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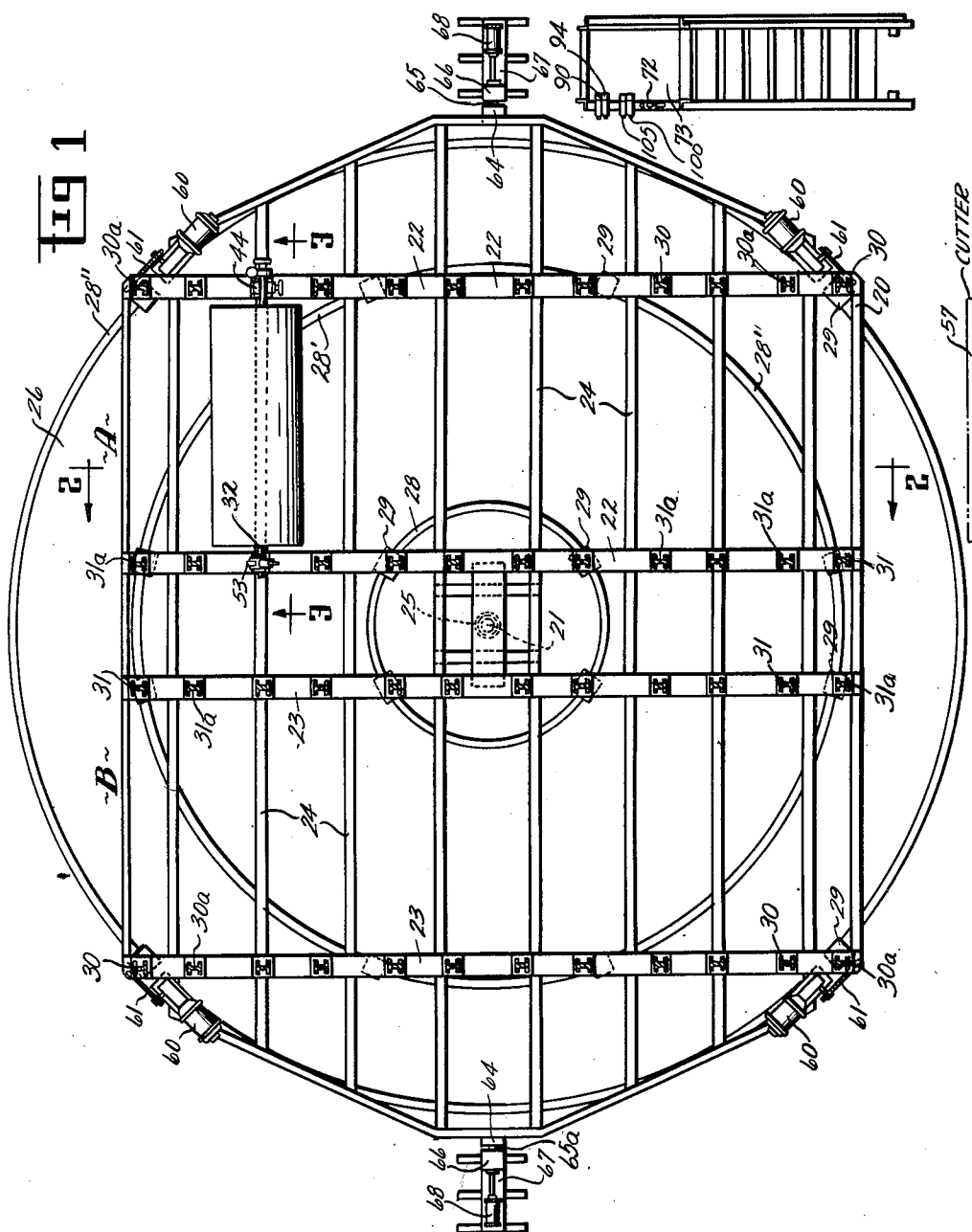
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TURNTABLE FOR PAPER ROLL STANDS

