

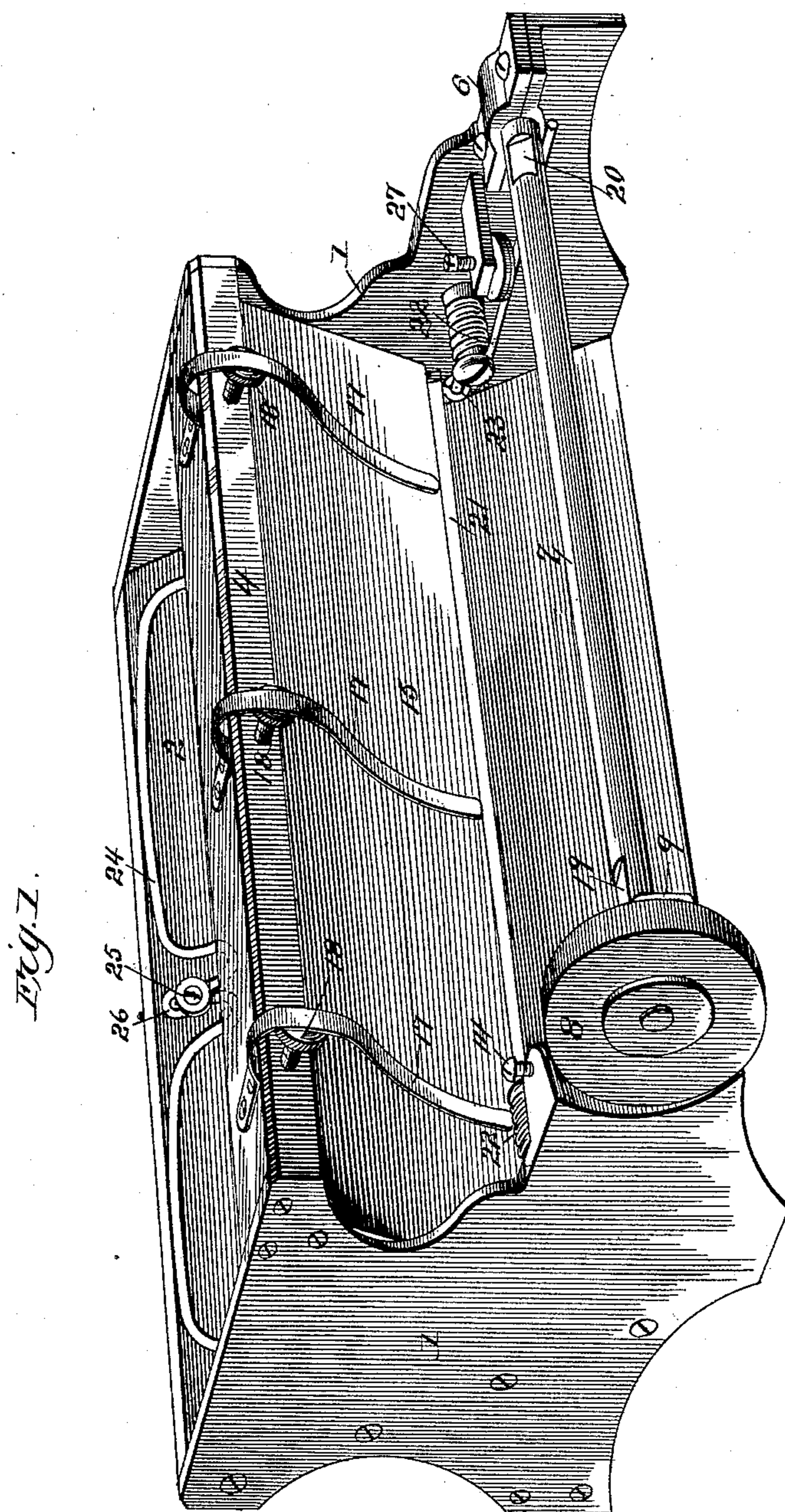
(No Model.)

2 Sheets—Sheet 1.

M. A. SWING.
FEED REGULATOR.

No. 416,968.

Patented Dec. 10, 1889.



WITNESSES:

Fred G. Dieterich

Jos. A. Ryan

INVENTOR

Marcus A. Swing.

