

Sept. 17, 1963

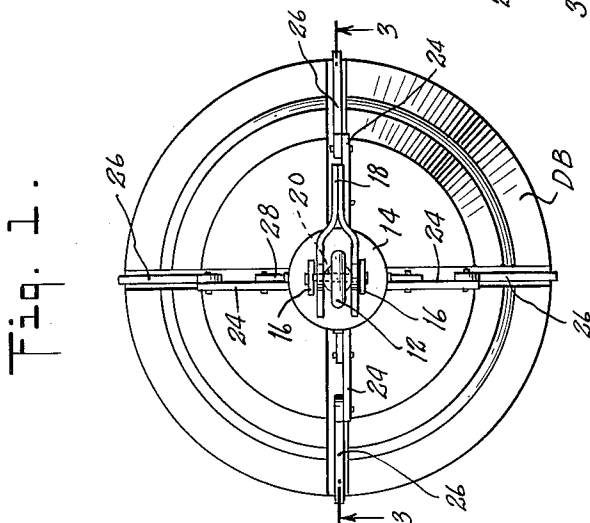
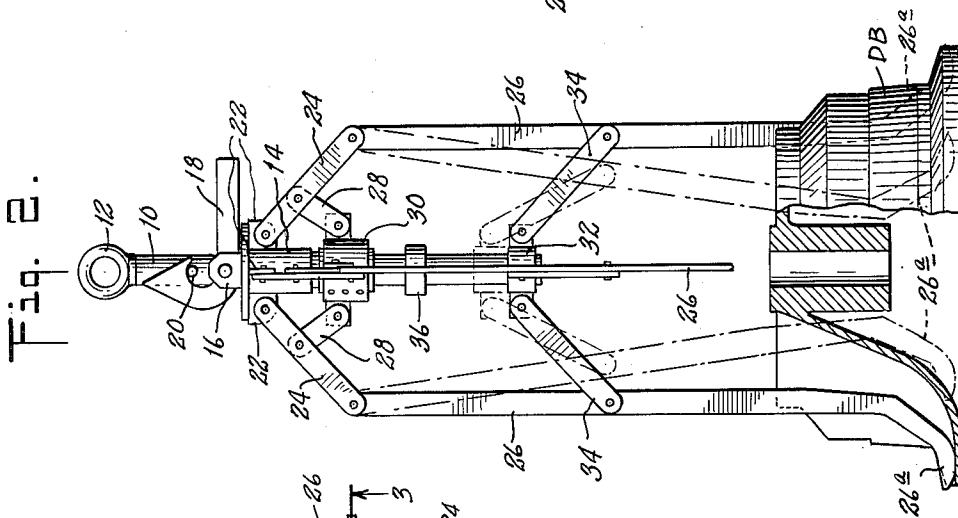
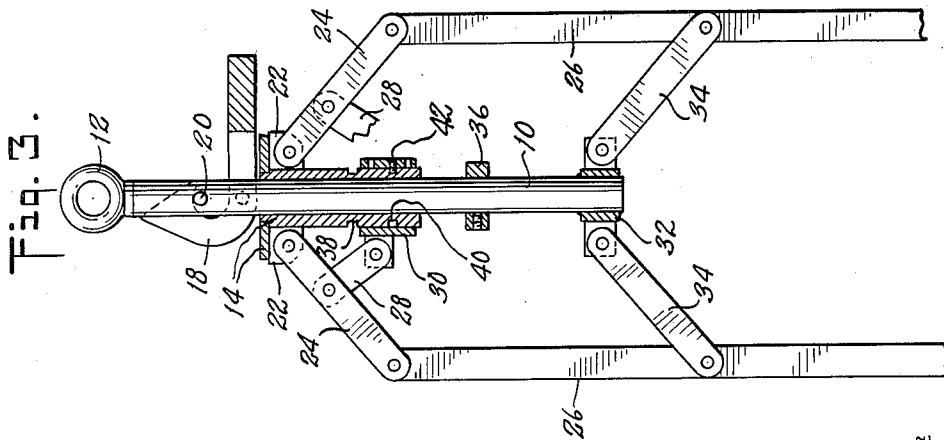
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3,104,126

COIL STRIPPER

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2 Sheets-Sheet 1



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Fig. 6.

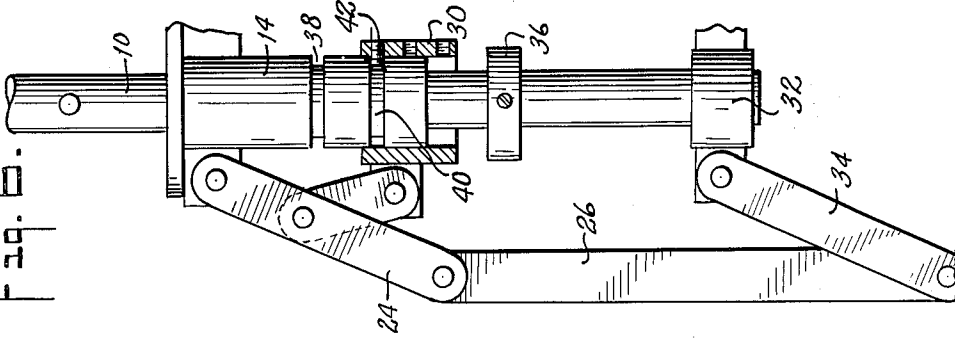


Fig. 5.

