

1,040,748.

Fig. 1.

WITNESSES

Stephen Mack.

E. L. Hyde.

WITNESSES

Stephen Wack.
E. L. Hyde.

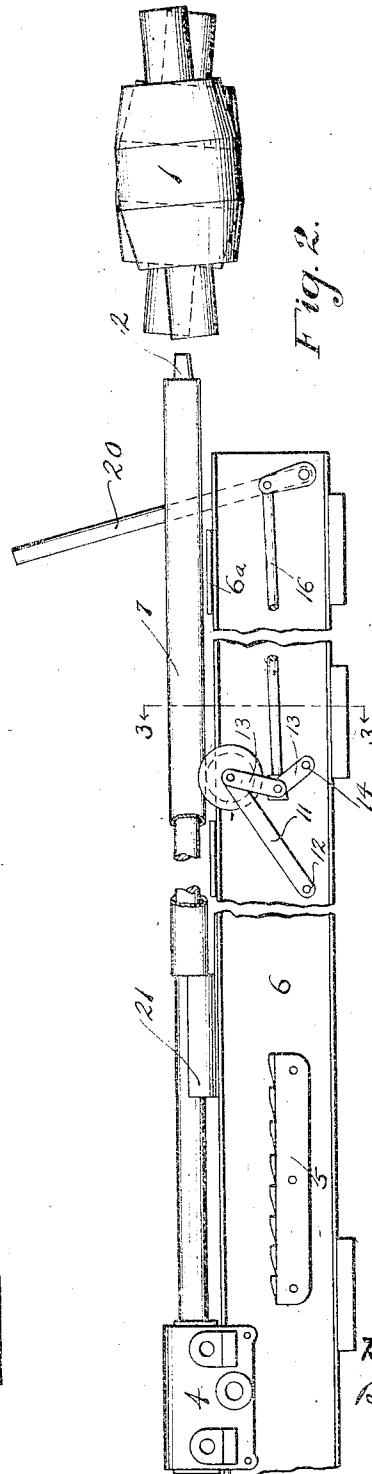


Fig. 2.

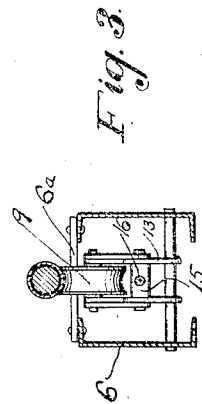


Fig. 3.

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UNITED STATES PATENT OFFICE.

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REELING DEVICE.

1,040,748.

Specification of Letters Patent.

Patented Oct. 8, 1912.

Application filed February 24, 1912. Serial No. 679,649.

To all whom it may concern:

Be it known that I, BENJAMIN F. PARKER, a resident of Beaver Falls, in the county of Beaver and State of Pennsylvania, have invented a new and useful Improvement in Reeling Devices; of which the following is a specification.

This invention relates to apparatus for cross rolling or reeling tubes.

10 The object of the invention is to provide means for entirely withdrawing the tube from the reeler at the completion of the reeling operation to avoid delay in operation.

15 In the cross rolling or reeling of tubes, and particularly with long heavy tubes, it frequently happens that the rear end of the tube remains in the reeler just far enough so that when the mandrel bar is withdrawn the tube remains and has to be drawn out separately by hand. This is due to the fact that the tube falling down and resting in the trough or guide meets with greater frictional resistance than the friction between the tube and mandrel, so that instead of pulling back with the mandrel bar it remains in its position as it left the bite of the rolls.

20 The purpose of the present invention is to overcome this defect.

Generally stated, it consists in providing antifriction means, preferably a roller, adapted to lift a tube and hold the same above the trough or guide and permit the tube to move rearwardly when the mandrel bar is withdrawn to simultaneously draw the tube and mandrel entirely clear of the reeler.

25 In the accompanying drawing Figure 1 is a side view of the apparatus, the reeler being shown diagrammatically, showing a tube while still in the reeler; Fig. 2 is a similar view showing the tube withdrawn from the reeler; and Fig. 3 is a transverse section on the line 3-3, Fig. 2.

30 In the drawing the reeler is shown diagrammatically at 1, this comprising a pair of barrel shaped rolls set with their axes askew or crossing, which is one common form of cross rolls or reeler. These rolls can be driven by any suitable mechanism not shown. Any other form of reeler would equally answer the purpose.

