March 6, 1951 S. D. SPURLING 2,544,401

WIRE REEL

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Fig. 1.

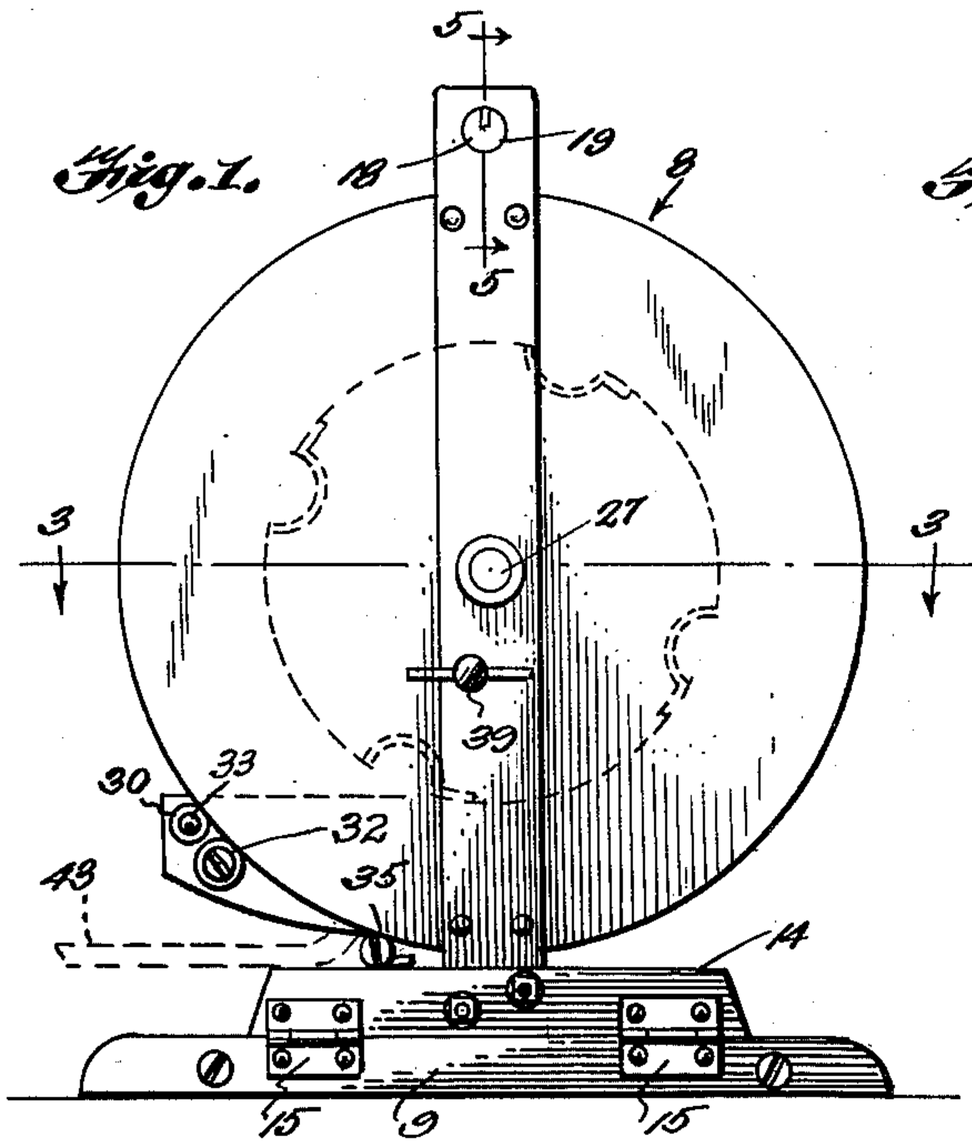


Fig. 2.

