

June 19, 1923.

G. K. KAPATAS

1,458,980

ROVING STOP MOTION FOR SPINNING FRAMES

Filed Oct. 21, 1922

Fig. 1.

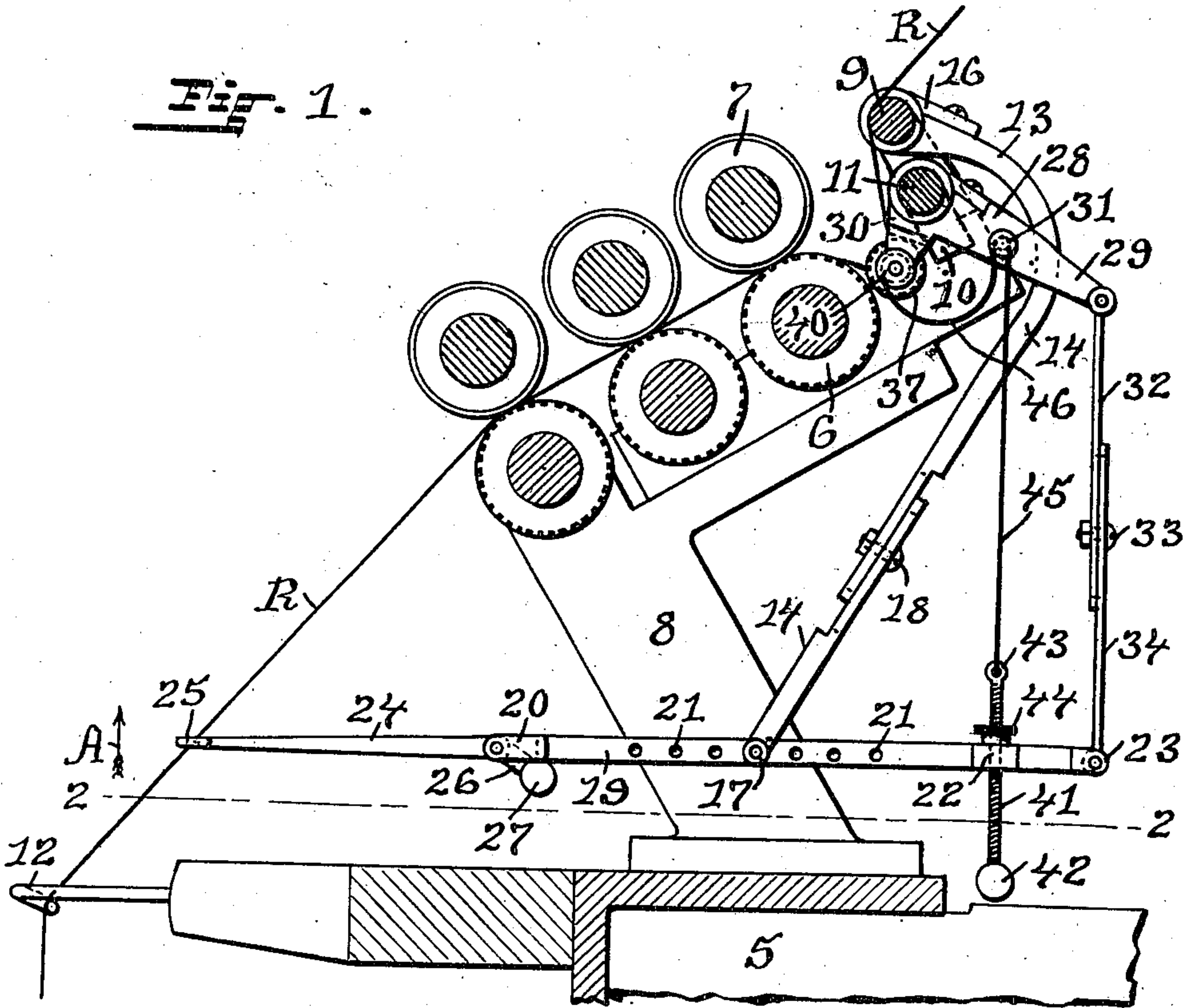


Fig. 2.