Filed Oct. 14, 1947

5 Sheets-Sheet 1



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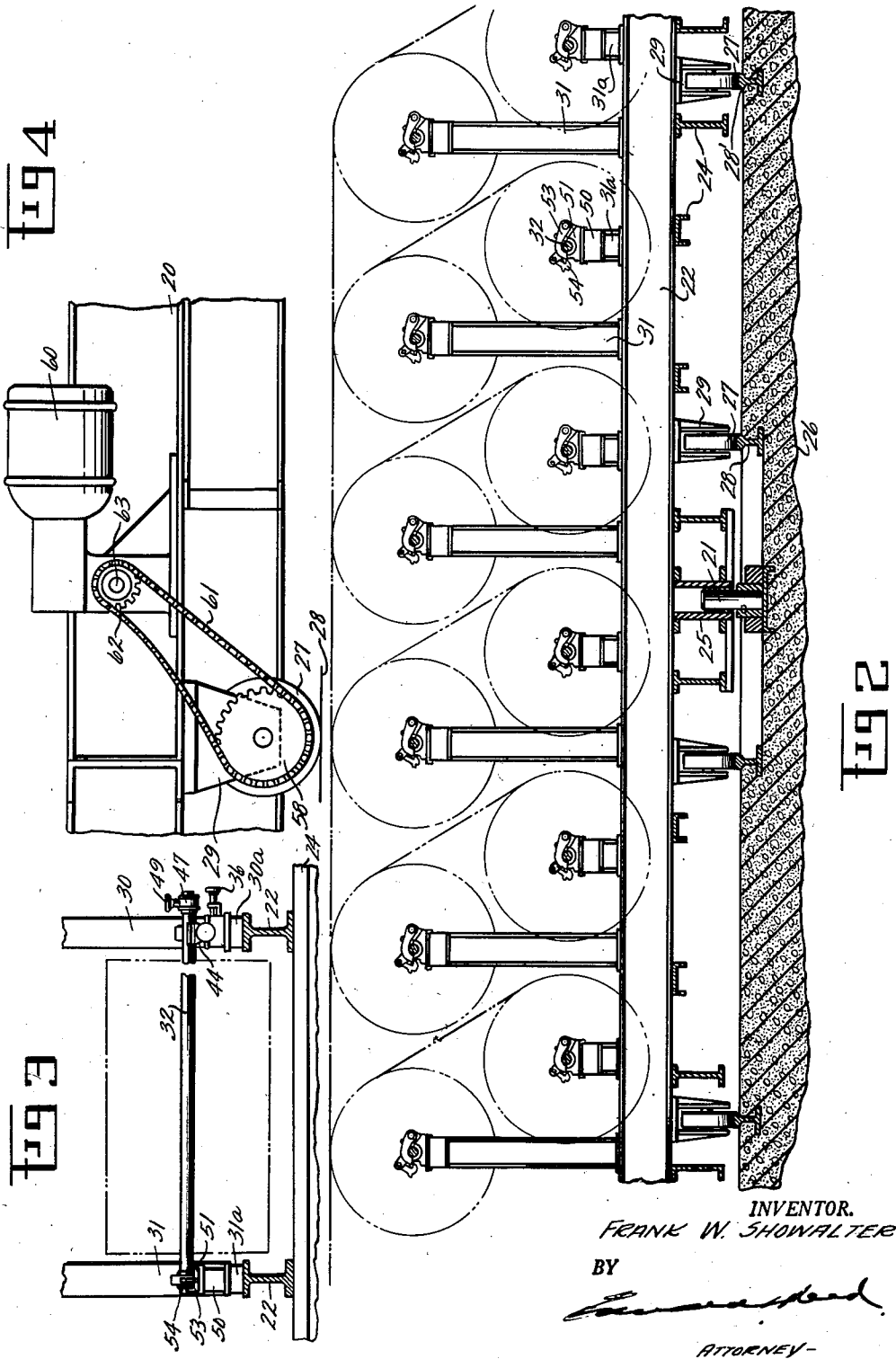
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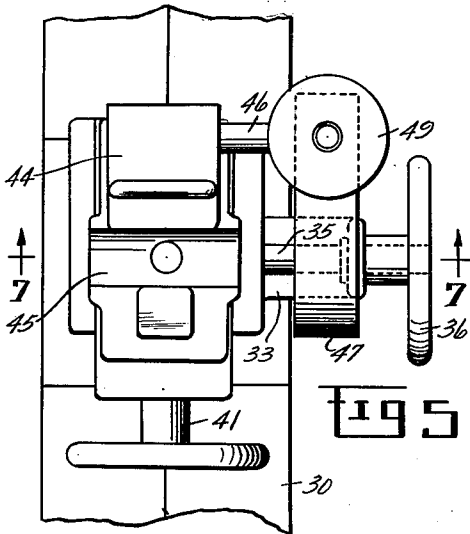
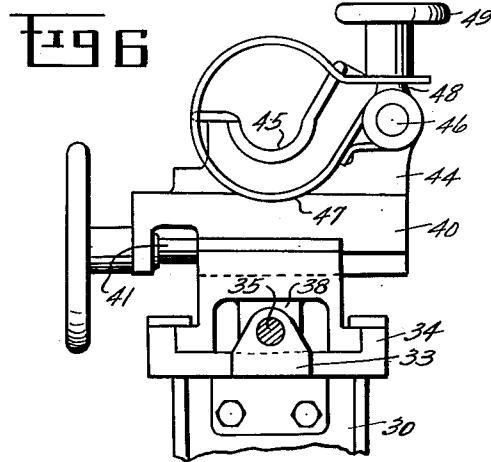
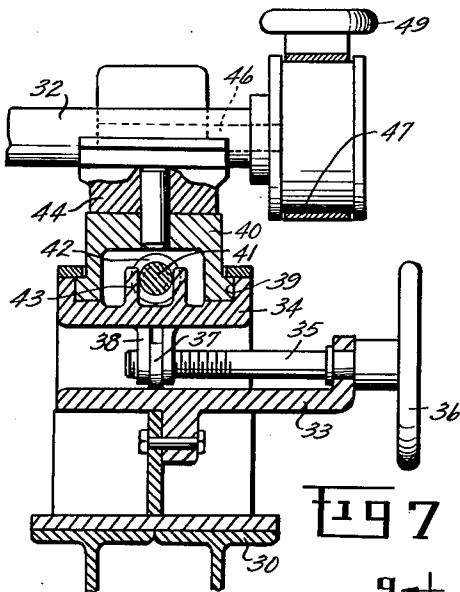
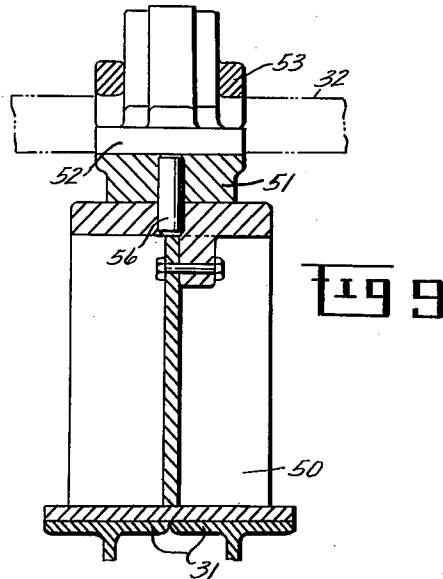
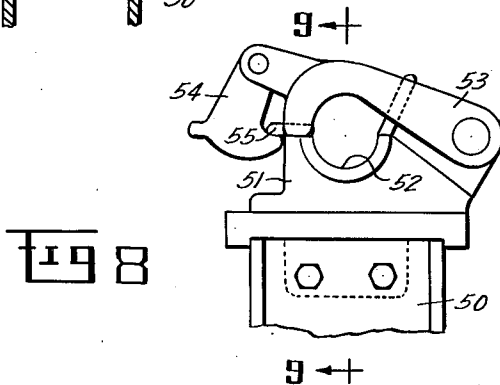
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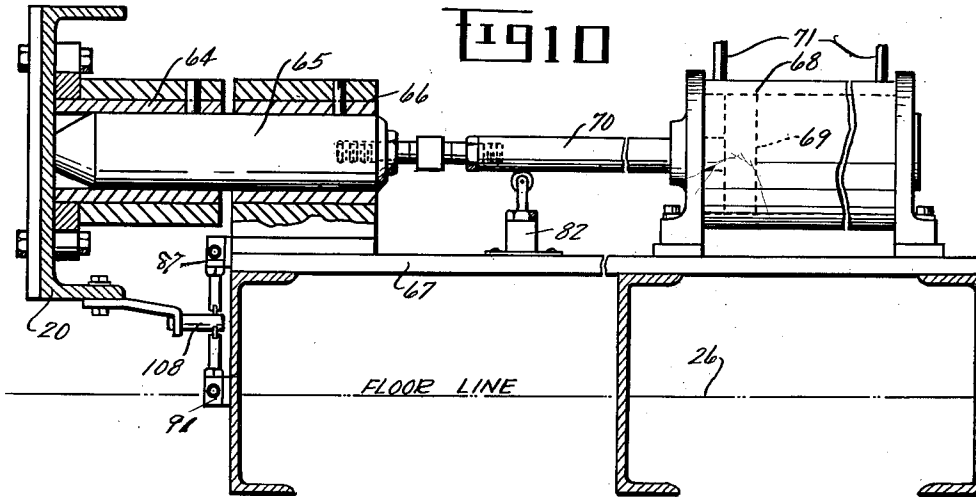
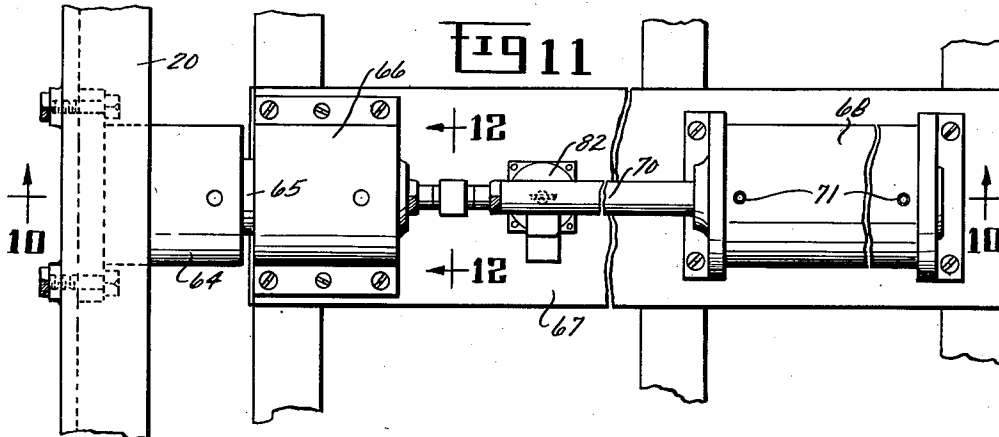
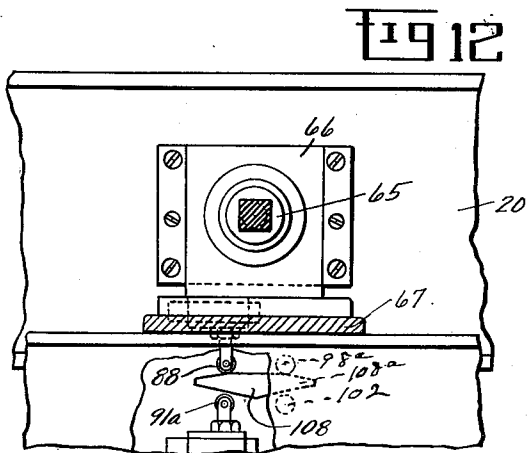
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5 Sheets-Sheet 4