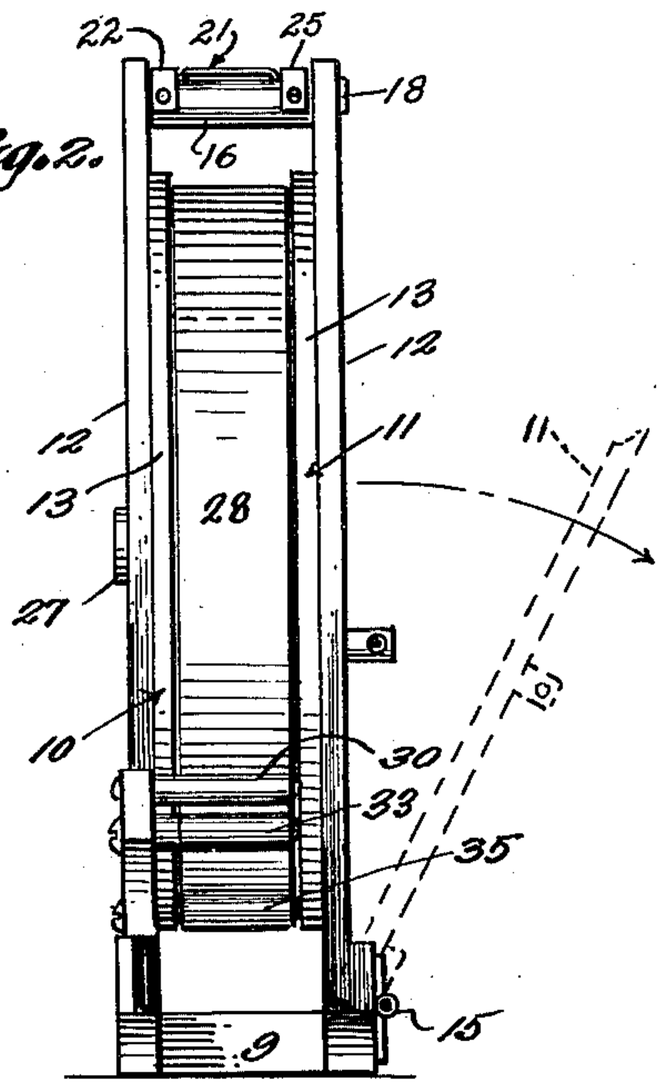


Fig. 3.

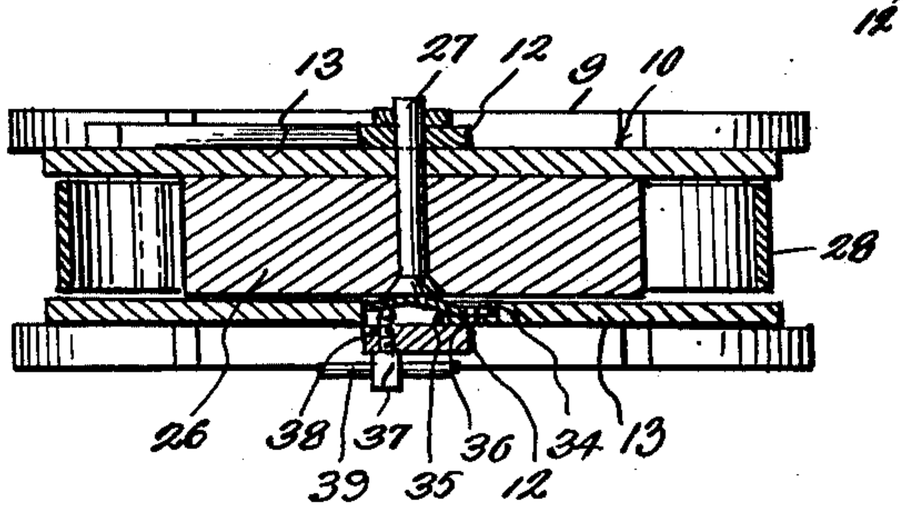


Fig. 5.

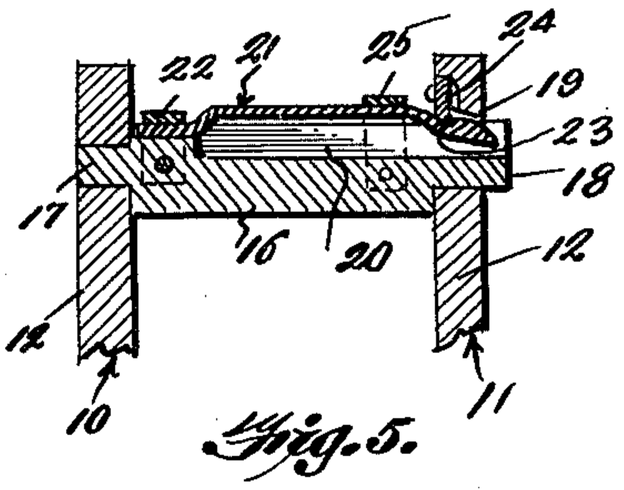


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Fig. 4.

