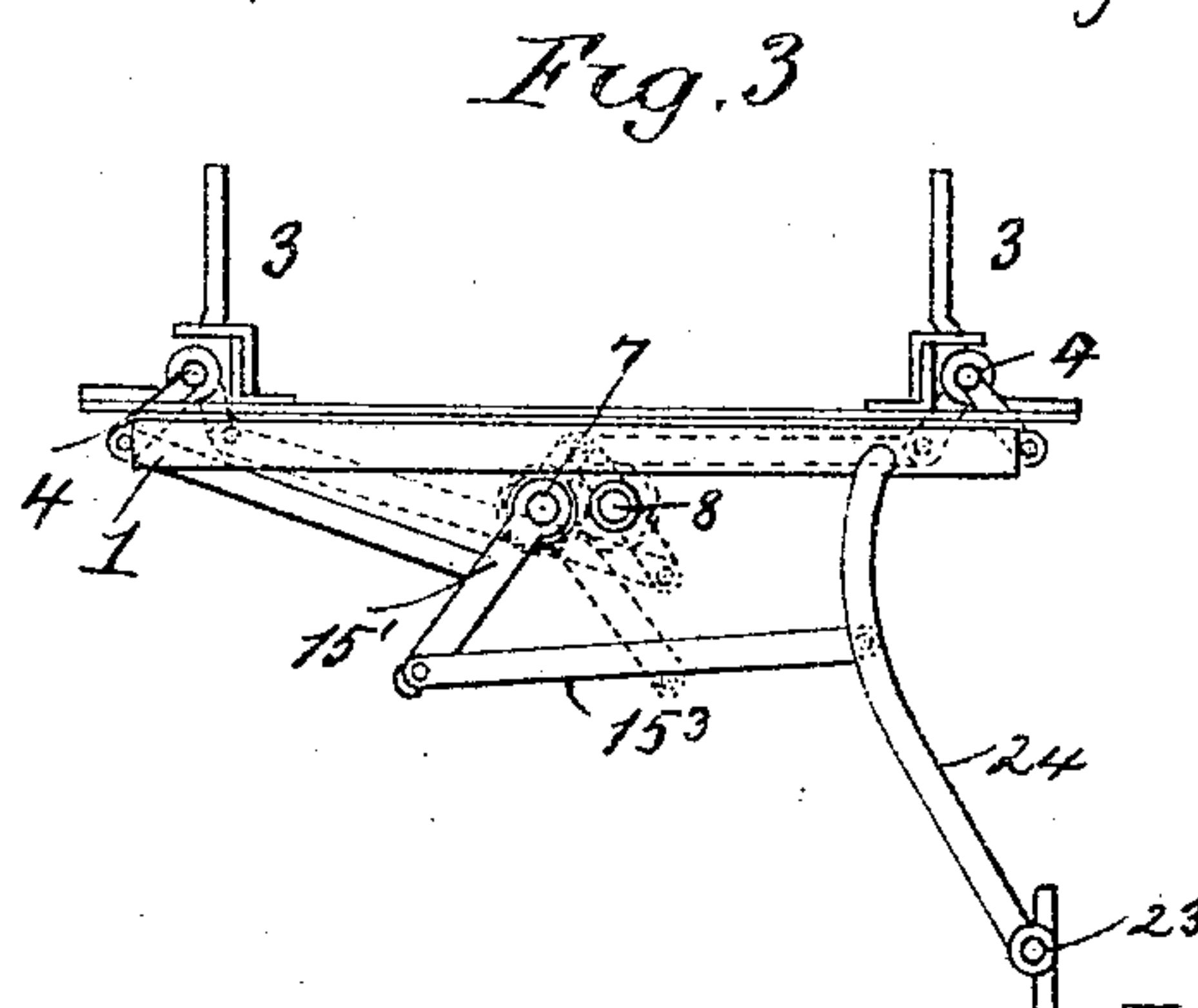
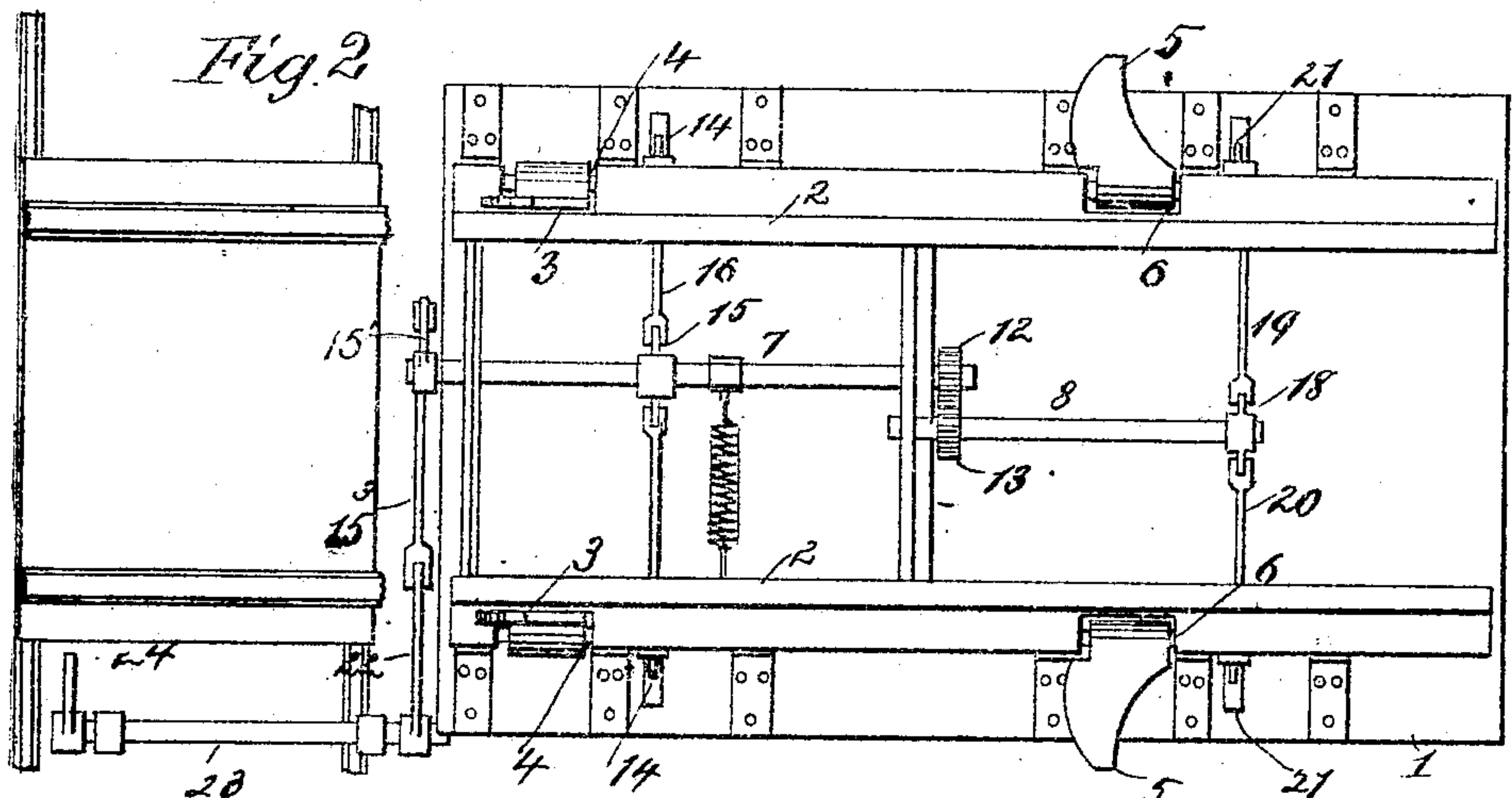