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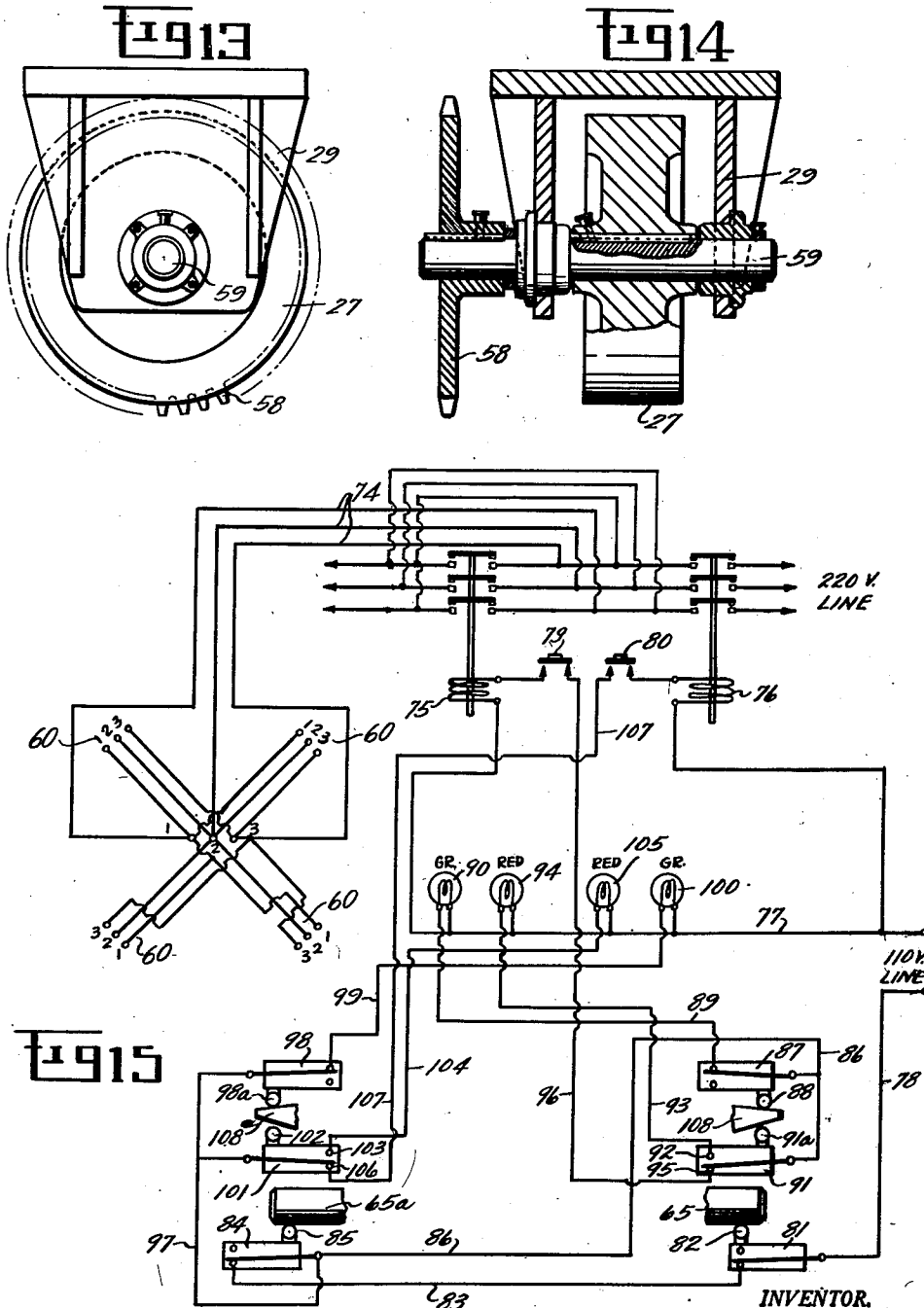
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5 Sheets-Sheet 5