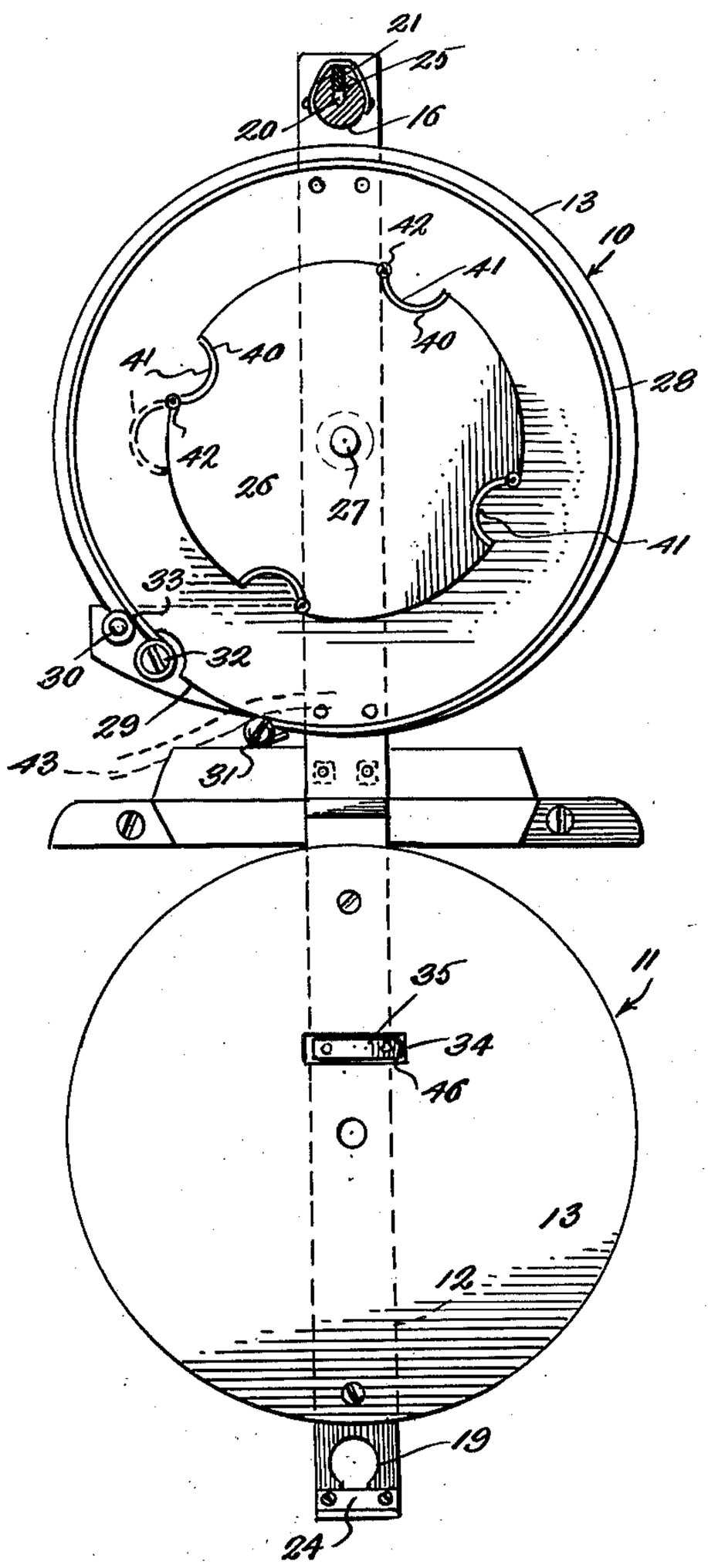



Fig. 6.