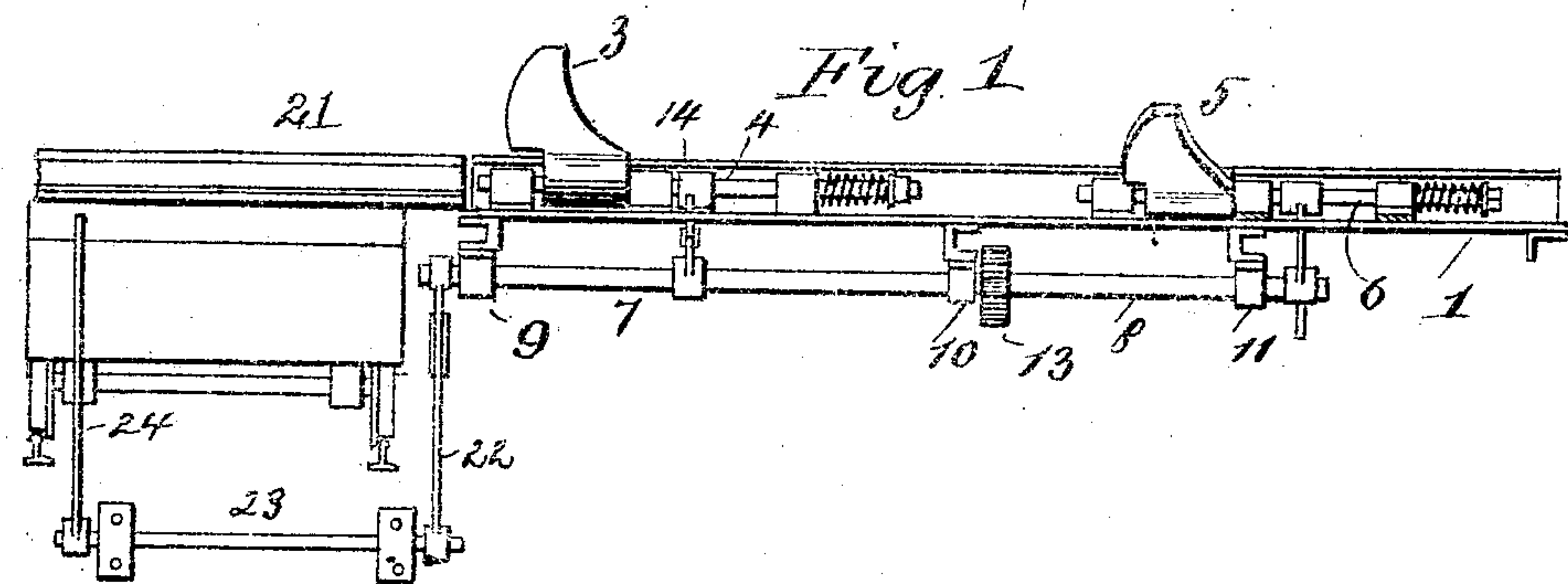