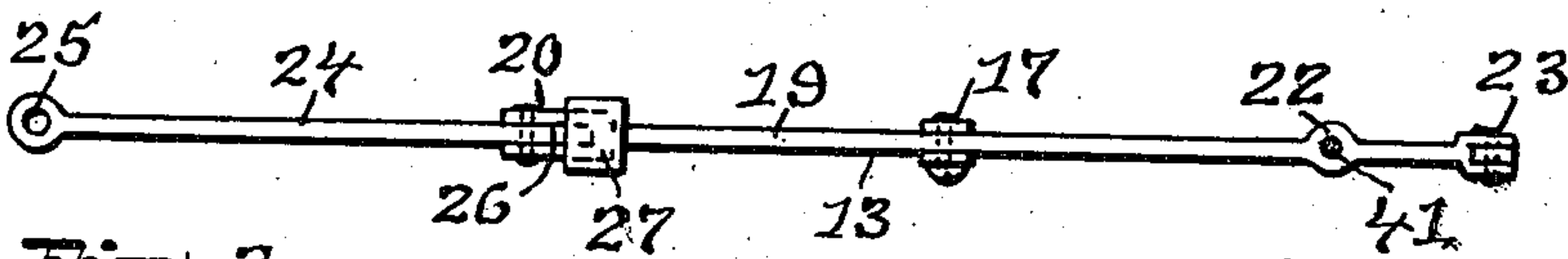


Fig. 3.

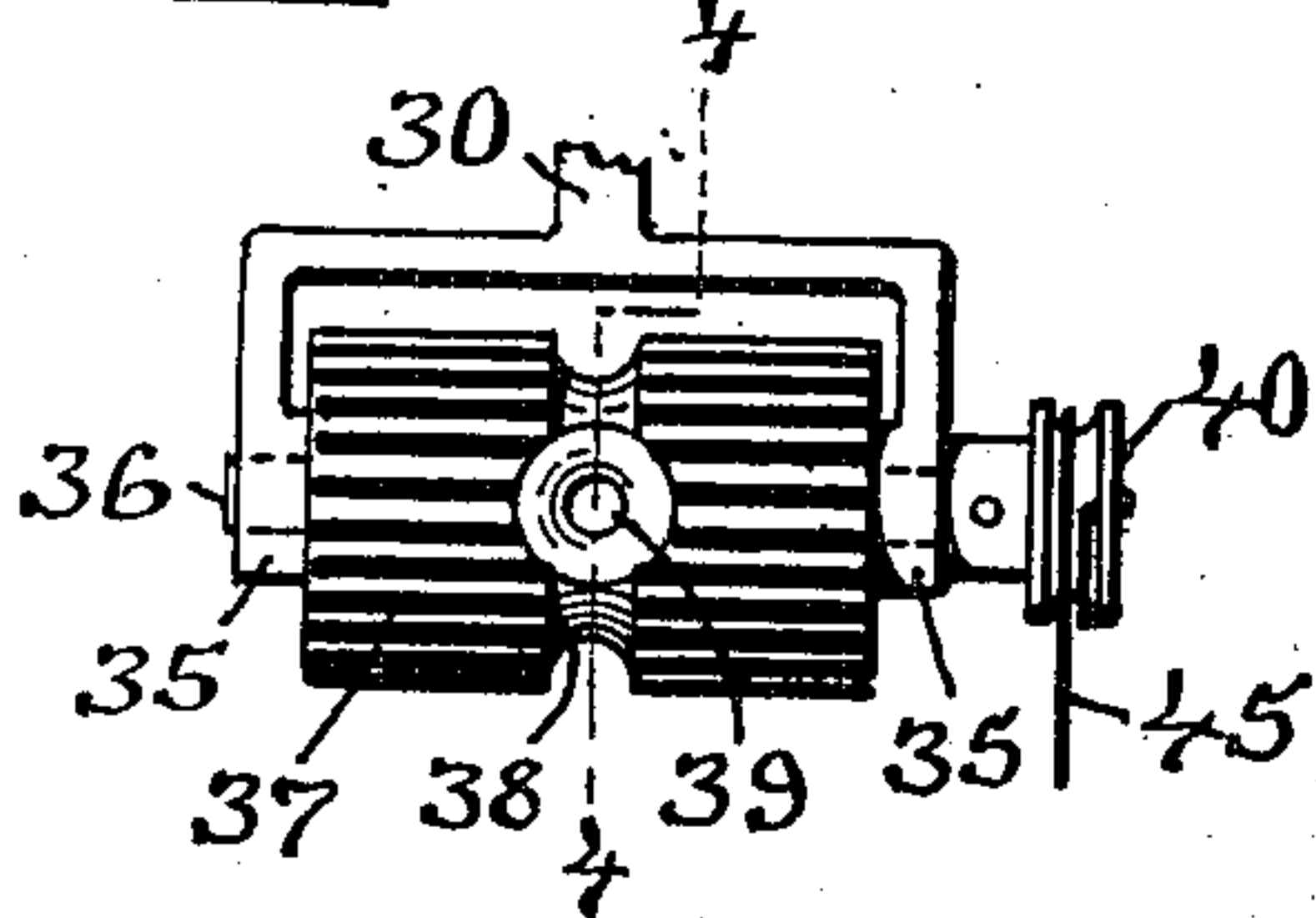
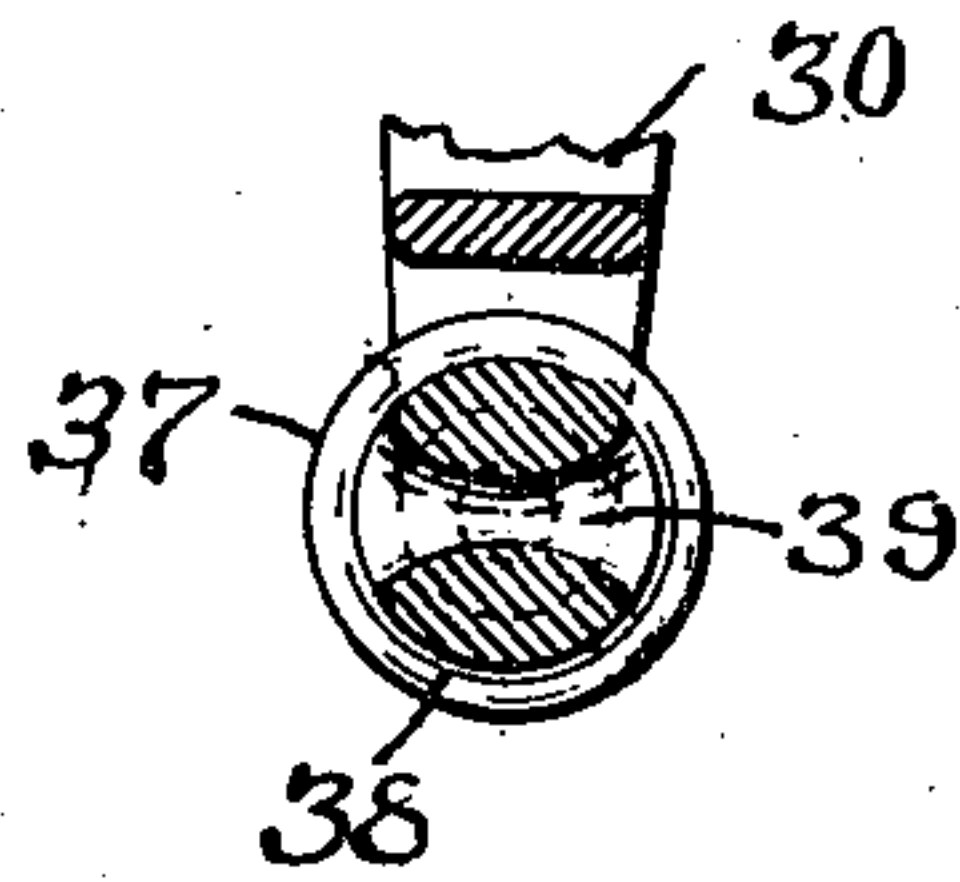