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TURNTABLE FOR PAPER ROLL STANDS

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Application October 14, 1947, Serial No. 779,753

11 Claims. (Cl. 242-64)

1 This invention relates to a turntable for paper roll stands.

As is well known paper comes from the paper making machine in the form of a continuous web which is wound into rolls for handling and storage. When the paper is to be used or shipped in the form of sheets the webs are fed from the rolls to a cutting machine which severs the same into sheets or sections of the desired length. It is desirable that the webs be simultaneously withdrawn from a plurality of rolls and fed to the cutting machine in superposed relation so that each cutting operation will sever sheets from all the webs. For this purpose a plurality of rolls may be rotatably supported on the respective stands of a series of roll stands so arranged that the web from each succeeding roll will extend lengthwise of and will be superposed on the web from the next preceding roll, and the several superposed webs fed to the cutting machine. A roll of paper of normal size is very heavy and considerable time is required for mounting the same on a stand. Consequently when the webs have been completely withdrawn from a series of rolls a relatively long time is required to mount other rolls on those stands and during this time the cutting machine is idle and production ceases.

One object of the invention is to provide means for so supporting a plurality of series of roll stands that the stands of one series may be loaded with rolls while the webs from the rolls on another series of stands are being severed and the stands of the last mentioned series moved to loading position, when the rolls thereon have been exhausted, and a series of newly loaded stands moved into a position to deliver the webs therefrom to the cutting machine.

A further object of the invention is to provide a rotatable structure having thereon two series of roll stands so arranged that a partial rotation of the structure will move the stands of one series from delivery position to loading position and at the same time move the stands of the other series from loading position to delivery position.

A further object of the invention is to provide such a rotatable structure having power operated means for moving the structure to a predetermined position and means for locking the same in said position.

A further object of the invention is to provide a locking device for such a rotatable structure including a locking member on said structure, a second locking member supported independently of said structure and means for indicating to an

2 operator the relative positions of said locking members.

A further object of the invention is to provide such a rotatable structure with means for interrupting the movement thereof when it moves beyond locking position.

A further object of the invention is to provide each stand with simple and efficient means for supporting a roll thereon and for adjusting the roll with relation thereto.

Other objects of the invention may appear as the mechanism is described in detail.