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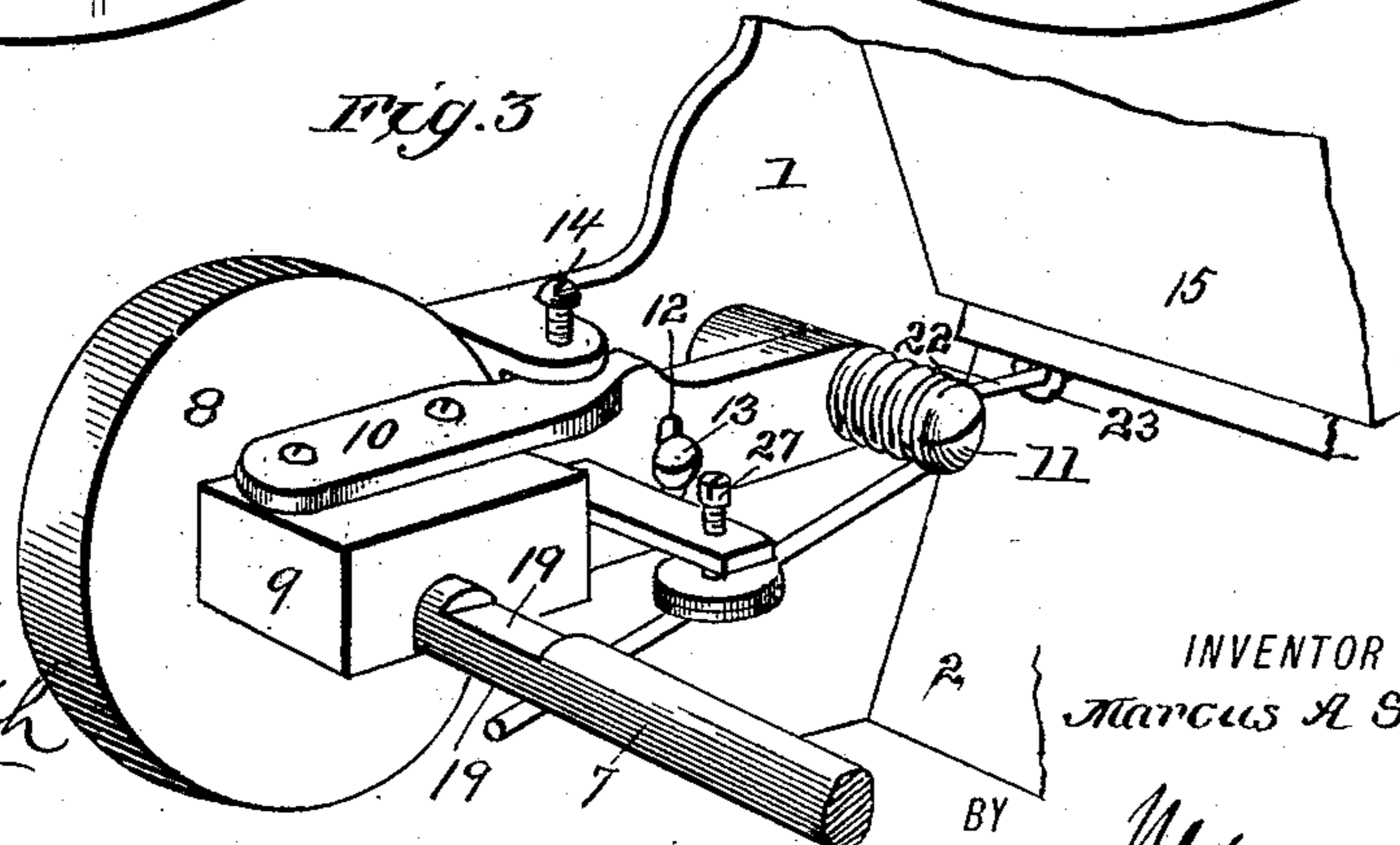
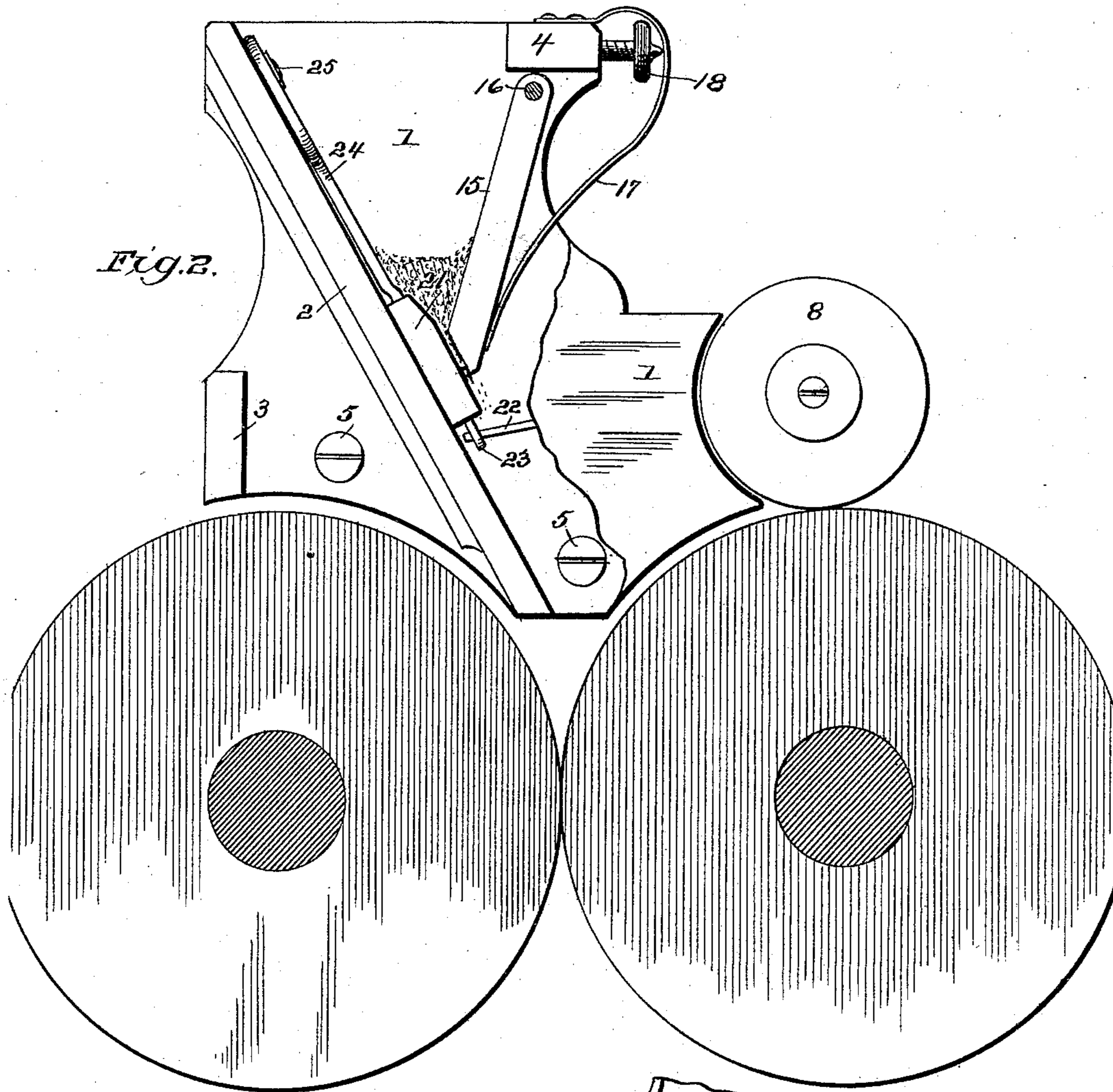
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INVENTOR
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UNITED STATES PATENT OFFICE.