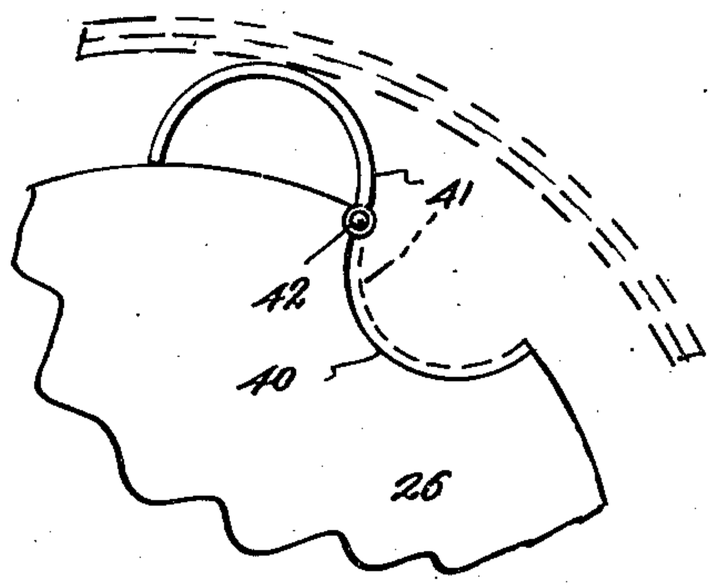
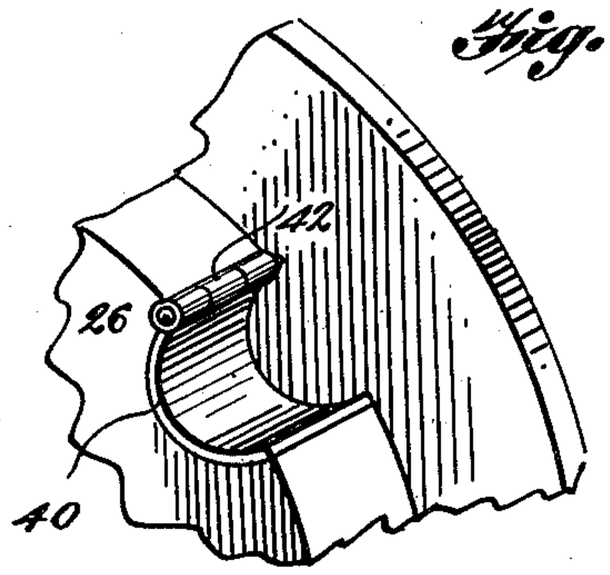



Fig. 7.

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# UNITED STATES PATENT OFFICE

2,544,401

## WIRE REEL

Sherman D. Spurling, Macon, Ga.

Application October 11, 1946, Serial No. 702,634

5 Claims. (Cl. 242—72)

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This invention relates to a reel adapted to be used for supporting a roll of wire and more particularly for supporting rolls of double wire of the type used by electricians in wiring buidings.

A primary object of the invention is to provide a reel on which a roll of electric wire can be readily applied and from which the wire can be paid out without being twisted or becoming tangled.

Other objects of the invention are to provide a reel provided with a carrying handle, having a hinge side for exposing the reel for applying or removing a roll of wire, having a latch for normally retaining said hinge side in an operative position and provided with an adjustable brake for controlling the rotation of the reel.

Another important object of the invention is to provide a reel which can be readily adjusted to increase or decrease the circumference thereof for adapting the reel to holding rolls of wire having different internal diameters.

Other objects and advantages of the invention will hereinafter become more fully apparent from the following description of the drawings, which illustrate a preferred embodiment thereof, and wherein:

Figure 1 is a side elevational view of the reel;

Figure 2 is an end view in elevation thereof;

Figure 3 is a horizontal sectional view taken substantially along a plane as indicated by the line 3—3 of Figure 1;

Figure 4 is a side elevational view showing the reel in an open position preparatory to receiving a roll of wire;

Figure 5 is an enlarged fragmentary vertical sectional view taken substantially along a plane as indicated by the line 5—5 of Figure 1;

Figure 6 is an enlarged fragmentary side elevational view of a portion of the reel and

Figure 7 is an enlarged perspective view of another portion thereof.

Referring more particularly to the drawings, the reel in its entirety is designated generally 8 and includes a base 9 which is adapted to rest on a suitable supporting surface. A side wall 10 is secured to the base 9 and extends upwardly from adjacent to one side edge thereof. A complementary, opposite side wall 11 extends upwardly from the opposite side edge of the base 9 and is hingedly mounted with respect thereto.

