

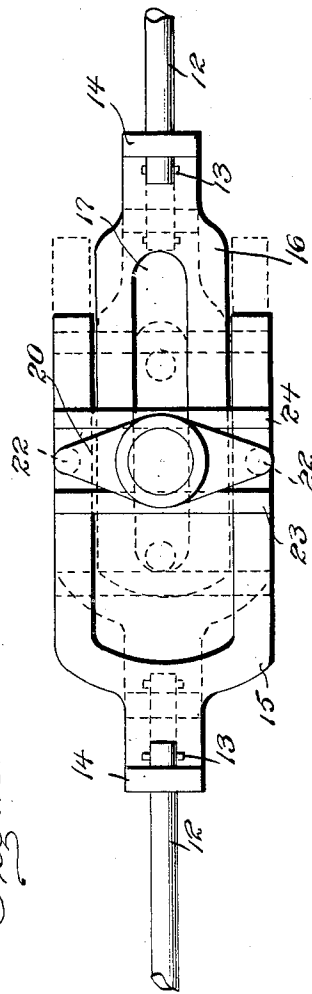
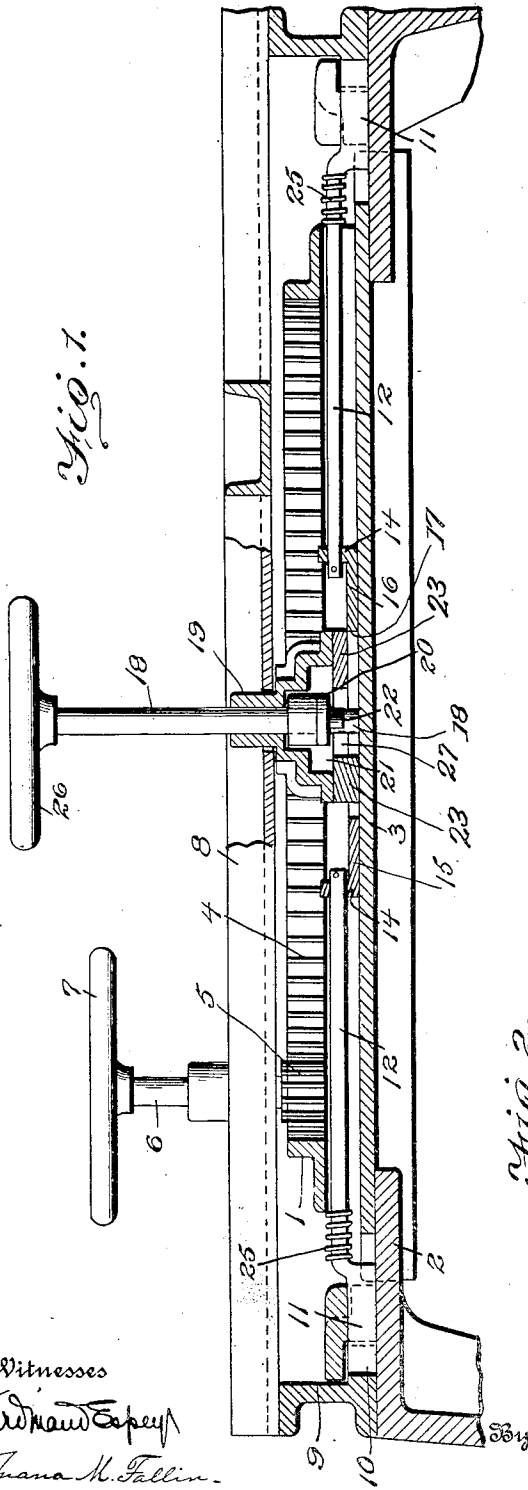
F. E. ARNDT.
ROAD MACHINE.

APPLICATION FILED DEC. 27, 1911.

1,039,686.

Patented Oct. 1, 1912.

2 SHEETS-SHEET 1.



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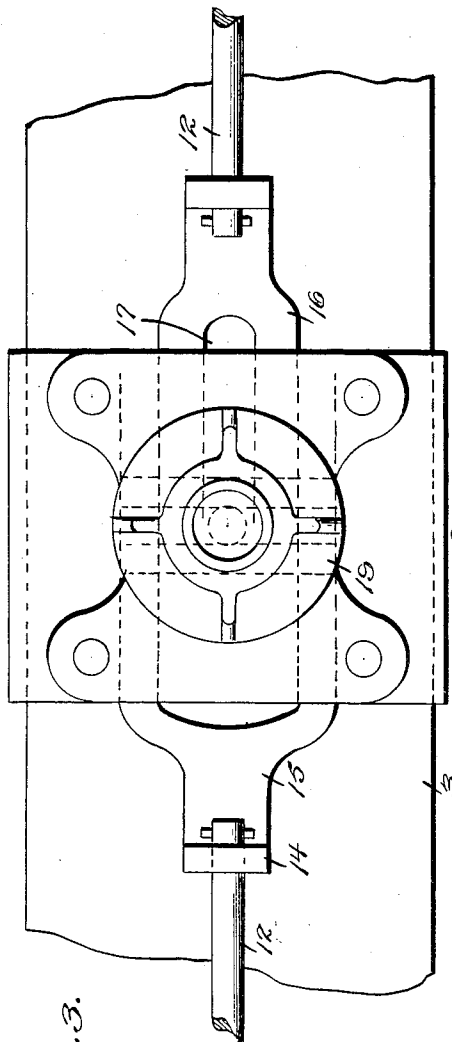


Fig. 3.