In the accompanying drawings Fig. 1 is a top plan view, partly in section, of an apparatus embodying the invention; Fig. 2 is an enlarged section taken on the line 2-2 of Fig. 1, partly broken away; Fig. 3 is a section taken on the line 3-3 of Fig. 1, partly broken away; Fig. 4 is a detail view of one of the rotating devices; Fig. 5 is a plan view of an adjustable arbor supporting device, or saddle; Fig. 6 is a side elevation of the device of Fig. 5; Fig. 7 is a section taken on the line 7-7 of Fig. 5; Fig. 8 is a side elevation of a non-adjustable arbor supporting device; Fig. 9 is a section taken on the line 9-9 of Fig. 8; Fig. 10 is a section on line 10-10 of Fig. 11, with the power unit in elevation and partly broken away; Fig. 11 is a top plan view of the locking device; Fig. 12 is a section on the line 12-12 of Fig. 11; Fig. 13 is a side elevation of one roller mounting; Fig. 14 is an axial section taken through a roller mounting and the roller driving element; and Fig. 15 is a circuit diagram of the control mechanism.

In these drawings I have illustrated one embodiment of my invention and have shown the same in a form designed primarily for supporting two series of paper roll stands and for moving said series alternately into and out of alignment with a paper cutting machine, but it is to be understood that the mechanism as a whole, as well as the several parts thereof, may take various forms and may be used for various purposes without departing from the spirit of the invention.

In the illustrated embodiment the invention comprises a turntable including a frame 20 mounted for movement about a vertical axis 21. The frame may take various forms and is here shown as comprising two pairs of beams 22 and 23 connected one with the other by other beams or bars 24. The frame is provided at its center with a vertical socket 25 which receives and is rotatably supported on a pivot pin 21 which is rigidly mounted on the base structure or floor

26. Preferably boards or sheet material are placed on the beams 24 to form a floor between adjacent beams 22 and 23. The frame is supported for rotation about its vertical axis by a plurality of series of rollers, there being in the present instance three concentric annular series of rollers 27, each including four rollers, which travel on corresponding series of annular tracks 28. In the arrangement shown each roller is mounted in a mounting or bracket 29 rigidly secured to and depending from one of the beams, 22 and 23.

Mounted on the frame are two parallel series of paper roll stands arranged on the respective sides of the vertical axis 21, the two series being here designated as A and B. Each stand of each series comprises two upright standards, the standards of series A being mounted respectively on the two beams 22 and the standards of series B being mounted respectively on the two beams 23. Adjacent stands of both series are preferably of different heights, and the outer and inner standards of each higher stand are designated respectively as 30 and 31, and the outer and inner standards of each lower stand are designated respectively as 30a and 31a. The standards of each stand, both high and low, are provided at their upper ends with saddles or supporting bearings, for the arbors 32 of the paper rolls. The saddle for one standard of each stand, in the present instance the outer standard, 30 or 30a, comprises a base 33 mounted on the upper end of the standard and having a guideway extending lengthwise of the arbor 32. Slidably mounted in the guideway is a supporting member 34 which may be adjusted by a screw 35 rotatably mounted on the base 33, having at its outer end a hand wheel 36 and having on its inner threaded portion a nut 37 which is arranged between lugs 38 depending from the supporting member 34 so as to cause that member to move with the nut. The supporting member 34 is provided in its upper portion with a guideway 39 extending transversely to the arbor 32 and slidably mounted in this guideway is a block 40 which is adjusted by a screw 41 rotatably mounted on and held against axial movement with relation to the block 40 and having on its threaded portion a nut 42 arranged between lugs 43 on the supporting member 34. Mounted on the block 40 for rotation about a vertical axis is a bearing block 44 having in the upper surface thereof an open bearing recess 45 to receive and support one end portion of the arbor 32. Mounted on the bearing block 44, as by means of a stud 46, is a flexible member, such as a metallic strap 47, which extends forwardly from the stud and then upwardly and rearwardly above the bearing recess 45 and is apertured to receive a screw threaded stud 48 on which is mounted a nut 49 by which the strap 47 may be secured in position above the arbor in the bearing recess to retain the latter in the recess.

Mounted on the other standard, 31 or 31a of each stand is a base 50 on which is mounted a bearing member 51 having therein a bearing recess 52 to receive the adjacent end portion of the arbor 32. Pivotaly mounted on the bearing member on one side of the recess is an arm 53 adapted to extend forwardly above an arbor in the bearing recess and having pivotally mounted thereon a latch member 54 movable into and out of engagement with a lug or keeper 55 on the bearing block 51. The bearing member 51 is preferably mounted on the base 50 for movement

about a vertical axis and is here shown connected thereto by a pin 56. Thus it will be apparent that when an arbor has been mounted in the two bearings of the stand it can be adjusted to move the roll axially or it may be moved about the vertical axis of the bearing member 51 to position the roll in accurate parallelism with adjacent rolls.

The shorter stands, 30a and 31a, are of such height that rolls of paper supported thereon will, initially, extend between the supporting beams 22, or 23. The roll supporting devices on the higher stands are so arranged that each upper roll will be supported above the two adjacent rolls on the lower stands with its axis in a vertical plane between said lower rolls, thus enabling the rolls, when new, to be arranged close one to the other so that a large number of rolls may be mounted in a relatively small space, there being in the present instance twelve rolls in each series of rolls. With the rolls so arranged the web from the foremost upper roll will be withdrawn from the top of the roll lengthwise of the series, the web from the foremost lower roll will be withdrawn upwardly about the foremost upper roll and superposed on the web from the first upper roll, the web from the second upper roll will be withdrawn from the top thereof above the two preceding rolls, and so on until the webs from the twelve rolls are superposed one upon the other and move in true parallelism to the point at which they are to be operated upon. The severing mechanism is usually a cutting machine having feeding means for moving the superposed webs between the cutting elements, and it is indicated diagrammatically at 57. The rolls are so supported on the stands of series A, in Fig. 1, that the webs will be withdrawn therefrom in a forward direction toward the severing mechanism, as shown in Fig. 2. In reloading the stands of series B the rolls are so mounted thereon that the webs extend therefrom in a direction opposite the direction in which they are being withdrawn from the rolls of series A. Thus when the supporting structure is rotated to move the stands of series B into line with the severing mechanism the webs will be withdrawn from the rolls on said stands toward the severing mechanism.