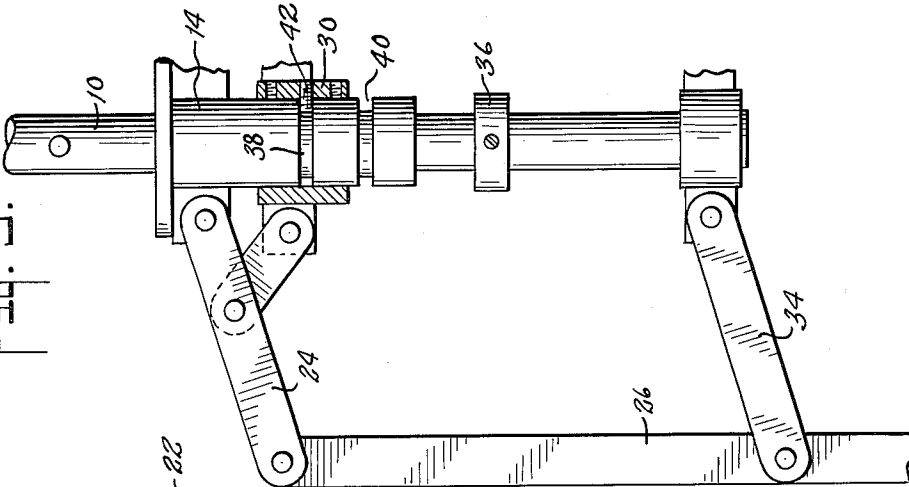
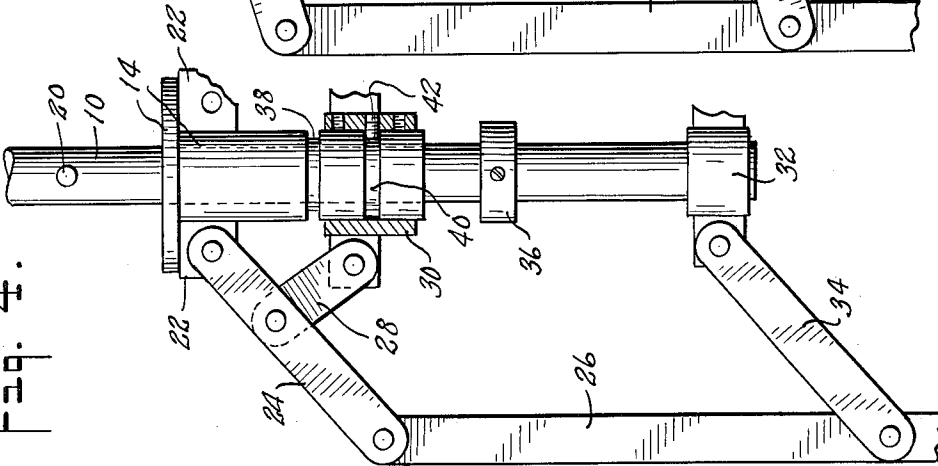


Fig. 4.



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COIL STRIPPER

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This invention relates to a device for transferring or stripping coils from the block of a wire drawing machine.

The general object of this invention is to provide a coil stripper for a wire drawing machine which is capable of adjustment to permit the formation of coils of different sizes and the transfer thereof from the machine.

Other and more detailed objects of the invention will be apparent from the following description of the embodiment thereof illustrated in the accompanying drawings.

In these drawings FIGURE 1 is a top plan view of the stripper of this invention shown mounted on the drawing block of a wire drawing machine;

FIGURE 2 is a side elevational view thereof showing a part of the drawing block in cross-section;

FIGURE 3 is a large elevational view of the top portion of the device showing some parts in cross-section;

FIGURES 4, 5 and 6 are partial fragmentary views showing the parts in different adjusted positions to adapt it for the formation and transfer of coils of different internal diameter.

In accordance with the modern wire drawing practice it is at the present time common to use a stripping device which is mounted on the drawing block of a wire drawing machine. The construction of the device is such that in addition to performing the function of lifting the coil from the machine when the coil is finished, it also serves as a frame around which the coil is assembled.

More commonly, at the present time, these forming and stripping devices are each of a single size so that only one size of coil can be formed thereon and transferred from the drawing block.

In accordance with this invention, by means of simple structural relationships it is possible to provide a stripper adapted to have coils of several sizes formed thereon and by means of which these coils can be removed from the machine and transferred for packaging, storage and the like.

