July 26, 1949. G. L. BLISS 2,477,167

EXTENSIBLE TRACTOR RAM

Filed June 11, 1947

FIG. 1.

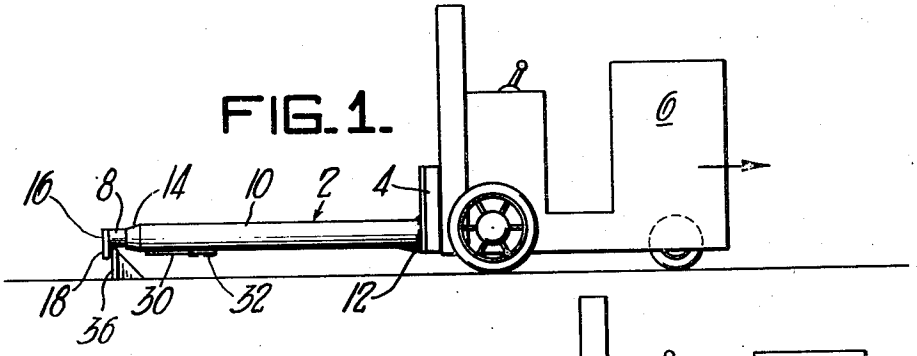


FIG. 2.

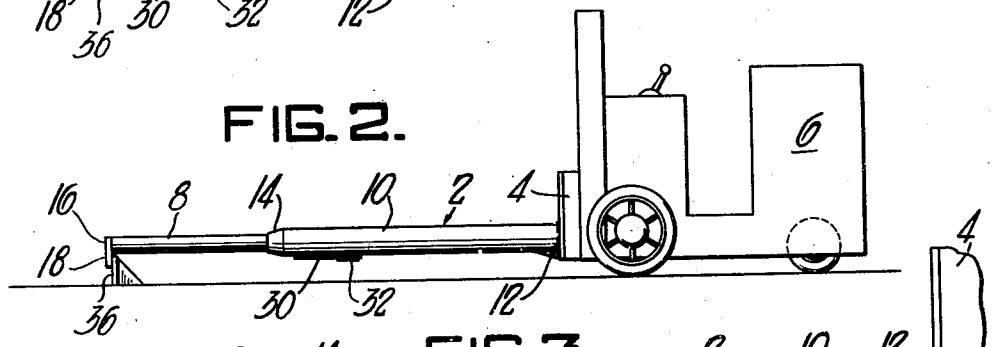


FIG. 3.

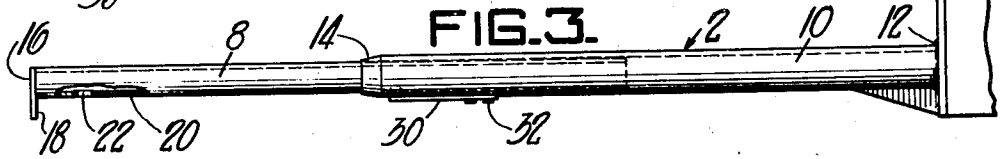


FIG. 4.

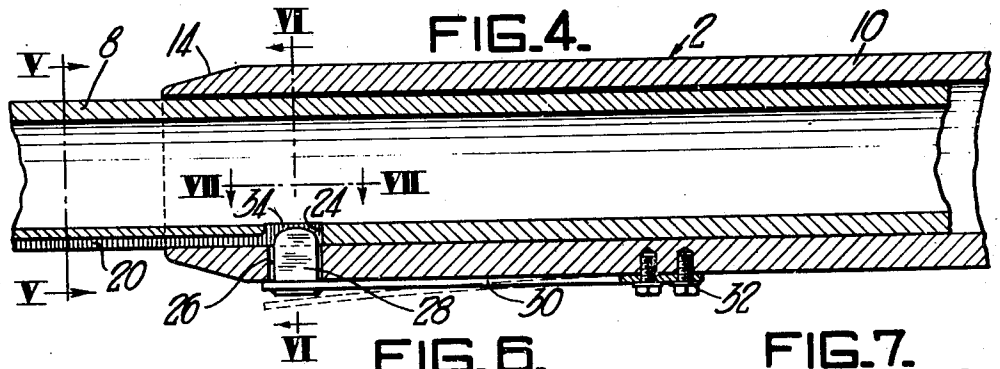


FIG. 5.

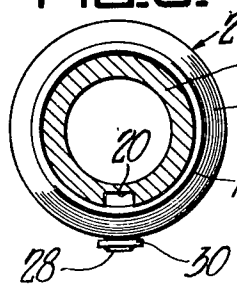


FIG. 6.

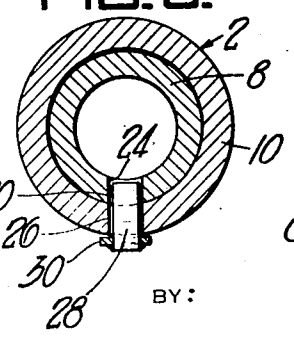
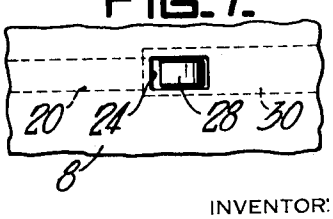


FIG. 7.



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EXTENSIBLE TRACTOR RAM

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4 Claims. (Cl. 214—65)

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This invention relates to tractors used for picking up and transporting articles such as bundles of wire, coils of strip and the like and more particularly to telescopic or extensible rams therefor.