2 indicates the mandrel head or plug located between the reeler rolls and held on the front end of the mandrel bar 3 whose rear end is supported by a suitable stop member 4 adapted to be detachably connected by suitable latch mechanism, not shown, to racks 5 on the guide bench or frame 6.

7 indicates the reeled tube.

All of the parts so far described are or may be of any usual or desired construction.

My improvement consists in adding to this mechanism suitable means for slightly lifting the tube and holding it out of contact with the cross-bars 6 of the guide frame or trough when the mandrel bar is withdrawn, thus reducing the friction and allowing the tube to travel back with the mandrel bar. The specific means provided comprises a roller 9 slightly grooved to conform to the contour of the tube and so formed that it normally lies below the top of the guide frame or trough but is adapted at the proper time to be lifted above the same into contact with the tube to lift the latter. Various forms of mountings for the roller and various arrangements for lifting the same can be adapted for this purpose. As shown, the roller is mounted in the free ends of a pair of arms 11 pivoted at 12 to the guide frame 6 and which permit the roller to rise and fall. A pair of toggle links or levers 13 are arranged to have one of their ends secured to the axis of roller 9 and the other of their ends pivoted at 14 to the guide frame 6, and to the joint or knuckle 15 thereof is connected one end of an operating rod 16 whose other end is connected at 17 to an arm 18 on rock shaft 19. Also secured to rock shaft 19 is a hand lever 20 for actuating the same.

35 Normally the parts are in the position shown in Fig. 1, with the roller 9 in its depressed position. As soon as the tube leaves the reeler rolls and before the mandrel bar is withdrawn the hand lever 20 is actuated to straighten the toggle links 13 and elevate the roller 9 to the position shown in Fig. 2. This slightly lifts the tube and holds the same out of contact with the guide frame or trough 6, reducing the friction so that when the mandrel bar is withdrawn the tube travels with it and is supported by

the roller 9. The friction of the mandrel within the tube being greater than that of the roller it follows that when the mandrel bar is drawn rearwardly the tube moves 5 with the same and is therefore drawn entirely clear of the reeler to the position shown in Fig. 2. Here its end strikes the stop 21, which also serves as a guide and support for the mandrel, and upon further 10 movement of the mandrel the tube is stripped therefrom.

The hand lever 20 may be placed in any suitable position where the operator can easily reach the same to lift the roller 9. 15 The operator need hold the lever only momentarily, as the first portion of the rearward movement of the mandrel bar withdraws the tubes sufficiently far from the reeler, after which the tube can be allowed 20 to drop onto the guide frame or trough. If desired, suitable means can be provided for holding the roller in its elevated position without the necessity of holding onto the handle 20, such, for instance, as arranging 25 the toggle levers to pass slightly beyond their dead centers.

Various changes in the form and arrangement of the parts will readily suggest themselves.

30 What I claim is:—

1. In reeling mechanism, the combination with the reeler and mandrel bar cooperating therewith, of a guide frame or trough, and anti-friction means mounted for upward 35 movement and normally supported below said guide frame or trough and adapted to be moved upwardly to contact with the

reeled tube when the mandrel is being withdrawn.

2. In reeling mechanism, the combination 40 with the reeler and mandrel bar cooperating therewith, of a guide frame or trough for supporting the tube, a roller mounted for upward movement and normally supported below said guide frame or trough, 45 and means for moving the same upwardly to contact with the tube when the mandrel is about to be withdrawn.

3. In reeling mechanism, the combination with the reeler and mandrel bar cooperating therewith, of an anti-frictional element 50 mounted for upward movement, and means for lifting the same, including toggle members connected thereto.

4. In reeling apparatus, the combination 55 with the reeler and mandrel bar cooperating therewith, of a guide frame or trough, a roller, a swinging frame carrying the roller and pivotally mounted in the guide frame, and means for swinging said frame 60 and elevating said roller above said guide frame or trough.

5. In reeling mechanism, the combination with the reeler and mandrel bar cooperating therewith, of a guide frame or trough, 65 a roller, a frame in which the roller is mounted, and toggle members arranged to move said frame and lift said roller.

In testimony whereof, I have hereunto set my hand.

BENJAMIN F. PARKER.

Witnesses:

GEO. H. BLAXTON,
WM. M. WYLE.