

Dec. 30, 1941.

P. TISHKEN

2,267,962

DOUBLE LOADING COIL HOLDER

Filed May 13, 1940

2 Sheets-Sheet 1

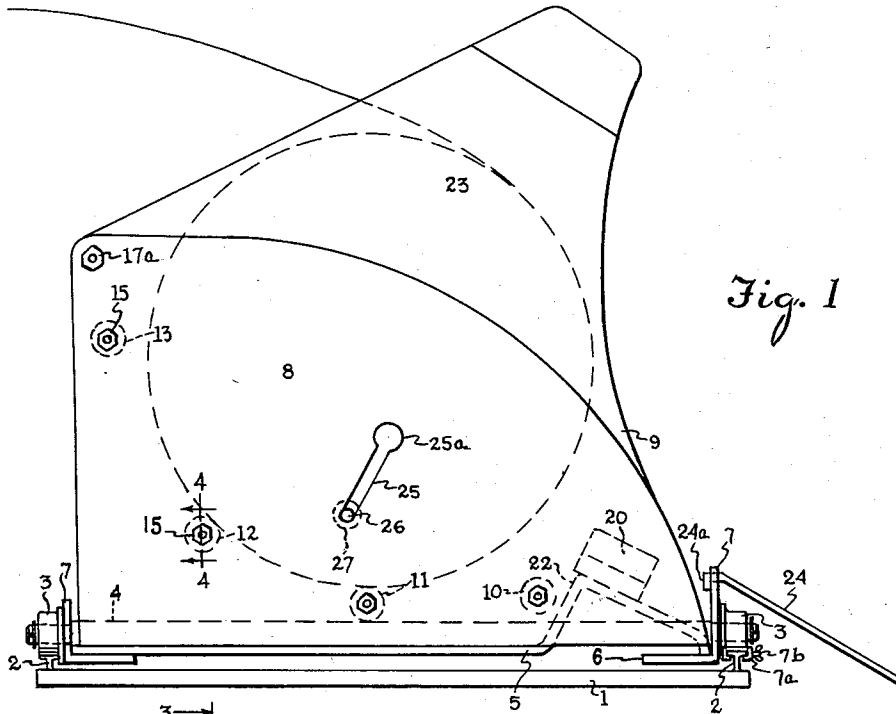


Fig. 1

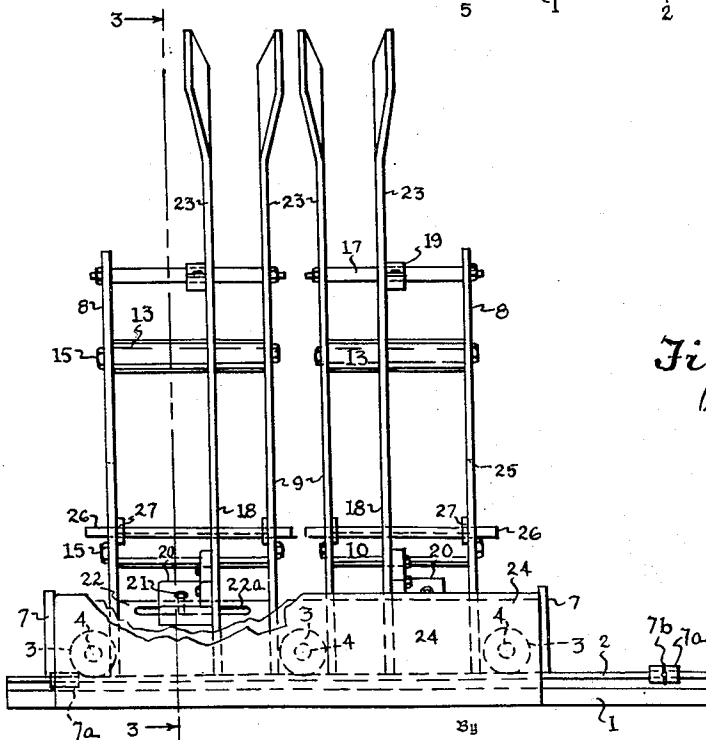


Fig. 2

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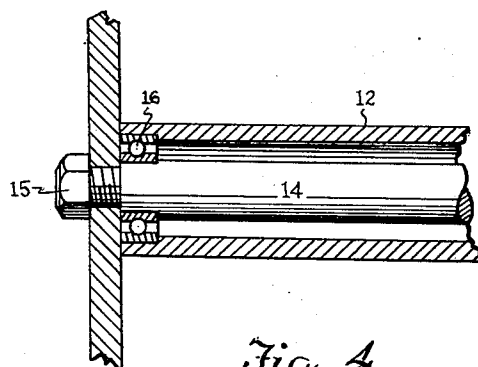
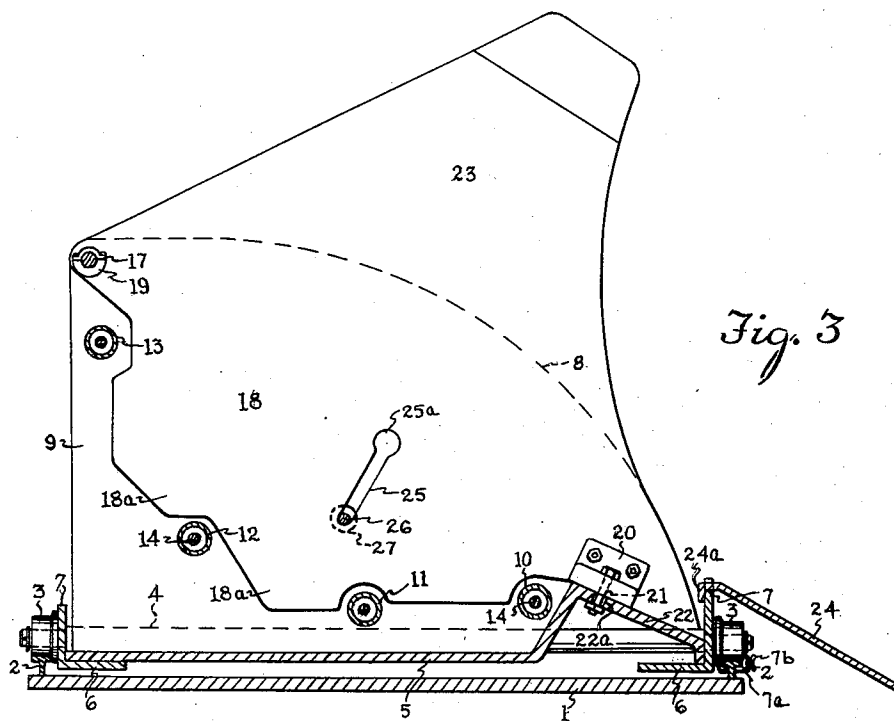
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UNITED STATES PATENT OFFICE

2,267,962

DOUBLE LOADING COIL HOLDER

Paul Tishken, Detroit, Mich.

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8 Claims. (Cl. 242—80)

This invention relates to coil holders such as are used to rotatively retain a coil of strip material and adapt it for progressive delivery to a machine subjecting it to a shaping, cutting, perforating or other operation.

An object of the invention is to adapt a holder to concurrently receive at least two coils of strip material so that time may be saved in feeding such material by loading a full coil into the holder prior to exhaustion of the coil then occupying the holder.

Another object is to provide for the reception of two coils of strip material by a carriage movable on a suitable base in a direction transverse to the coils so that either coil may be readily established in a required feed position.

Other objects are to adapt a coil holder to be readily adjusted to accommodate coils of various widths; to definitely provide against bodily withdrawal of a coil from its feeding holder under feeding stress; and to provide adjustable means for limiting travel of a carriage for receiving two coils.

These and various other objects the invention attains by the construction hereinafter described and illustrated in the accompanying drawings, wherein:

Fig. 1 is a view in side elevation of the improved holder showing a coil feeding therefrom.

Fig. 2 is a front view of said holder.

Fig. 3 is a vertical sectional view of the holder taken upon the line 3—3 of Fig. 2.

Fig. 4 is a sectional detail of an antifriction provision for journaling a roller, taken upon the line 4—4 of Fig. 1.