J. J. FLEMING.
 AUTOMATIC CAR STOP.
 APPLICATION FILED OCT. 27, 1908.

914,938.

Patented Mar. 9, 1909.



WITNESSES

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UNITED STATES PATENT OFFICE.

JOHN J. FLEMING, OF CARRICK, PENNSYLVANIA, ASSIGNOR TO THE PHILLIPS MINE AND MILL SUPPLY COMPANY, OF PITTSBURG, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

AUTOMATIC CAR-STOP.

No. 914,938.

Specification of Letters Patent.

Patented March 9, 1909.

Application filed October 27, 1908. Serial No. 459,761.

To all whom it may concern:

Be it known that I, JOHN J. FLEMING, a citizen of the United States, residing at Carrick, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Automatic Car-Stops, of which the following is a specification.

This invention has relation to automatic car stops for use in mine equipment, and particularly for use in the equipment of coal mines.

The object of the invention is to provide means for automatically controlling the starting of and passage of mine cars from one point to another, so that but one car of a line or series of cars at a time can be started from a given point and allowed to travel in a given direction: the starting of each successive car being dependent upon the automatic operation of devices only brought into play when the preceding car has reached its destination or has proceeded so far on its way that the succeeding car cannot collide with it or nearly approach the car ahead.

Generally expressed the purpose of the invention is to keep the cars of a series following each other on the same track or to the same point properly spaced apart, for the proper and orderly operation of the mine delivery.

My invention involves the use of the well known and universally adopted "horn stops," forming part of the equipment of tipples, loading platforms, mine heads and the like, and employed for the purpose of temporarily arresting the travel of a mine car at the mouth of a cage, the top of an incline, the end of a tippie or other apparatus from on, into, or out of which the car is eventually allowed to move, the horn stops being so arranged that they may be opened or released from the car wheels at an appropriate time, and then closed to engage with the wheels of the next succeeding car.

Where cars follow each other, say from a pit cage, to a transfer car, in close succession, and are brought back to the pit cage as by being drawn up an incline, it is necessary to prevent the cars from following one another too closely so as to avoid collision, crowding, and from jumping off the end of their track into the pit containing the rails of the transfer car.