Rotary movement may be imparted to the frame 20, to reverse the positions of the two series of stands, in any suitable manner. Preferably a part of the rollers which support the frame are motor driven. In the present arrangement each of the four rollers 27 which travel on the outermost annular track 28 is provided with a driving element, such as a sprocket wheel 58, which is shown in Fig. 14 as rigidly secured to the shaft 59 on which the roller is mounted. This driving element is operatively connected with a reversible electric motor 60 mounted on the frame 20 and, in the present instance, the sprocket wheel 58 is connected by a sprocket chain 61 with a sprocket wheel 62 secured to a shaft 63 which is driven by the motor 60 through conventional gearing, not here shown. The operation of these motors is manually controlled by an operator as will be hereinafter described and means are provided for locking the rotatable frame in either of two positions, that is in a position in which either the stands of series A or the stands of series B will be in a position to deliver the webs to the cutting mechanism. For this purpose a locking device is provided comprising a locking member secured to the rotatable frame and a second lock-

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ing member mounted on a fixed support adjacent the frame for movement into and out of locking engagement of the locking member on the frame. Preferably two such locking devices are arranged at the opposite sides of the frame. As shown in Fig. 1 the two locking members 64 are rigidly secured to the frame in diametrically opposite positions and are preferably in the nature of sockets. Mounted on the supporting base 26 adjacent the locking positions of the respective locking members 64 are bolts 65 and 65a, each bolt being adapted to enter and thus have locking engagement with either of the locking members 64 which is moved into line therewith. The locking bolts 65 and 65a are preferably power operated and each is here shown as mounted in a guide member 66 which is rigidly secured to a base plate 67. Also mounted on the base plate 67 is a fluid cylinder 68 having therein a piston 69, which is connected by a piston rod 70 with the bolt, and is connected by conduits 71 with a manually operated valve 72 at a control station 73 (Fig. 1). This station preferably comprises an elevated platform adjacent the frame. For the purpose of informing the operator as to the relative positions of the locking members 64 and 65 there is provided at the control station an indicating device which is controlled by the rotary movement of the frame 20 and is connected with the controls for the motor circuits.

Electric current is supplied to the motor 60 through a power line 74 and this power line is provided with magnetically operated switches to control the operation of the motors and the direction of rotation of the frame. These switches are shown diagrammatically at 75 and 76 and are connected in a control circuit 77-78. Manually operated switches 79 and 80 in the control circuit separately energize the two power line switches 75 and 76. Also connected in the power circuit are the devices for indicating the relative positions of the locking members. In the present instance separate indicating devices are provided for the two locking devices. The conductor 78 of the control circuit leads from the source of current, such as 110 volt service line, to a normally closed microswitch 81 having an actuating member 82 by which it may be opened. A conductor 83 leads from the normally closed switch 81 to a second normally closed microswitch 84 which has an actuating member 85. A conductor 86 leads from the switch 84 to a normally closed microswitch 87 having an actuating member 88. A conductor 89 leads from the switch 87 to a lamp 90 which in the present instance is designated as a green lamp and which is connected with the conductor 77 of the control circuit. The conductor 86 is also connected with a two way microswitch 91 the terminal 92 of which is connected by a conductor 93 with a second lamp 94 also connected with the conductor 77 and here indicated as a red lamp. The terminal 95 of the switch 91 is connected by a conductor 96 with one side of a manually actuated control switch 79, the other side of which is connected with the power line switch 75.

A branch circuit 97 leads from the switch 84 to a normally closed microswitch 98 which is connected by a conductor 99 with a second green light 100. The conductor 97 is also connected with a two way microswitch 101 having an actuating device 102. The terminal 103 of the switch 101 is connected by a conductor 104 with a second red lamp 105. The second terminal 106 of the

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switch 101 is connected by a conductor 107 with one side of the manually operated control switch 80, the other side of which is connected with the power line switch 76. Switches 87 and 91 are controlled by a switch actuating device carried by the rotatable frame. The actuating members 88 and 91a are spaced apart a short distance vertically and the actuating device is in the nature of a wedge-shaped element 108 adapted to enter the space between these actuating devices to actuate one or both of the switches 87 and 91 depending upon the continued movement of the frame. The actuating devices 98a and 102 for the switches 98 and 101 are similarly arranged and are actuated by a switch actuating device 108a. The present control mechanism contemplates that the turntable shall rotate alternately in opposite directions through the same half circle to move each series of stands alternately into loading position and into feeding position. Thus the turntable moves first in one direction, which for convenience may be termed the forward direction, to position a given series of stands in line with the cutting mechanism and is then moved in the reverse direction to move that series of stands into loading position. Consequently it is desirable that both the actuating devices 108 and 108a should be located at the same side of the turntable and they are here shown as formed in one piece, the tapered ends of the two devices extending in opposite directions. In Fig. 12 the actuating device 108 is shown in full lines in contact with the actuating device 88 of switch 87 and the actuating device 108a is shown in dotted lines in contact with the actuating device 98a of switch 98, on that side of the turntable opposite switch 87. The microswitches 81 and 84 are biased toward circuit opening positions and the actuating members 82 and 85 thereof are arranged to be engaged by the bolts 65 and 65a when these bolts are in their retracted positions, thus maintaining these switches in circuit closing positions so long as the respective bolts are in their retracted positions.