In these views the reference character 1 designates a base plate formed of heavy sheet metal having a pair of T-shaped rails 2 welded or otherwise rigidly attached thereto along its front and rear margins. Upon each rail 2 there is adapted to travel a number of spaced rollers 3, journaled on the front and rear ends of shafts 4. Suspended by and beneath the shafts 4 is the bottom plate 5 of a coil carriage traveling on the rails 2, such plate seating on horizontal flanges 6 of a pair of heavy angle bars 7 having vertical flanges perforated to receive and journal the front and rear portions of said shafts. The rollers 3 are annularly flanged in proximity to the angle bars 7, being thus restrained from material movement transverse to the rails. Travel of the carriage is limited by stops 7a slidably fitted to the head and web of the front rail and held selectively positioned by set screws 7b.

Welded to or otherwise rigidly mounted on the plate 5 at its lateral margins is a pair of upstanding vertical sheet metal plates 8, and a pair of slightly spaced sheet metal plates 9 parallel to the plates 8 is welded or otherwise rigidly secured to the mid portion of the plate 5 and

projects upwardly therefrom. Mounted jointly in each plate 8 and in the relatively adjacent plate 9 is a set of rollers 10, 11, 12 and 13 extending the full distance between said plates and each carried by a shaft 14 having end portions projecting through said plates and clamped thereto by nuts 15. A set of suitable antifriction elements 16 is interposed between each end portion of each roller and the corresponding shaft 14. Each plate 8 and the relatively adjacent plate 9 are further interconnected by a spacer bar 17 having reduced ends extending through said plates and engaged by clamping nuts 17a.

Each plate 9 forms the inner wall of a coiled stock receiver, and outer walls for such receivers are formed by plates 18 adjustable to and from the plates 9 to accommodate the receivers to coils of different widths. The plates 18 are spaced above the bottom plate 5 of the carriage, their lower edges being positioned substantially at the rollers 10, 11, 12, and 13, and said edges having tongues 18a projecting between the rollers. The plates 18 are provided with front and rear supports, the latter consisting of collars 19 engaging the spacer bars 17, each of said collars comprising a lower portion welded to the corresponding plate 18 and an upper portion bolted to the lower portion and thus clamping said collars to the corresponding bar 17. The front support for the plates 18 consists of angle brackets 20 suitably rigidly secured to the lower portions of said plates exteriorly of the coil receivers and clamped by bolts 21 to raised portions 22 of the plate 5, said portions extending forwardly at a gradual downward inclination. The portions 22 are slotted as indicated at 22a transversely of the coil receiver to accommodate the bolts 21 in various adjusted positions of the plates 18, and the collars 19 and brackets 20 serve jointly to hold the plates 18 in any adjustment.

The receiver-forming plates 9 and 18 have tapering upward extensions 23 the end portions of which are flared to diverge at a gradual angle, said portions 23 serving to guide coils of stock into the receivers, whether rolled into place from the front of the holder or lowered by an overhead hoist or crane. To facilitate rolling coils into the two receivers, an inclined platform 24 is detachably engageable with the front angle bar 6, 7, the raised rear portion of such platform having a depending flange 24a adapted to be hooked over said angle bar while the forward edge of such platform rests on a floor.

The mid portions of the plates 8, 9, and 18 are correspondingly formed with similarly located slots 25, inclined at an angle of 30° or less to the vertical, having their upper ends of an enlarged circular form as indicated at 25a. Mounted in said slots of each set of plates 8, 9, and 18 is a bar 26 rigidly carrying on its end portions a pair

of collars 27 proportioned to be passed through the enlargements 25a, in engaging said bars with the plates and preventing escape of the bars from the plates when the bars are lowered into the narrower portions of the slots. These bars are inserted, as described, after positioning coiled stock in the receivers, and in extending through central openings formed by the coils, said bars prevent bodily removal of the coils from the receivers due to feeding stresses, if for any reason the stock ceases to uncoil.