MARCUS A. SWING, OF WASHINGTON, INDIANA.

FEED-REGULATOR.

SPECIFICATION forming part of Letters Patent No. 416,968, dated December 10, 1889.

Application filed June 19, 1889. Serial No. 314,873. (No model.)

To all whom it may concern:

Be it known that I, MARCUS A. SWING, of Washington, in the county of Daviess and State of Indiana, have invented a new and useful Improvement in Feed-Regulators, of which the following is a specification.

My invention consists in a new and improved feed device or regulator for roller-mills, which will be hereinafter fully described and claimed.

Referring to the accompanying drawings, Figure 1 is a perspective view. Fig. 2 is an end view with the end piece 1 partly broken away, and Fig. 3 is a detail perspective view hereinafter referred to.

The same numerals of reference indicate corresponding parts in all the figures.

Referring to the several parts by their numerals, 1 1 indicate the end pieces of my device, which are preferably formed of metal one-eighth of an inch thick. Between these end pieces are secured by bolts or screws the stationary back board 2, brace 3, and top bar 4.

My invention is secured to the frame of a roller-mill above its revolving rolls, between which the grain is crushed, by a common wood-screw 5 at each end, as shown in Fig. 2.

In a bearing 6 at the lower end of one end piece 1 is journaled loosely one end of a shaft 7, on the other end of which is secured a rubber wheel 8, the outer side of this wheel being flush with the outer side of the end piece 1. This end of the shaft 7 is mounted in a bearing in a wooden block 9, which is secured to a metal lever-arm 10. This lever-arm is pivoted at its inner end on the left-hand pivot-screw 11, and is formed with a transverse slot 12, through which a screw 13 passes.

The rubber wheel 8 is raised or lowered by turning a set-screw 14 to drop and hold the said wheel in contact with one of the revolving rolls of the mills and secured in this position by tightening the screw 13, the set-screw holding the wheel firmly at the point to which it is adjusted.

