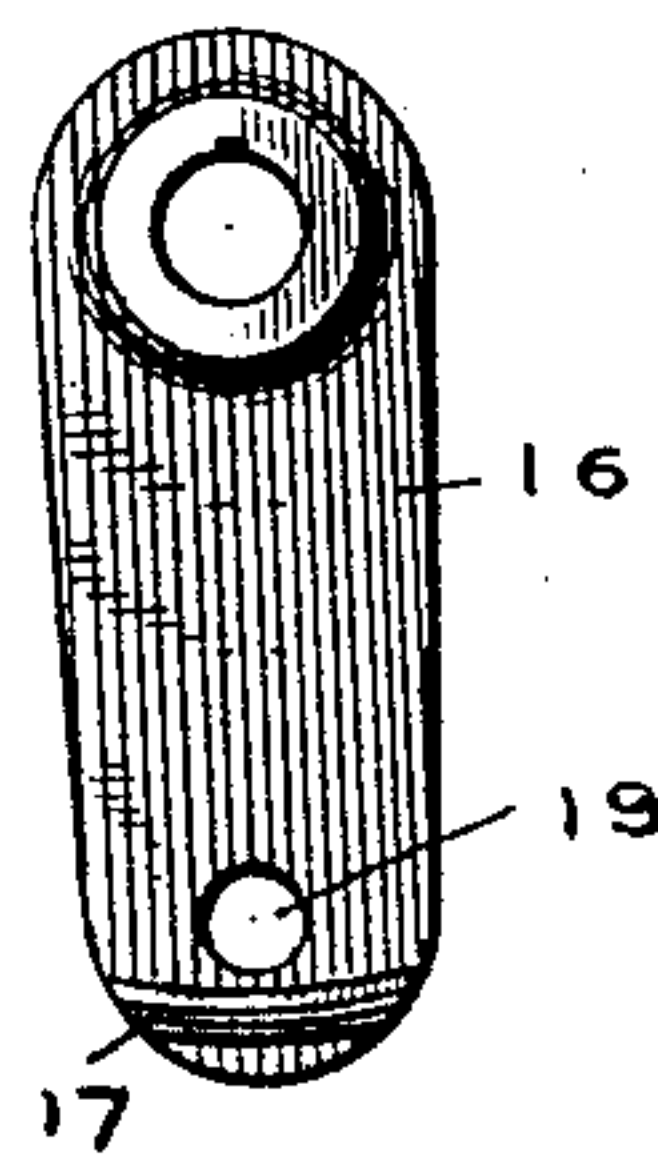


FIG. 5.



Witnesses

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UNITED STATES PATENT OFFICE.

JOSEPH R. JOHNSON, OF INDIANAPOLIS, INDIANA, ASSIGNOR OF ONE-HALF
TO JESSE B. JOHNSON, OF SAME PLACE.

BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 452,755, dated May 19, 1891.

Application filed February 9, 1891. Serial No. 380,715. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH R. JOHNSON, of Indianapolis, county of Marion, and State of Indiana, have invented certain new and useful Improvements in Baling-Presses; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which like letters refer to like parts.

My invention relates to improvements in the construction of machines for pressing hay and other fibrous or loose material, wherein a rebounding plunger is used; and it consists in the peculiar mechanism for operating the plunger and releasing it at the proper moment, allowing its rebound or retraction, and will be understood from the following description.

In the drawings, Figure 1 is a side elevation of one end of the press, showing the operating parts of my device. Fig. 2 is a top view of the same. Fig. 3 is a section of Fig. 2 on the line xx . Fig. 4 is a detached sectional view across the diameter of the large gear-wheels that operate the plunger on the line of the crank-wrist. Fig. 5 is a face view of one of the cranks.

In detail 1 is the frame-work having boxings 2, upon which is mounted the shaft 3 of the driving-pulley 4 and the fly-wheel 5.

6 is a small gear-wheel or pinion mounted on the opposite end of this shaft, engaging with a large gear-wheel 7, mounted on the counter-shaft 8, this counter-shaft also carrying pinions 9, which engage with gear-wheels 10, which preferably have rounded teeth and are loosely mounted on short axles 11, carried in boxings 12, sustained by braces 13, bolted to the sides of the frame.