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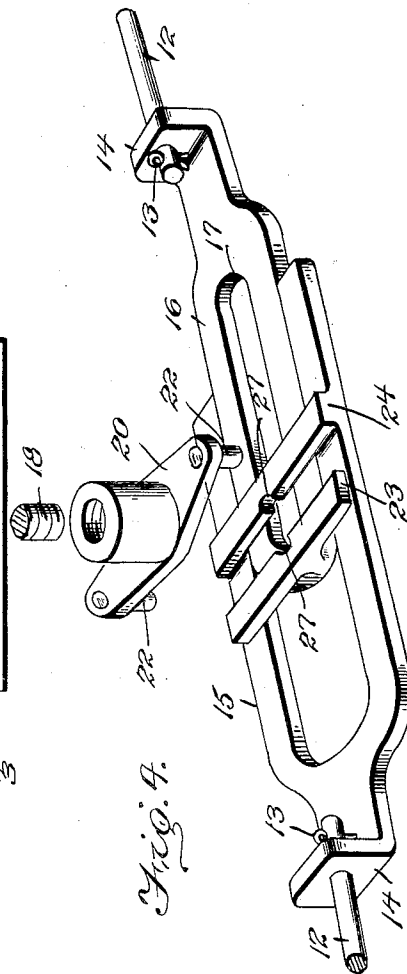


Fig. 4.

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UNITED STATES PATENT OFFICE.

FRANKLIN E. ARNDT, OF GALION, OHIO, ASSIGNOR TO THE GALION IRON WORKS COMPANY, A CORPORATION OF OHIO.

ROAD-MACHINE.

1,039,686.

Specification of Letters Patent.

Patented Oct. 1, 1912.

Application filed December 27, 1911. Serial No. 668,176.

To all whom it may concern:

Be it known that I, FRANKLIN E. ARNDT, citizen of the United States, residing at Galion, in the county of Crawford and State of Ohio, have invented certain new and useful Improvements in Road-Machines, of which the following is a specification.

This invention comprehends certain new and useful improvements in road machines of the wheeled scraper, annular blade carrier type, and the invention has for its primary object a simple, durable and efficient construction of mechanism for locking the annular blade carrier in adjusted position.

The invention also has for its object a mechanism of this character which will be strong and not liable to get out of order and which will be composed of comparatively few parts that may be cheaply manufactured and readily assembled, and the invention also aims to generally improve this class of devices and to render them more useful and commercially desirable.

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

For a full understanding of the invention, reference is to be had to the following description and accompanying drawing, in which:

Figure 1 is a sectional view of my improved annular blade carrier locking device or mechanism; Fig. 2 is a plan view of a portion of said apparatus; Fig. 3 is a similar view showing parts that are omitted in Fig. 2, and Fig. 4 is a detail perspective view of the two slides and their correlated parts.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawing by the same reference characters.

Referring to the drawing, the reference numeral 1 designates the annular blade carrier of a road machine supported for revolvable movement within the framework 2 and embodying a cross bar 3. The blade itself is not shown, as it forms no part of my present invention. The blade carrier 1 is formed with an inner circle of teeth 4 designed to mesh with a pinion 5, said pinion being secured to the lower end of a vertically disposed spindle 6 equipped with a

hand wheel 7 and journaled for rotary movement in a cross bar 8.

The cross bar 8 is supported upon an annular band 9, which is formed on its interior wall with a circular series of locking teeth 10 designed for engagement with plungers 11 that are mounted for a radial movement and that are connected to or formed integral with the outer ends of radially reciprocating rods 12. The rods 12 are arranged in diametrical alinement with each other, and their adjacent ends are passed through and secured by pins 13 or similar fastening devices in the upstanding apertured ears 14 that are formed on the outer ends of slides, designated 15 and 16, respectively. The slides 15 and 16 are movable upon the upper face of the bar 3, the slide 15 being bifurcated and embracing the slide 16, as clearly illustrated in Fig. 4. The slide 16 is formed with a longitudinally extending slot 17 which accommodates the step or lower bearing end of a vertically disposed plunger operating shaft 18, said shaft being journaled in a casing 19, as shown, and being provided at its lower end with two oppositely extending arms 20 movable in a chamber 21 formed in said casing. The respective arms 20 carry downwardly projecting eccentric pins 22 designed to operate between and bear against the opposing walls of transversely extending ribs 23 and 24, formed on the slides 16 and 15, respectively, the inner end of the slide 16 passing underneath the rib 24 of the slide 15, as best illustrated in Fig. 4. Springs 25 encircle the rods 12 near the outer ends thereof and exert tension on said rods to move the latter outwardly to effect locking engagement between the plungers 11 and the teeth or sockets 10 of the annular band 9. The springs 25 are disposed between heads formed on the ends of the rods 12 and the edge of the annular blade carrier 1.