The side walls 10 and 11 each include an upright bar 12 to the inner side of which is secured a disc 13. The bar 12 of the wall 10 is fixedly secured to the base 9 and the bar 12 of the wall 11 is fixedly secured at its lower end to a horizontally disposed piece 14, which forms a part

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of the base 9 and which is hingedly connected to the base by means of a pair of leaf hinges 15, as best seen in Figures 1 and 2.

Referring particularly to Figure 5, a handle member 16 is provided with a restricted end 17 which is secured in the bar 12 of side 10, adjacent the upper end thereof. The handle 16 projects from the inner side of said bar 12 and has a restricted opposite end 18 which is removably disposed in an opening 19 formed in the upper end of the bar 12 of side 11. The upper portion of the handle 16 is formed with a recess 20 which extends through its restricted portion 18 for receiving a spring latch strip 21 which is secured to the handle 16, adjacent its end 17, by a retaining strip 22. The free end of the latch strip 21 is enlarged and is provided with an upwardly facing recess or notch 23 which is disposed to receive the lower edge of a keeper 24 when the side wall 11 is in an upright position. The keeper 24 is secured to the upper portion of the bar 12 of side 11 and has its lower free edge extending into the opening 19, as clearly illustrated in Figure 5. A restraining strap 25 is secured to the handle 16 and disposed over a portion of the spring strip 21 to limit the upward movement of the free end thereof, when disengaged from the keeper 24.

A spool 26 is rotatably mounted on a spindle 27 which is anchored to the portions 12 and 13 of the wall 10, said spool being disposed between the side walls 10 and 11 and being of a diameter substantially less than the discs 13.

An arcuate strip 28 is secured to the inner side of the disc 13 of wall 10 in perpendicular relationship thereto and extends subtantially therearound except for a gap between the ends of the strip 28 which forms an opening 29, as best seen in Figure 4, adjacent the bottom of the reel 8. The width of the strip 28 is slightly less than the distance between the discs 13 when the two walls 10 and 11 are in upright positions, so that said strip 28 forms a cover for substantially enclosing the spool 26. The strip 28 is secured at its ends to bolts 31 and 32 which are anchored in the disc 13 of side 10. The ends of the strip 28 are fastened to the bolts 31 and 32 by being turned back or looped and secured around the shanks thereof. A roller 30 is disposed across the upper portion of the opening 29, adjacent to the upper bolt 32, said roller being journaled on a bolt 33 which is anchored in the disc 13 of the wall 10.

As best seen in Figure 4, the inner side of the disc 13 of the wall 11 is provided with a transversely disposed recess 34 for receiving a leaf

spring 35 which is anchored at one end to the wall 11 by a fastening 36. As best illustrated in Figure 4, a screw 37 engages a threaded bore 38 in the parts 12 and 13 of the wall 11 and has its inner end extending into the recess 34. The inner end of the screw 37 engages against the free end of the leaf spring 35 for forcing said free end inwardly and toward the spool 26. The screw 37 is provided with a cross head at its outer end forming a handle 39 by means of which the screw 37 may be advanced or retracted with respect to the leaf spring 35.

As seen in Figures 4, 6 and 7, the periphery of the spool 26 is provided with a plurality of arcuately shaped transversely extending recesses 40 in each of which is normally nested an arcuate plate 41 which is hingedly connected at 42 along one end thereof to the spool 26. As best seen in Figure 4, the spool 26 is preferably provided with four equally spaced recesses 40 each of which contains an arcuate member 41. When the arcuate members 41 are in nested positions, as shown in full lines in Figure 4, they are entirely contained within the recesses 40. By swinging the members 41 outwardly from their full line to their dotted line position of Figure 4 or from their dotted line to their full line position of Figure 6, the members 41 may be disposed so as to project outwardly from the periphery of the spool 26, for a purpose which will hereinafter be described.