When the turntable is to be rotated in a forward direction the operator closes control switch 79 to actuate a power line switch 75 and thus close the circuits through the motor in a direction to rotate the turntable forwardly and this control switch 79 is retained closed until the turntable has completed its movement in that direction. The locking bolts 65 and 65a being then in their retracted positions, switches 81 and 84 are closed and current in the control circuit will flow from supply line 78 through switch 81, wire 83, switch 84, wire 86, normally closed switch 87, wire 89, green lamp 90 to the return line 77, thus illuminating the green lamp 90. At the same time current will flow from the switch 84 through wire 97, switch 98 and green lamp 100 to the return line 77, thus illuminating both of the green lamps. As the locking sockets 64 closely approach alinement with the locking bolts 65 and 65a the actuating device 108 will open switch 87 and thus extinguish the green lamp 90 indicating that the bolt 65 is in a position to enter the locking socket. The operator then releases the control switch 79 and stops the motor and then actuates the control valve 72 to energize the hydraulic devices 68 and move both bolts into locking relation to their respective sockets. The movement of the bolts to locking positions opens the switches 81 and 84 and thus extinguishes the green lamp 100 as well as the green lamp 90. Both green lamps being dark

the operator knows that the turntable is locked. It is not essential that the turntable should be stopped with the sockets in exact alinement with the respective bolts because the tapered ends of the bolts will permit the same to enter the sockets and the force exerted upon the bolts will impart to the turntable any movement necessary to bring the sockets into exact alinement with the bolts. However, should the operator fail to open the circuit promptly the continued movement of the turntable would carry the sockets slightly beyond locking relation to the bolts and when this happens the further movement of the actuating device 108 will close normally open switch 91 and current will flow through wire 93, red lamp 94, to the return line 77, thus illuminating the red lamp and notifying the operator that the locking devices are not in alinement. He then closes control switch 80 to energize power line switch 76 and reverse the direction of operation of the motor and of the turntable. The actuating device 108 is thus retracted and releases switch 91 and permits the same to open. Thus both the green lamp 90 and the red lamp 94 are dark and the operator knows that the locking devices are in alinement and operates the controlling valve to move the bolts to locking positions, and this movement of the bolts opens switches 81 and 84 and extinguishes all the lamps.

When the turntable is to be rotated from its locked position in a reverse direction all lamps are dark and the operator knows that the turntable is locked and that he must actuate his control valve 72 to release the table before energizing the motors. When the bolts have been retracted he closes the control switch 80 and energizes the power line switch 76 to cause the turntable to be rotated in a reverse direction. The closing of control switch 80 closes the circuit through the switches 81, 84, 98, wire 99, and green lamp 100, to the return line 77. At the same time the current flows as above described through switch 87 and green lamp 90 so that both green lamps are illuminated. The operation is then the same as above described and as the bolts approach locking positions the actuating device 108a will open switch 98 to darken green lamp 100 and the operator releases the control switch. If the locking devices move beyond locking positions the circuit is closed through switch 101, wire 107, and red lamp 105 to return line 77, thus illuminating red lamp 105 and notifying the operator that the locking devices are out of alinement and he proceeds to restore the same as before.

It will be noted that the green lamps 90 and 100 are connected in the control circuit independently of the control switches 79 and 80. Consequently if the bolts 65 and 65a are in their retracted positions and the master switch, not shown, in the control line is closed the green lamps will be illuminated to inform the operator that the turntable is unlocked and that the motors may be energized. The extinction of either green lamp notifies the operator that the locking devices are in alinement and the turntable is in a position to be locked. When both green lamps and both red lamps are dark the operator knows that the turntable is locked and that the motors cannot be energized until the locking bolts have been retracted and switches 81 and 84 closed.

While I have shown and described one embodiment of my invention, I wish it to be understood that I do not desire to be limited to the details

thereof as various modifications may occur to a person skilled in the art.

Having now fully described my invention what I desire to secure by Letters Patent is:

1. A turntable for paper roll stands comprising a horizontal frame mounted for rotation about a vertical axis, rollers supporting said frame for movement about said axis, two substantially parallel series of roll stands mounted on said frame on opposite sides of said axis, each stand having means for supporting a roll of paper for movement about a horizontal axis, the several roll supporting means of each series of stands being so arranged that the webs of paper may be withdrawn from the rolls on said series of stands lengthwise of said series of stands and in superposed relation one to the other, and means for imparting rotary movement to said frame.

2. A turntable for paper roll stands comprising a horizontal frame mounted for rotation about a vertical axis, rollers supporting said frame for movement about said axis, two substantially parallel series of roll stands mounted on said frame on opposite sides of said axis, each stand having means for supporting a roll of paper for movement about a horizontal axis, the several roll supporting means of each series of stands being so arranged that the webs of paper may be withdrawn from the rolls on said series of stands lengthwise of said series of stands and in superposed relation one to the other, means for adjusting said rolls with relation to their respective stands to cause said webs to move in paths having a predetermined relation one to the other, and means for imparting rotary movement to said frame.

3. A turntable for paper roll stands comprising a horizontal frame mounted for rotation about a vertical axis, rollers supporting said frame for movement about said axis, two substantially parallel series of roll stands mounted on said frame on opposite sides of said axis, each stand including a pair of laterally spaced upright standards, bearings carried by the standards of each pair of stands to receive the respective end portions of an arbor for a roll of paper, alternate stands of each series of stands being of different heights and the several stands of each series being spaced one from the other distances less than the initial diameter of one of said rolls of paper, whereby each roll on the higher stands is supported with its axis above and in a vertical plane between the adjacent rolls on the lower stands, and the webs may be simultaneously withdrawn from all rolls on said series of stands in superposed relation one to the other.