Fig. 4.



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UNITED STATES PATENT OFFICE.

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ROVING STOP MOTION FOR SPINNING FRAMES.

Application filed October 21, 1922. Serial No. 596,107.

To all whom it may concern:

Be it known that I, GREGORE K. KAPATAS, a citizen of the United States, residing at Providence, in the county of Providence and State of Rhode Island, have invented a new and useful Improvement in Roving Stop Motions for Spinning Frames, of which the following is a specification.

My invention has reference to an improvement in spinning frames and more particularly to an improvement in the roving stop-motion for spinning frames as shown in United States Patent No. 1,401,984, granted to me January 3, 1921.

In the usual construction of spinning frames having no roving stop-motions, the roving when breaking in front of the top rolls, will usually wind up on the rolls or feed out of the rolls and snarl up on the bobbins or adjacent roving, also the roving may run to waste a material length of time before being noticed by the operator, thereby causing a large amount of waste.

The object of my invention is to improve the construction of my previous roving stop-motion, whereby when the roving breaks in or in front of drawing rolls, the roving will be automatically held or broken, back of the drawing rolls, thereby preventing the feeding of the broken roving through the rolls, and also a predetermined length of the roving, back of the rolls, will be automatically wound up on a rotatable part of the stop-motion then automatically unwound in a position where it can be easily inserted into the rolls.

A further object of my invention is to construct my improved roving stop-motion so that they may be suspended from a fixed part of the spinning frame thereby leaving the top of the spinning frame free for cleaning purposes.

My invention consists in the peculiar and novel construction of a roving stop-motion for spinning frames, said roving stop-motion having details of construction, as will be more fully set forth hereinafter and claimed.

Figure 1 is a vertical transverse sectional view of part of a spinning frame showing the drawing rolls and the roving in its normal position through the stop-motion and rolls.

Figure 2 is a sectional view taken on line 2, 2 of Figure 1 of the stop-motion, looking in the direction of the arrow A.

Figure 3 is an enlarged front view of the rotatable member of the stop-motion, the supporting arm being broken away, and

Figure 4 is a transverse sectional view taken on line 4, 4 of Figure 3.