Assuming that the reel 8 is empty and in a closed position as shown in Figures 1 and 2, by pressing downwardly on the latch 21 the notch thereof will be released from the keeper 24 so that the side 11 can be swung on the hinges 15 to its open position of Figure 4. This will expose one side of the reel 8 so that a roll of electricians' wire may be inserted through the open side and placed on the periphery of the spool 26 and within the outer wall 28, after which the outer end of the roll is extended outwardly through the opening 29, as indicated by dotted lines at 43 in Figures 1 and 4. The side 11 is then swung back to its upright position and as the handle portion 18 enters the opening 19 the free end of the latch will be compressed by engagement with the bottom edge of the keeper 24 to permit the latch 21 to assume a position in which it can spring upwardly so that the notch in the free end thereof will receive the bottom edge of the keeper 24 for again latching the wall 11 in its position of Figure 2. If it is not desired to immediately unwind the wire 43 of the reel 8, the screw handle 39 may be revolved for advancing the screw inwardly to cause the inner end thereof to force the free end of the leaf spring 35 into frictional clamping engagement with a side of the spool 26, for locking the spool against rotation. When it is desired to pay out the wire 43, the screw 37 is rotated in the opposite direction to retract it sufficiently to either permit the free end of the spring 35 to move entirely out of engagement with the spool 26 or so that the spring 35 will engage the spool 26 sufficiently to frictionally retard the rotation of said spool so that the wire 43 will not be unwound too rapidly therefrom with the resulting possibility of its becoming tangled. As the wire 43 will ordinarily be pulled outwardly and upwardly, the roller 32 is positioned to be engaged thereby to prevent frictional contact of a portion of the wire with a part of the reel 8.

The reel 8 is especially intended for use with conventional rolls of electrician's double strand wire used in wiring buildings and since this type of wire is marketed in rolls of different internal



diameters, the spool 26 is made adjustable to accommodate such different size rolls. For rolls having smaller internal diameters, the spool 26 is utilized with the members 41 disposed in nested position in the recesses 40, as seen in full lines in Figure 4. For rolls of wire of greater internal diameter, each of the arcuate members 41 is swung to its full line position, as seen in Figure 6, to thereby increase the circumference and diameter of the spool 26 to adapt it to the rolls of larger internal diameter. Obviously, the reel 8 may be readily carried by the user grasping the handle 16.

Various modifications and changes are contemplated and may obviously be resorted to without departing from the spirit and scope of the invention as hereinafter defined by the appended claims.

I claim:

1. In a reel, a base, a housing including a fixed side secured to the base and a swingably mounted side hinged to the base, latch means for retaining the swingably mounted side in a closed position with respect to the fixed side, a spool carried by the fixed side and journaled in the housing between said sides, and means for varying the circumference of the spool for adapting it to rolls of wire of different internal diameters, said means including a plurality of elements equally spaced around the circumference of the spool.

2. In a reel, a base, a housing including a fixed side secured to the base and a swingably mounted side hinged to the base, latch means for retaining the swingably mounted side in a closed position with respect to the fixed side, a spool carried by the fixed side and journaled in the housing between said sides, and means for varying the circumference of the spool for adapting it to rolls of wire of different internal diameters, said means comprising arcuate recesses formed in the periphery of the spool, arcuate members pivotally connected to the spool and normally nested in said recesses, said arcuate members being swingable to positions outwardly of the periphery of the spool for increasing the circumference thereof.

3. In a reel, a base, a housing including a fixed side secured to the base and a swingably mounted side hinged to the base, latch means for retaining the swingably mounted side in a closed position with respect to the fixed side, a spool carried by the fixed side and journaled in the housing between said sides, means for varying the circumference of the spool for adapting it to rolls of wire of different internal diameters, said housing having upwardly projecting extensions, and a handle disposed between said extensions, the latch means for the hingedly mounted side of the housing being carried by said handle.

4. A reel for wire rolls comprising, a base, a housing projecting upwardly from the base including laterally spaced sides, one of said sides being hingedly supported on the base for exposing a side of the housing, the other side being fixed to the base, a spool supported by the fixed side and rotatably mounted between said sides within the housing, said spool having arcuate recesses in the periphery thereof, and arcuate members pivotally connected to the spool and normally nested in said recesses, said arcuate members being swingable to positions outwardly of the periphery of the spool for increasing the circumference thereof.

5. A reel for wire rolls comprising, a base, a housing projecting upwardly from the base in-

cluding laterally spaced sides, one of said sides being hingedly supported on the base for exposing a side of the housing, the other side being fixed to the base, a spool supported by the fixed side and rotatably mounted between said sides within the housing, a handle disposed in the upper part of said reel and above the housing, and latch means carried by the handle for detachably retaining the hinged side of the housing in an upright, closed position.

SHERMAN D. SPURLING.



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