16 are cranks keyed on the inner ends of the axles 11, provided with lugs or projections 17 on their lower ends for bearing lightly against the inner face of the gear-wheels 10 and preventing any twisting movement.

18 is a wrist which passes through openings 19 in the lower end of the cranks, and 20 is a plunger-bar attached directly to the central part of this wrist, the ends of the wrist resting against the inner periphery of the gear-wheels whose spokes are outwardly curved at their outer ends to allow the free passage

of the wrist as the wheels rotate. One of these spokes, however, is straight, and is preferably notched, as at 22, the spoke being thickened at that point for greater strength, and as the gear-wheels revolve these notches will engage with the ends of the crank-wrist 18, as shown in Fig. 1, where the latter is shown as about to be released from the notch of the spoke.

The gear-wheel 10 is provided with an extension 23 of the hub on the outer side, this extension forming a sleeve or hollow spindle which is journaled in a post-boxing 24, formed integral with plates 25, which have holes through which the device is bolted to the frame-work, as shown in Fig. 1. The weight of the wheel, therefore, is carried in this post-boxing, so that the short axle 11 has a free movement of its own while the mechanism is revolving, the outer boxing 12, which provides a bearing for the end of the shaft 11, being added for greater security.

Power being applied to my machine, the operation is as follows: The pulley 4 on the shaft 3, with its pinion 6 revolving, in turn revolves the gear-wheel 7, and the shaft 8 that carries the pinions 9, which in turn revolves the large gear-wheels 10, these latter revolving in the direction indicated by arrows in Fig. 1 until the notches 22 in the spokes 21 engage with the outer ends of the crank-wrist 18, connected with the plunger, carrying the wrist and its parts around with the gear-wheels until the crank-wrist 18 is carried below the line of attachment of the plunger-rod to the plunger, when the wrist will slip out of the notches 22, and the pitman, if the material be elastic, will rebound and be thrown back in the position shown in Fig. 3, and further stopped until the notches of the spokes 21 as they are carried around will again engage with the wrist. If the material being pressed be wet or inelastic from any cause, the plunger will not rebound, but will yet be released from the driving gear-wheels in the manner above described, and as these wheels continue their movement they will carry back the pitman and again carry it over with the cranks and effect the forward stroke as before. As the plunger rebounds its upper sur-

face comes in frictional contact with the arms of a brake (not shown) which is controlled by a coiled spring 23, (shown in Fig. 1;) but as this is no part of my invention it need not be further described.

What I claim as my invention, and desire to secure by Letters Patent, is the following:

1. In a baling-press, a frame-work, a plunger movable therein, a pitman connected to such plunger at one end and at the opposite end to a crank-wrist connected by cranks to short axles having bearings in suitable boxings, gear-wheels mounted on the short axles having hub-extensions sustained in independent boxings secured to the frame-work, one of the spokes of such gear-wheels adapted to engage with the crank-wrist, carrying the same over with the wheel, whereby the forward movement of the pitman is effected and the release of such pitman by the further movement of the wheel, allowing the rebound of the plunger, substantially as shown and described.

2. In a baling-press, a frame-work, a plunger movable therein, a pitman connected at one end to such plunger, its opposite end

connected to a crank-wrist carried by cranks connected to short axles sustained in suitable boxings, a pair of gear-wheels actuated from the main driving-shaft and having hub-extensions independently journaled in post-boxings connected to the frame-work, the axles of the cranks also journaled in the hubs of the gear-wheels, the latter having curved spokes to admit the passage of the ends of the crank-wrist which projects inside the face of the gear-wheels, a single spoke of each gear-wheel being re-enforced and notched for engaging with the crank-wrist, whereby the cranks and gear-wheels are revolved together, effecting the forward movement of the plunger, and means, substantially as described, for releasing the crank-wrist from engagement with the wheel and providing for its backward movement.

In witness whereof I have hereunto set my hand this 4th day of February, 1891.

JOSEPH R. JOHNSON.

Witnesses:

H. D. NEALY,
E. B. GRIFFITH.