

No. 821,567.

PATENTED MAY 22, 1906.

W. E. WINES.
REEL.

APPLICATION FILED APR. 13, 1905.

2 SHEETS—SHEET 1.

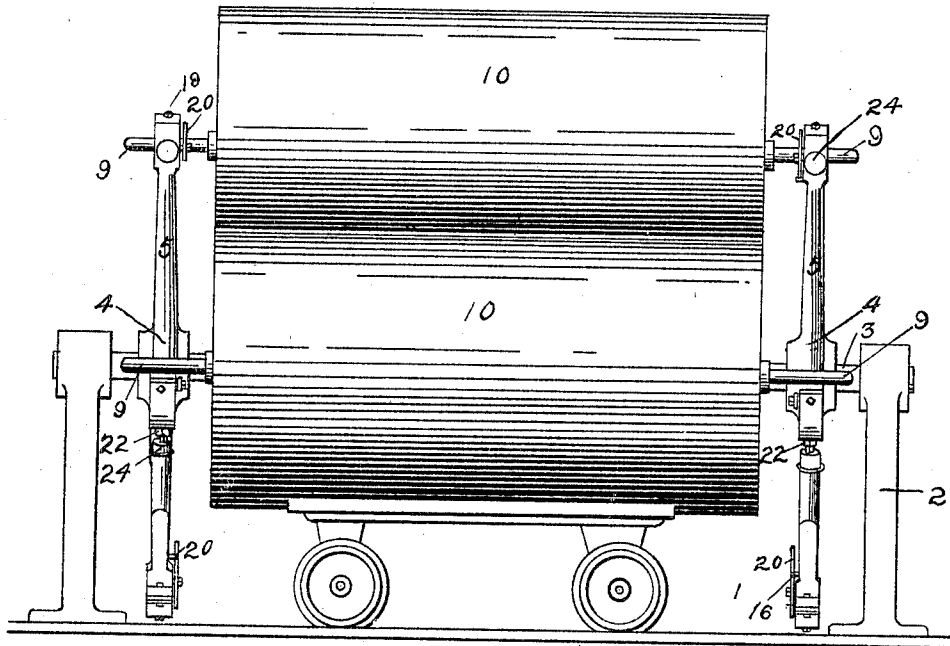


FIG. 1.

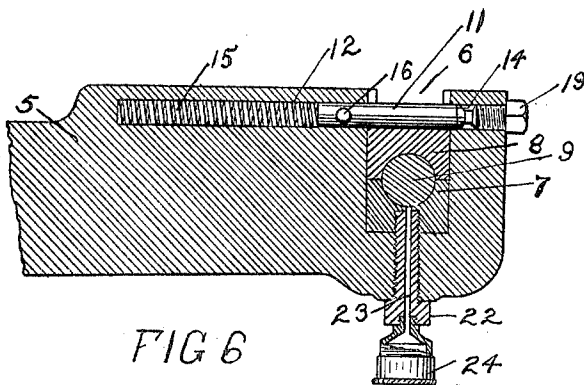


FIG. 6

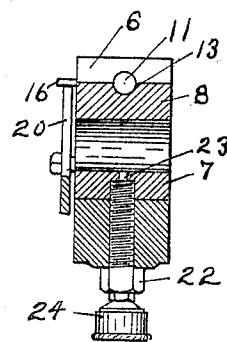


FIG. 7.