Tractors having ram-like pick-up members are frequently used for transporting bundles of wire or rod and the like between the various processing departments of the mills. Since the coils or bundles are loosely bunched, it is desirable to have a long ram for picking the bundles up but due to the fact that aisle space is frequently quite limited, it is necessary to have a short ram in order to drive the tractor therethrough. Consequently, it is desirable for such purpose to have a ram that can be varied in length. Moreover, to have utmost flexibility in use, it is desirable to have a short ram for transporting or unloading coils of strip metal and the like whereas longer rams are necessary for moving bundles of rod or wire. Thus an extensible ram is necessary if a tractor is to be used for both of these purposes.

It is accordingly an object of this invention to provide an adjustable tractor ram.

It is a further object to provide an adjustable tractor ram which is simple in design but nevertheless rugged and durable in operation.

The foregoing and further objects will be apparent from the following specification when read in conjunction with the attached drawing, wherein:

Figure 1 is a side elevation showing the ram of my invention in collapsed position;

Figure 2 is a similar view with the ram in extended position;

Figure 3 is an enlarged elevation of the ram of Figure 2;

Figure 4 is a vertical section of a portion of the ram;

Figure 5 is a section on line V—V of Figure 4;

Figure 6 is a section on line VI—VI of Figure 4; and

Figure 7 is a view on line VII—VII of Figure 4.

Referring more particularly to the drawing, the numeral 2 designates a ram member elevatable by a lift 4 on a tractor 6. The ram 2 of my invention comprises inner and outer telescoped tubes 8 and 10 of approximately the same length. The inner end of the outer tube 10 is suitably attached to the lift 4 as at 12 and has its outer end beveled or tapered as at 14.

The inner tube 8 has an outside diameter slightly less than the inside diameter of the outer tube 10 so that a close sliding fit is provided therebetween. The inner tube 8 has closure

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member 16 welded or otherwise suitably secured to the outer end thereof which closure member has a depending arm or hook 18. A groove 20 is provided along the bottom of the inner tube for a distance of about half the length thereof, which groove extends between forward and rearward latch slots 22 and 24. The forward slot 22 is adjacent the closure member 16.

The outer tube has an aperture 26 on its underside adjacent the outer end thereof. A stud-like latch member 28 is disposed in this aperture and is extended a short distance into the interior of the tube by a spring arm 30 secured to the underside of the outer tube as at 32. The latch 28 may be welded or otherwise suitably secured to the spring arm and has rounded or beveled upper surfaces 34.

From the foregoing, it is seen that the inner tube is guided by the latch 28 extending into the groove 20 and that the forward and readward movement of the inner tube is limited by the spring-biased latch 28 being sprung into the apertures 24 and 22, respectively.

To withdraw the inner tube and thereby extend the ram, it is merely necessary to drop the ram so that the hook or arm 18 on the end thereof engages a suitable abutment such as is shown at 36, and then back up the tractor. Similarly, if it is desired to compress a load of bundles on the extended ram and shorten it, it is merely necessary to bring the end of the ram and the outer bundle into engagement with a suitable barricade and then move the tractor forward until the inner tube moves into the outer tube sufficiently for the latch 28 to be sprung into the forward locking hole 22.

While I have shown and described a specific embodiment of my invention, it will be understood that this embodiment is merely for the purpose of illustration and description and that various other forms may be devised within the scope of my invention, as defined in the appended claims.

I claim:

1. In combination with a tractor having a vertical lift, an extensible horizontal ram connected to said lift, said ram comprising inner and outer telescoped tubes, said outer tube having an inwardly extending spring-biased latch member at the mid-portion of its underside, said inner tube having forward and rearward apertures on its underside and an intervening longitudinal groove connecting said apertures, said forward aperture being adjacent the outer end of said inner tube and said rearward aperture being at the mid-

portion thereof, said apertures and said groove being adapted to be engaged by said latch member.

2. In combination with a tractor having a vertical lift, an extensible horizontal ram connected to said lift, said ram comprising inner and outer telescoped tubes, said inner tube having an inwardly extending spring-biased latch member at the mid-portion of its underside, said inner tube having forward and rearward apertures on its underside and an intervening longitudinal groove connecting said apertures, said forward aperture being adjacent the outer end of said inner tube, said rearward aperture being at the mid-portion thereof, said apertures and said groove being adapted to be engaged by said latch member, and a downwardly depending hook-like arm on the outer end of said inner tube.

3. In combination with an industrial truck having a vertical lift, an extensible ram connected to said lift, said ram comprising inner and outer telescoped tubes, said inner tube having a downwardly depending hook member on the outer end thereof and a longitudinal groove on the underside thereof, said outer tube having a spring-biased latch member on the underside thereof, said groove being adapted to be engaged by said latch member to prevent rotation of said inner tube during extension or retraction thereof to maintain the downward extension of said hook.

4. In combination with an industrial truck having a vertical lift, an extensible ram connected to said lift, said ram comprising inner and outer telescoped tubes, said inner tube having a downwardly depending hook member on the outer end thereof and having forward and rearward apertures on the underside thereof connected by an intervening longitudinal groove, said outer tube having a spring-biased latch member on the underside thereof, said latch member adapted to extend into said groove to prevent rotation of said inner tube during extension or retraction thereof to maintain the downward extension of said hook and extend into said apertures to hold said inner tube in extended or retracted position.

GEORGE L. BLISS.

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