In use of the described coil holder, after adjustment of the plates 18 to receive an intended width of coiled stock, the latter is rolled or lowered to a position on the rollers 10, 11, 12 and 13 in one of the receivers, and the exposed end of the stock is connected into a machine (not shown) to which the stock is to be fed. At any time during uncoiling of the stock, a second coil may be introduced into the other receiver, and as soon as the first coil is exhausted the carriage may be rolled laterally along the rails 2 to locate the second coil in proper stock delivery position. The first mentioned receiver, now empty, may be loaded with still another coil while stock is being fed from the second one. Thus delivery of stock to a machine may be maintained with a minimum interruption, by loading each coil receiver during feeding of stock from the other, the delay in starting a full coil being only that involved in rolling the receiver carriage a short distance on its base and connecting the full coil in feeding relation to said machine. The incline 22 serves to temporarily support coiled stock during removal of its fastenings and preliminary to delivering it to the rollers 10, 11, 12 and 13. The roller 11 is at a level slightly lower than those of the rollers 10 and 12, so that the roller 10 tends to counteract any tendency of a coil to escape forwardly from the rollers. The rear-most roller 13 is at a materially higher level than the other rollers so as to strongly resist any tendency of a coil to leave the rollers in a stock-feeding direction.

The stops 7a determine limiting positions of the carriage such as to establish the two coil receivers in the same relation to the base 1 and hence in the same relation to any machine to which strip stock is being fed. Adjustment of these stops permits carriage travel to be suited to various widths of strip stock.

The invention is presented as including all such changes and modifications as come within the scope of the following claims.

What I claim is:

1. A holder for coiled stock comprising a carriage providing two substantially similar laterally adjoined receivers for coiled stock and having an anti-friction provision for the rotation of coils in such receivers, a base, a rail on the base, guiding the carriage in a travel lateral to said receivers, and adapting the receivers to be alternatively established substantially in a certain position relative to the base, and stops adjustable on said rail to determine selective limiting positions of the carriage.

2. A holder for coiled stock as set forth in claim 1, said receivers being adjustable in width to accommodate different widths of coiled stock.

3. A holder for coiled stock comprising a base, two spaced, substantially vertical and substantially parallel plates carried by the base for receiving a coil of stock therebetween, a plurality of rollers for supporting the coil for free rotation between said plates to facilitate its feeding 75

from the holder, said plates being formed with opposed parallel slots elongated toward said base, and a bar removably engaged in such slots, and free therein to move of its own weight toward the base, to accommodate said bar to the central opening of a coil of stock, said bar restraining the coil from bodily withdrawal from the holder under feeding stresses.

4. A holder for coiled stock comprising a base, two spaced substantially vertical and substantially parallel plates carried by the base for receiving a coil of stock therebetween, a plurality of rollers for supporting the coil between said plates and facilitating feeding of stock from the coil, said plates having opposed parallel slots elongated toward the base, and a bar engaged in said slots and thereby bridged between the plates and slidable of its own weight toward the base, the end portions of such bar having enlargements resisting endwise escape of the bar from the plates, and the upper ends of the slots being enlarged to afford removal and insertion of the bar when registered with said ends.

5. A holder for coiled stock comprising a carriage providing two substantially similar laterally adjoined receivers for coiled stock, affording rotation of coils therein to facilitate feeding of stock from the coils, means for selectively varying the width of said receivers to accommodate different widths of stock, a base underlying the carriage, coacting means on the carriage and base for guiding the carriage in travel lateral to said receivers, whereby the receivers may be alternately established in a desired feeding position on the base, and means adjustable on the base in the direction of carriage travel to limit such travel and thereby selectively predetermine said feeding position of the receivers.

6. In a holder for two coils of stock, means for supporting the coils rotatively, spacing means for the coils, and a pair of substantially parallel plates coacting with said spacing means to confine the coils, and adjustable to and from the spacing means to accommodate coils of definite widths.

7. A holder for coiled stock comprising a carriage providing two substantially similar, laterally adjoined receivers for coils of stock, such receivers having provision for rotatively mounting the coils to adapt the stock to be fed therefrom, a base, means on and upstanding from the base for guiding the carriage relatively to the base in a direction lateral to said receivers, whereby the receivers may be alternatively established substantially in a certain position relative to the base, and a loading platform providing an incline upwardly leading to both receivers and freely and detachably resting on the carriage at the upper end of said incline and hooked to maintain its engagement with the carriage.

8. A holder for coiled stock comprising a carriage providing two substantially similar laterally adjoined receivers for coiled stock and having an anti-friction provision for the rotation of coils in such receivers, a base, a rail on the base, guiding the carriage in a travel lateral to said receivers, and adapting the receivers to be alternatively established substantially in a certain position relative to the base, and a stop attachable to said rail at selective points spaced lengthwise thereof to limit carriage travel.

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