The fall-board 15 is pivoted at its upper end by end pivots 16 just below the top bar 4, and is held in at its lower end by spring-arms 17, secured at their upper ends on the top bar 4, with their lower free ends pressing the lower end of the pivoted board 15 in toward the back board 2. These spring-arms

17 can be adjusted in and out by means of set-screws 18, which work in the top bar 4, as shown.

The shaft 7 is formed near each end with the opposite flat recesses 19 19 and 20 20, the flat recesses 19 19 at one end of the shaft not being in exactly the same planes as the flat recesses 20 20 at the other end of the shaft, by which arrangement one end of the feed-bar 21 receives the jar or stroke from the revolving shaft slightly in advance of the other, giving the feeder 21 a rocking motion in addition to its up and down reciprocating motion.

The feed-bar 21 is moved by the treadle-wires 22 22, the coiled centers of which fit loosely on the pivot-screws 11, the outer free ends of the wires extending under and in contact with the ends of the revolving shaft 7, where they are formed with the flat recesses 19 20. The inner ends of the treadle-wires fit under the lower edge of the feed-bar 21, preferably in eyes 23. The feed-bar 21 is the same length as the pivoted board 15, and is held movably in the position shown between the lower edge of the pivoted board 15 and the back board 2 by a curved spring-wire 24, the lower ends of which pass through and are secured to the feed-bar. The spring-wire 24 is secured to the back board 2 at its bent upper end by a screw 25, the upper central part 26 of the wire through which the screw passes being bent, so that by tightening this screw 25 the feed will be lessened, as when the screw is loose the entire supporting-wire can slide up and down, while by tightening the screw the wire is held stationary at that point and can only be compressed by the moving feed-bar, thus lessening the feed.

In operation as the shaft 7 is revolved the flat recesses 19 and 20, as they come in contact with the ends of the wire treadles, will oscillate up and down, and at the same time impart a rocking motion to the feed-bar 21, and the grain will thus be fed in a steady, even, and continuous stream from the hopper to the revolving rolls of the mill.

27 27 indicate set-screws, which can be raised or lowered on the wire treadles to regulate the stroke imparted to the treadles by the revolving shaft 7.

It will be seen that my invention does away

with all the small pulleys and belting heretofore used on the outside of the roller frame or casing where the feed-regulator was driven from the roll shaft or shafts of the mill, as in
 5 my invention I drive the feed-regulator directly from and off the mill-roll on the inside of the roll frame or casing.

Rubber wheels 8 of different sizes will be used to suit the speed of different mill-rolls.

10 Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination, with a suitable hopper, of the revolving shaft having the rubber
 15 wheel at its end and formed with the flat recesses, the centrally-pivoted treadle-wires, the board 15, pivoted at its upper end, and the feed-bar, substantially as set forth.

2. The combination, with a suitable hopper, of the revolving shaft loosely fitting in a bearing at one end, having the rubber wheel at its other end, and formed with the flat recesses, the bearing-block 9, the pivoted lever-arm formed with the transverse slot and the
 25 set-screws 13 and 14, the centrally-pivoted treadle-wires, the board 15, pivoted at its upper end, and the feed-bar, substantially as set forth.

3. The combination, with a suitable hopper, of the revolving shaft having the rubber
 30 wheel at its end and formed with the flat recesses, the centrally-pivoted treadle-wires, the set-screws 27 27, the board 15, pivoted at

its upper end, and the feed-bar, substantially as set forth. 35

4. The combination, with the hopper, of the revolving shaft having the rubber wheel at its end and formed with the flat recesses, the centrally-pivoted treadle-wires, the feed-bar, the board 15, pivoted at its upper end, the
 40 curved spring-wire 24, and the screw 25, substantially as set forth.

5. The combination, with the end pieces, the back board, and the top bar 4, of the board 15, pivoted at its upper end, the curved
 45 spring-arms 17, the feed-bar, the spring-wire 24, the centrally-pivoted treadle-wires, and the revolving shaft having the rubber wheel at one end and formed with the flat recesses, substantially as set forth. 50

6. The combination, with the end pieces, the back board, and the top bar 4, of the board 15, pivoted at its upper end, the curved spring-arms 17, the set-screws 18, the feed-bar, the spring-wire 24 and its screw 25, the
 55 centrally-pivoted treadle-wires and their set-screws 27, the revolving shaft having the rubber wheel at one end and formed with the flat recesses, the bearing-block 9, the pivoted slotted lever-arm, and the set-screws 13 and
 60 14, substantially as set forth.

MARCUS A. SWING.

Witnesses:

SAMUEL H. TAYLOR,
 B. F. COLE.