From the foregoing description in connection with the accompanying drawing, the operation of my improved blade carrying locking device will be apparent.

In the practical use of the device, when it is desired to retract the plungers 11 from the keepers that are formed by the notches or sockets 10 of the band 9, the operator grasps the hand wheel 26 on the upper end of the shaft 18, and thereby turns said shaft in either direction, which will cause the ec-

centric pins 22 to press against and ride upon the opposing edges of the ribs 23 and 24, consequently spreading said ribs apart and moving the slides 15 and 16 inwardly, one within the other, so as to draw the plunger rods 12 inwardly and thereby retract the plungers. When the plungers are fully retracted, the pin carrying arms 20 are in longitudinal alinement therewith, and preferably the ribs 23 and 24 are formed in their opposing edges with depressions 27 in which said pins may fit, so as to thereby hold the parts retracted until the desired adjustment of the blade carrier shall have been effected by the manipulation of the hand wheel 7. As soon as the desired adjustment has been secured, a slight turning movement is imparted to the shaft 18, whereupon the springs 25 will be permitted to act and will shoot the plungers into their keepers, the plate carrier being thereby securely locked in position and held rigidly until another adjustment is desired.

It is to be particularly noted that by reason of the fact that the slides 15 and 16 engage with each other, the slides coact to guide each other for rectilinear movement. Furthermore, the slides may be made relatively broad so as to secure a wide bearing surface, and be made so rigid as to reduce lost motion through flexing of the parts. It may be also pointed out in this connection that by reason of the fact that the slides interengage, the slides themselves form stops limiting the movement of the slides in one direction, and that the cross bars 23 and 24 form stops limiting any outward movement of the slides away from each other, thus preventing any danger of the rods 12 being broken, bent, or otherwise damaged by too great a rotation of the hand wheel 26 in either direction.

While the accompanying drawing shows what I believe to be the preferred embodiment of my invention, it is to be understood that the invention is not limited thereto, but that various changes may be made in the construction, arrangement and proportions of the parts without departing from the scope of the invention as defined in the appended claims.

Having thus described my invention, what is claimed as new is:

1. An apparatus of the character described, including a member provided with keepers, latches arranged for engagement with said keepers, interengaging slides operatively connected to said latches and coacting to mutually guide each other for rectilinear movement, and an actuating shaft provided with eccentrics engaging said slides and adapted to move the same inwardly, whereby to retract the plungers.

2. An apparatus of the character described, including a member provided with

keepers, plungers adapted to engage said keepers, interengaging slides operatively connected to the respective plungers and coacting to mutually guide each other for rectilinear movement, said slides being formed, respectively, transversely with extending ribs, and an actuating shaft provided with eccentrics mounted between and adapted to bear upon said ribs.

3. An apparatus of the character described, including a member provided with keepers, plungers movable into engagement with said keepers, slides operatively connected to said plungers, one of said slides being bifurcated and embracing the other, transverse ribs formed on the respective slides, and an actuating member provided with eccentric pins interposed between and adapted to bear against the opposing edges of said ribs, for the purpose specified.

4. An apparatus of the character described, including a member provided with keepers, plungers arranged for engagement with said keepers, slides operatively connected to the respective plungers, one of said slides being bifurcated and embracing the other slide, ribs formed on said slides and extending transversely thereof, and an actuating shaft provided with eccentric pins interposed between and working against the opposing edges of said ribs, such edges being formed with depressions adapted to receive said pins, for the purpose specified.

5. An apparatus of the character described, including a member formed with keepers, plungers arranged for engagement with said keepers, slides operatively connected to the respective plungers, one of said slides being bifurcated and embracing the other slide, said last named slide being formed with a slot, an actuating shaft having its lower end extending into said slot and provided with eccentric pins, and ribs formed on the respective slides and extending transversely thereof, the pins being interposed between said ribs.

6. An apparatus of the character described, including a member formed with keepers, spring actuated plungers movable into engagement with said keepers, rods secured to said plungers, slides formed with apertured ears in which the inner ends of said rods are secured, one of said slides being bifurcated and embracing the other slide, and each slide being formed with a transversely extending rib, and an actuating shaft formed at one end with oppositely extending arms, the arms being provided with pins interposed between and working against said ribs.

7. An apparatus of the character described, including a member provided with keepers, an annular blade carrier, mounted in said member, latches carried by said blade carrier and arranged for engagement with

said keepers, interengaging slides operatively connected to said latches and coacting to guide each other for rectilinear movement, and an actuating shaft movable about
5 its axis in either direction to effect the simultaneous inward movement of said slide whereby to retract the plungers.

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

FRANKLIN E. ARNDT. [L. S.]

Witnesses:

EVA V. TALBOTT,
CHARLES E. FOX.