My invention accomplishes its object by

means of mechanism which, when one car of a series or train on an elevated track or platform is released, the succeeding car will be held back until the forward car has completely left the platform or starting point, when the second car will be released and allowed to come to the starting point, and will be held there until automatically released at a proper time, the same series of operations taking place with each car.

In the accompanying drawings, Figure 1 is a central longitudinal sectional view of an elevated platform or trestle on which the cars are received, and from which they are run to their points of destination. Fig. 2 is a plan view of the same: and Fig. 3 is an end elevation.

1 designates the elevated trestle of a coal mine upon which are laid the rails, switches and other track equipments for the accommodation of the mine cars, which are run on the track section 2 leading to a transfer car, an incline, cage, tippie or other apparatus adapted to receive the cars one at a time. At the outgoing terminal of the track section 2, the usual horn stops 3, 3, are located, and such horn stops in this instance are of the type shown and described in Letters Patent of the United States No. 524211 to J. M. Phillips, J. J. Fleming and F. Browning for automatic cross over tip, dated August 17, 1894, being mounted on horizontal shafts 4, 4, outside the rails and adapted to be turned with the shafts 4, 4, to open and close them. At a distance back of the horn stops 3, 3, less than the length of the car, another similar pair of horn stops 5, 5 are located and similarly mounted on horizontal shafts 6, 6.

Two horizontal shafts 7 and 8 are journaled below and lengthwise of the track section 2 near the middle thereof, in boxes 9, 10, etc., supported from the track platform, and on the inner ends of said shafts are keyed the intermeshing tooth wheels 12, 13, whereby the rotation of one shaft causes the rotation of the other, but in a contrary direction. The shaft 7 is coupled to the crank arms 14, 14, of the shafts 4, 4, by means of the crosshead 15, and link bars 16, 17, while the shaft 8 is coupled to the shafts 6, 6 by crosshead 18, link bars 19, 20, and crank arms 21, the result being that when the first horn stops 3, 3 are opened, the horn stops 5, 5 will be closed and vice versa.

The opening and closing of the horn stops

may be automatically effected in various ways. In the present example provision is made for operating the stops from a car moving on an incline below the cross over track section 21. For this purpose a lever 15¹ is mounted on the outer end of the shaft 7 and is coupled by means of a bar 15³, to a lever 22, which is mounted on the inner ends of the shaft 23, below the cross over 21. The other end of shaft 23 carries a lever 24, which is so situated as to be struck by a transfer car on the incline. Now the horn stops 3, 3, being closed, and 5, 5 open, a transfer car on the incline striking the lever 24, will, through its connections with shaft 7, open the stops 3, 3, allowing the car held thereby to pass onto the track on the transfer car or onto any other tracks. At the same time the shaft 8, being turned in the opposite direction to the shaft 7, the stops 5, 5 will be closed, thus preventing the second car from immediately following the first. As soon as the loaded car has passed off the track section 2, the retractile spring 26 connected at one end to a crank arm on the shaft 7 and at the other end to a stationary holder, turns shaft 7, thus closing the stops 3, 3 and opening the stops 5, 5, and so allowing the second car to move up to the stops 3, 3, to await its turn.

I claim:—

1. An automatic car stop, comprising a

line of track, stops movable into and out of the path of the cars on said track, other stops similarly movable and located in the rear of the first mentioned stops, a pair of horizontal shafts, located below and parallel to the tracks and adapted to rotate in opposite directions, meshing gears keyed to said shafts, stop operating connections between said shafts and the stops and automatically controlled mechanism for rotating said shafts.

2. An automatic car stop comprising two pairs of horn stops, horizontal rock shafts on which said stops are mounted, horizontally arranged shafts, gearing and connections to the rock shafts, to rotate the latter in opposite directions, and automatically controlled mechanism for turning said geared shafts.

3. An automatic car stop comprising two pairs of rocking horn stops, connections whereby said pairs of stops are alternately opened and closed by rocking them in opposite directions, and automatic mechanism, adapted to be operated by a moving body such as a car, to alternately open and close the stops.

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

JOHN J. FLEMING.

Witnesses:

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THOS. A. CONNOLLY.