The drawing block is shown somewhat diagrammatically at DB and in accordance with common practice today the block is provided with a series of radial slots, say four, in which the hook shaped frame ends during the coil operation. As is well known, this block is part of a machine and is power driven for drawing the wire through the die and forming it into coils.

As illustrated the stripper includes a main shaft or rod 10 provided in the ends, illustrated at the upper end with a ring 12 by means of which a hoist hook can be detachably secured thereto. Slidably mounted on the rod is a sleeve 14 provided with a pair of upstanding lugs 16 located on opposite sides of the rod. Pivotaly mounted on these lugs is a bifurcated hook shaped lever 18, the hooked end of the lever cooperating with a pin 20 extending radially of the rod 10 and projecting on each side thereof.

In the case shown the sleeve 14 has four radial ears 22 on which are pivotaly mounted, each at one end, four links 24. Extending downwardly from the outer end of these links and pivotaly connected thereto are vertical bars or frame members 26 which terminate at the lower ends in the hook shaped formations 26a. Positionable on the sleeve 14 is a sleeve 30 which likewise has four radial ears pivotaly connected by means of the respective links 28 to the links 24 intermediate their ends.

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Secured to the lower end of the rod 10 in any suitable manner is a fixture 32 which likewise has four radial ears. Links 34 pivotaly interconnect these links with the frame bars 26. A stop sleeve 36 is mounted on the rod 10 and is provided with a set screw by means of which it can be secured at different locations on the rod.

A sleeve 14 is a part of vertically spaced circumferential surface grooves 38 and 40. The sleeve 30 is provided with three holes as shown which are threaded to receive the pins 42.

By examining the FIGURES 3, 4, 5 and 6, it will be seen that the sleeve 30 can be given various relative positions on the sleeve 14 depending upon which of the grooves 38 and 40 are engaged by the pin 42, and which of the holes in the sleeve 30 carries the pin at the moment. With this arrangement it is possible to position the frame bars 26 at various radial spacings with respect to the vertical axis of the device so the stripper can handle coils of four different sizes. When the stripper is mounted on the block ready to receive the coils as they are formed and pushed upwardly thereon, the frame rods 26 are all parallel to the vertical axis of the device. At this time the hook end of the bifurcated lever 18 engages the pin 20. Thus when the stripper is set down on the block with an overhead crane the stripper forms a frame in which all of the bars are relatively fixedly positioned at the time. The hooked ends 26a of the frame members lie in the grooves of the block within the working surface thereof so that the coil can be formed turn by turn and pushed upwardly to collect on the frame rods. When a coil of the desired number of turns has been formed the overhead crane lifts the stripper from the drawing block. The hooked ends 26a of the frame engage the turns of the coil and lift the entire coil with it. The stripper is then transferred to the point of discharge as for example, onto a stand commonly used for the purpose. As the stripper is lowered to lower the coil onto the stand the bifurcated lever 18 is engaged by a suitably positioned member so that it is caused to have a counterclockwise rotation of its pivot connection with the lug 16 whereupon its hooked end disengages the pin 20. Either by reason of the weight of the coils on the hooked ends of the frame members 26 and/or by raising the crane hook the frame collapses as diagrammatically illustrated in FIGURE 2, so that the convolutions of the coil can slip over the hooked ends of the frame members thereby releasing the coil. The stripper can then be raised up to complete its disengagement with the coil and raised to the drawing block for further use. The stop collar 36 limits the relative movement between the rod 10 and the sleeve 14.

As will be apparent upon careful consideration, it is not at all necessary that the frame members 26 extend parallel to each other. They may, of course, be non-parallel as for example they may be convergent upwardly to form an effective truncated cone. This may be brought about by the simple expedient of making the links 34 somewhat longer than the upper links 24. The important point is that the frame members 26 lie on a figure of revolution of circular cross-section, as for example on a cylinder or a conical surface.

From the above description it will be apparent to those skilled in the art that the form of the device selected for illustrative purposes herein is capable of variation in detail without departing from the novel subject matter herein. For this reason it is preferred that the disclosure be taken in an illustrative sense and that the scope of the invention be determined by the scope of the claims.

What is claimed is:

1. A coil stripper of the type described comprising a central support rod, a sleeve slidably mounted on said rod, a second sleeve positionable on said first sleeve,

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means for holding said second sleeve in any one of several longitudinal positions on said first sleeve, a releasable means for holding said first sleeve in a raised position on said rod, a plurality of frame members each terminating at its lower end in a coil supporting formation, a link pivotally interconnecting each frame member at a point intermediate its ends to said rod, a link pivotally connecting the upper end of each frame member to said first sleeve and a link pivotally interconnecting said last link intermediate its ends with said second sleeve.

2. In the combination of claim 1, a stop member mounted on said rod for limiting relative movement of said first sleeve on said rod.

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3. In the combination of claim 1, said means comprising grooves on said first sleeve, holes in said second sleeve, and a pin selectively positionable in said holes and grooves to lock the second sleeve to the first sleeve in any one of several longitudinal positions.

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