4. A turntable for paper roll stands comprising a horizontal frame mounted for rotation about a vertical axis, rollers supporting said frame for movement about said axis, two substantially parallel series of roll stands mounted on said frame on opposite sides of said axis, each stand having means for supporting a roll of paper for movement about a horizontal axis, the several roll supporting means of each series of stands being so arranged that the webs of paper may be withdrawn from the rolls on said series of stands lengthwise of said series of stands and in superposed relation one to the other, power operated means on said frame for imparting rotary movement thereto, and means for controlling the movement of said frame by said power operating means.

5. A turntable for paper roll stands comprising

ing a horizontal frame mounted for movement about a vertical axis, a plurality of annular tracks below said frame and concentric with the axis thereof, a corresponding plurality of series of rollers having supporting connection with said frame and movable on the respective tracks, two straight line series of roll stands mounted on said frame on opposite sides of said axis, each stand having means for supporting a roll of paper for movement about its longitudinal axis, the roll supporting means of each series of stands being so arranged that the webs of paper may be simultaneously withdrawn from the rolls on said series of stands lengthwise of said series and in superposed relation one to the other, a plurality of motors mounted on said frame and having driving connection with the respective rollers of one series of rollers, and controlling means for said motors supported independently of said frame.

6. A turntable for paper roll stands comprising a horizontal frame mounted for rotation about a vertical axis, rollers supporting said frame for movement about said axis, two substantially parallel series of roller stands mounted on said frame on opposite sides of said axis, each stand having means for supporting a roll of paper for movement about a horizontal axis, the several roll supporting means of each series of stands being so arranged that the webs of paper may be withdrawn from the rolls on said series of stands lengthwise of said series of stands and in superposed relation one to the other, power operated means on said frame for imparting rotary movement thereto, a locking member on said frame, a second locking member movable into and out of locking relation to the first mentioned locking member, a control station, and means at said control station to control the movement of said frame by said power means and to cause said second locking member to move into locking relation to said first mentioned locking member.

7. A turntable for paper roll stands comprising a horizontal frame mounted for rotation about a vertical axis, rollers supporting said frame for movement about said axis, two substantially parallel series of roll stands mounted on said frame on opposite sides of said axis, each stand having means for supporting a roll of paper for movement about a horizontal axis, the several roll supporting means of each series of stands being so arranged that the webs of paper may be withdrawn from the rolls on said series of stands lengthwise of said series of stands and in superposed relation one to the other, a motor on said frame drivingly connected with one of said rollers to rotate said frame, means for energizing said motor, a locking member on said frame, a second locking member mounted on a fixed support adjacent said frame, an actuating device for said second locking member, and means controlled by the movement of said frame to indicate the relative positions of said locking element.

8. A turntable for paper roll stands comprising a horizontal frame mounted for rotation about a vertical axis, rollers supporting said frame for movement about said axis, two substantially parallel series of roll stands mounted on said frame on opposite sides of said axis, each stand having means for supporting a roll of paper for movement about a horizontal axis, the several roll supporting means of each series of stands being so arranged that the webs of paper may be withdrawn from the rolls on said series of stands lengthwise of said series of stands

and in superposed relation one to the other, a motor on said frame drivingly connected with one of said rollers to rotate said frame, means for energizing said motor, a locking member carried by said frame, a second locking member movably supported adjacent said frame, a power operated device to move said second locking member into engagement with the locking member on said frame, a control station adjacent said frame, and means at said station to energize respectively said motor and said power operated device.

9. A turntable for paper roll stands comprising a horizontal frame mounted for rotation about a vertical axis, rollers supporting said frame for movement about said axis, two substantially parallel series of roll stands mounted on said frame on opposite sides of said axis, each stand having means for supporting a roll of paper for movement about a horizontal axis, the several roll supporting means of each series of stands being so arranged that the webs of paper may be withdrawn from the rolls on said series of stands lengthwise of said series of stands and in superposed relation one to the other, a motor on said frame drivingly connected with one of said rollers to rotate said frame, means for energizing said motor, a locking member carried by said frame, a second locking member movably supported adjacent said frame, a power operated device to move said second locking member into engagement with the locking member on said frame, a control station adjacent said frame, means at said station to energize respectively said motor and said power operated device, and a device located at said station and controlled by the movement of said frame to indicate the position of the locking member on said frame with relation to said second locking member.

10. In a device of the character described, a structure mounted for rotation about a fixed axis, means for locking said structure in a predetermined position including a locking member on said structure and a second locking member mounted independently of said structure, means including a motor for rotating said structure and accurately locating the locking member thereon in a position to be engaged by said second locking member, an indicating device comprising two electric lamps of different colors, a normally closed switch in circuit with one of said lamps, a normally open switch in circuit with the other of said lamps, and switch actuating means carried by said rotatable structure to open the first mentioned switch as the locking member on said structure moves into locking position and to close the last mentioned switch as said locking member moves beyond locking position.

11. In a device of the character described, a structure mounted for rotation about a fixed axis, means for locking said structure in a predetermined position including a locking member on said structure and a second locking member mounted independently of said structure, means including an electric motor for rotating said structure and accurately locating the locking member thereon in a position to be engaged by said second locking member, a manually operable switch to control the operation of said motor, an indicating device comprising two lamps, a normally closed switch in circuit with one of said lamps, a two way switch in circuit with the other of said lamps and with said motor

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controlling switch and normally in open circuit position with relation to said lamp, switch actuating means carried by said rotatable structure to open said normally closed switch when the locking member on said structure moves into locking position and to actuate the last mentioned switch to close the circuit through the second lamp and to open the circuit through said motor controlling switch when said locking member moves beyond locking position.

FRANK W. SHOWALTER.

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