WITNESSES.
C. E. Snow.
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WALTER E. WINES.
By *Paul & Paul*
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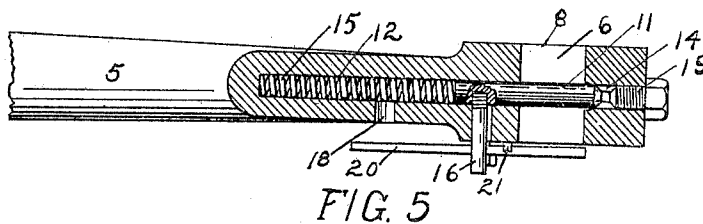
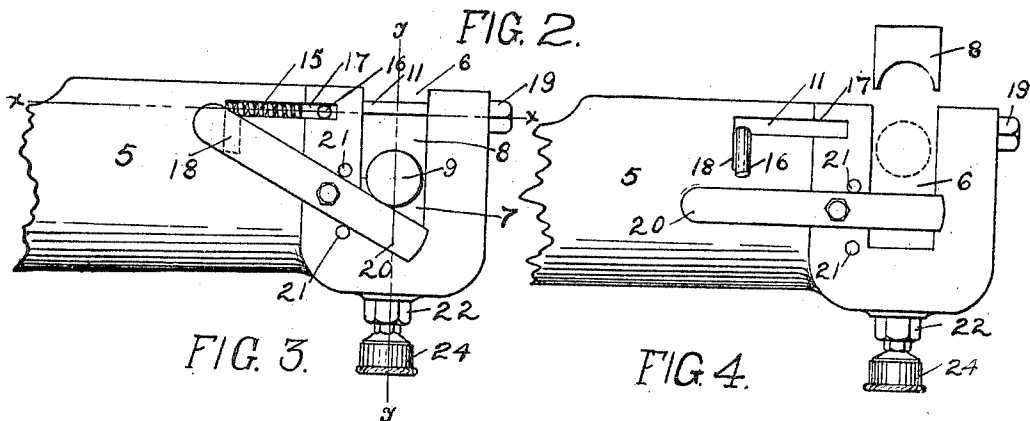
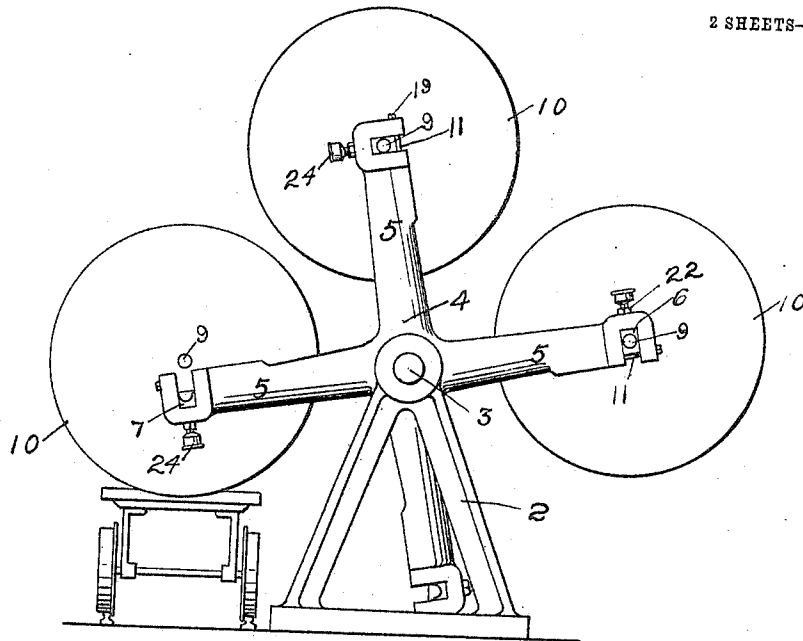
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2 SHEETS—SHEET 2.



WITNESSES.
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UNITED STATES PATENT OFFICE.

WALTER E. WINES, OF MINNEAPOLIS, MINNESOTA.

REEL.

No. 821,567.

Specification of Letters Patent.

Patented May 22, 1906.

Application filed April 13, 1905. Serial No. 255,370.

To all whom it may concern:

Be it known that I, WALTER E. WINES, of Minneapolis, Hennepin county, Minnesota, have invented certain new and useful Improvements in Reels, of which the following is a specification.

My invention relates to reels, and particularly that type used in connection with a newspaper printing-press for carrying the rolls of paper to be delivered to the press

The object of my invention is to provide means for locking the paper-supporting spindles in the spiders or heads at the ends of the reel and preventing them from becoming accidentally disengaged therefrom.

A further object is to provide means in connection with the locking mechanism to prevent damage to the reel or its parts through negligence on the part of the operator.

The invention consists generally in various constructions and combinations, all as hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings, forming part of this specification, Figure 1 is a side elevation of a reel embodying my invention. Fig. 2 is an end view of the same. Fig. 3 is a detail view of one of the reel-arms, showing the spindle supported in place therein. Fig. 4 is a similar view showing one of the bearing blocks or brasses removed with the locking device in its unlocked position. Fig. 5 is a sectional view on the line *x x* of Fig. 3. Fig. 6 is a detailed sectional view illustrating the end of the spindle supported in the bearing-brasses and the locking-bolt in place on the brass. Fig. 7 is a sectional view on the line *y y* of Fig. 3.

In the drawings, 2 represents the reel brackets or standards having a central shaft 3, whereon heads or spiders 4 are mounted, each provided with a series of radiating arms 5. The outer ends of these arms are provided with transverse recesses or sockets 6, wherein removable bearing brasses or blocks 7 and 8 for the spindles 9 are arranged. These brasses and the spindles being substantially the same for each pair of arms, it is only necessary to describe one set of them to convey a clear understanding of the invention. The spindles pass through a roll of paper, (indicated by numeral 10,) and it is only necessary where a continuous spindle is provided to remove it from its supports on the reel and insert it into the roll of paper each time it is desired to place a fresh roll in the reel. The

reel is revolved to bring the roll into proper position for delivering paper to the press, and hence it is important to provide a locking device that will positively prevent the premature disengagement of the ends of the spindle from its bearing-blocks. I therefore provide a bolt 11, slidably arranged within a socket 12 in the reel-arm and fitting within a groove 13, semicircular in cross-section in the brass 8 and normally projected across the recess 6 into a socket 14 by means of a compression-spring 15. A pin 16 is provided on said bolt, by means of which it can be drawn back, the pin sliding in a slot 17, having an offset 18 to receive the pin and lock the bolt in its retracted position. When the pin is moved out of the offset 18, the pressure of the spring 15 will project the bolt across the recess 6 over the bearing-brass and against a stop 19, that acts as a buffer to arrest movement of the bolt and prevent breakage or wear of the pin when it reaches the end of the slot 17. When the bolt has been shot across the upper bearing-brass, it will be impossible for said brass and the end of the spindle to become accidentally separated from the socket.

It might sometimes happen in the operation of the reel that the workman having placed the spindle in position in the reel would forget to lock it therein by releasing the bolt. I therefore prefer to provide a device which will positively prevent the spindle from becoming seated in its bearings without tripping the bolt to automatically lock the same. This device consists, preferably, of a lever 20, pivoted at a point intermediate to its ends on the reel-arm and having one of its ends in the path of the spindle to be struck thereby to tilt the opposite end and move it into engagement with the pin 16 and push it out of the offset 18 and allow the spring 15 to project the bolt across the recess 6 and lock the bearing-brasses and the spindle therein. It will not be necessary, therefore, for the operator to give the locking device any attention, as it will be automatically released by the insertion of the spindle into the reel, and there will be no danger of a spindle falling out of its sockets in the reel and breaking or damaging the spindles or their connections.

Above and below the lever 20 I provide stops 21, that limit the movement of the lever in each direction. I prefer also to provide in connection with this device a threaded stud 22, fitting within a socket in the arm and tapped into the lower brass and having a

grease or oil duct 23, that communicates with the spindle-bearing. This stud holds the lower or inner brass in place and permits its readjustment in case of wear or its removal entirely from the arm without disturbing the spindle or the other brass. A grease-cup 24 is mounted on said stud and communicates with the duct 23 to permit the convenient lubrication of the spindle-bearings.

10 I claim as my invention—

1. The combination, with the reel-arms having sockets and bearing brasses or blocks removably fitting therein, of a spindle journaled in said brasses, spring-pressed bolts 15 carried by said arms and arranged to be projected across said sockets to lock said brasses and spindle therein, and levers pivoted on said arms and projecting across said sockets in the path of said spindle to be actuated by 20 the insertion of the spindle into said sockets for tripping said spring-pressed bolts to lock the same, substantially as described.

2. The combination, with the reel-arms, of a spindle having bearings in said arms, a locking device arranged to prevent the accidental disengagement of said spindle from its bearings, a pivoted lever provided in the path of said spindle on each arm and arranged to trip said locking devices to automatically lock 30 the same when said spindle is inserted into its bearings, said lever being normally held by gravity in the path of said spindle and stops for limiting the movement of said lever in each direction, substantially as described.

35 3. The combination, with the reel-arms having sockets and bearing brasses or blocks removably fitting therein, of a spindle journaled in said brasses, spring-pressed bolts mounted in said arms and arranged to be pro-

jected across said sockets to lock said brasses 40 and spindle therein, pins provided on said bolts and adapted to slide in slots 17 and enter offsets 18 to lock said bolts in their retracted position, and levers pivoted on said arms in the path of said spindles and adapted 45 to engage said pins to trip said bolts when the spindles are inserted into said sockets, substantially as described.

4. The combination, with a reel-arm having a socket and a bearing brass or block fitting therein, of a spindle journaled in said brass, a spring-pressed bolt carried by said arm and arranged to be projected across said socket to lock said brass and spindle therein, a lever pivoted on said arm independently of 55 said bolt and normally held by gravity across said socket in the path of said spindle and said lever being adapted to engage and trip said bolt when said spindle enters said socket, 60 substantially as described.

5. The combination, with a reel-arm having a socket and bearing-block therein, of a spindle removably fitting in said socket, a locking device arranged to be projected across said socket to lock said spindle therein, a lever pivoted on said arm independently 65 of said locking device and normally projecting across said socket in the path of said spindle, and said lever being adapted when struck by said spindle to engage and trip said locking 70 device, substantially as described.

In witness whereof I have hereunto set my hand this 7th day of April, 1905.

WALTER E. WINES.

Witnesses:

F. O. TANNER,
C. MACNAMARA.