In the drawing 5 indicates a portion of a spinning frame having the usual lower fluted drawing rolls 6 and leather covered top rolls 7, standard 8 supporting the usual round bar 9 and traverse bar 10 which in this case has a round bearing 11 for each of the stop-motions. On the frame 5 are the usual fall-boards each having an eye 12. The roving R comes from the usual quills, not shown, over the round bar 9, through the drawing rolls 6 and 7 and eye 12 and is then wound on the bobbin, not shown, in the usual way.

My improved roving stop-motion 13 consists of an adjustable suspension support 14 having an upper clamping end 16, firmly clamped to the round bar 9, and a lower pivot end 17, the support being made in two parts and adjustably secured together by a bolt 18. Pivoted to the pivot end 17 is a nominally horizontal bar 19 having a forked bearing end 20, a series of transverse adjusting holes 21, 21, a vertical hole 22 and a pivot end 23. Pivoted to the forked bearing end 20 is a nominally horizontal arm 24 having an eye 25 on its outer end for the roving R and a short inner end 26 on which is a weight 27 bearing against the underside of the forked bearing end 20, which forms a stop for the weight. Pivotaly secured to the bearing 11 on the traverse bar 10 is a bell-crank lever 28 having a long arm 29, a short arm 30 and on the side of the long arm 29 is a pin 31. Pivoted to the end of the long arm 29 is a vertical bar 32 adjustably secured by a bolt 33 to a vertical bar 34 which is pivotaly secured to the pivot end 23 of the horizontal bar 19. The short arm 30 has a bifurcated end forming bearings 35, 35 for a shaft 36 to which is secured a fluted roll 37 having an annular central groove 38 and a central transverse eye 39 for the roving R. On one end of the shaft 36 is secured a grooved pulley 40. Extending vertically through the hole 22 in the horizontal bar 19 is a screw-threaded rod 41, having on its lower end a weight 42, on its upper end an eye 43 and a nut 44 in screw-threaded engagement with the rod 41 and resting nominally on the horizontal bar 19. A cord 45 is secured at its lower end to the

eye 43 and extends upwards over the pin 31 on the bell-crank lever 28, it is then formed into a loop 46, to allow for the reciprocating of the traverse bar 10 and the end of the cord secured to the pulley 40 on the shaft 36 of the fluted roll 37, as shown in Figures 1 and 3.

When my improved roving stop-motion is in use, the parts of the stop-motion are nominally in the position as shown in Figure 1. The roving R comes over the round bar 9, through the eye 39 in the fluted roll 37, of the stop-motion, between the bottom and top drawing rolls 6 and 7, then through the eye 25 in the bar 24 and then to the bobbins in the usual way. The stop-motion has its greatest weight back of the pivot end 17 and the tension of the roving R through the eye 25 holds the stop-motion as shown. On the breaking of the roving R back of or in between the drawing rolls 6 and 7 the rear of the stop-motion drops down, thereby bringing the fluted roll 37 of the stop-motion into engagement with the adjacent fluted drawing roll 6. These fluted rolls acting as gears revolves the fluted roll 37 of the stop-motion and winds the broken end of the roving R as it comes from the quills, onto the fluted roll 37 in the groove 38. The upper end of the cord 45 is simultaneously wound on the pulley 40 lifting the rod 41 and weight 42. The roving now being broken the weight of the rod 41 and weight 42, through the cord 45 and pulley 40, revolves the fluted roll 37 and unwinds the roving from the fluted roll 37 thereby placing the end of the roving in a position to again enter the drawing rolls. The pivoted bar 24 may be raised at any time for doffing the bobbins and the stop-motion is adjustable for different makes of spinning frames, one for each spindle.

It is evident that my improved roving stop-motion could be varied in construction, for different makes of spinning frames or the like, within the scope of the appended claims.

Having thus described my invention I claim as new:—

1. In a spinning frame having a drawing roll standard, drawing rolls and a bar on the standard, a roving stop-motion having a suspension support secured to the standard bar, and supporting the operative parts of the stop-motion, a rotatable member having an eye through which the roving passes and forming a part of the stop-motion, said rotatable member being adapted to engage with one of the drawing rolls on the breaking of the roving, whereby on the breaking

of the roving, the roving will be wound onto the rotatable member of the stop-motion, for the purpose as described.

2. In a spinning frame having a drawing rolls standard, drawing rolls a bar and a traverse rod having a bearing, a roving stop-motion having a suspension support secured to the standard bar and supporting the operative parts of the stop-motion, a nominally horizontal bar pivotally secured to the lower end of the suspension support and having an eye in its outer end, a bell-crank lever on the bearing of the traverse rod, a bar operatively connecting the nominally horizontal bar with one arm of the bell-crank lever, the other arm of the bell-crank lever rotatably supporting a rotatable member having an eye for the roving, for the purpose as described.

3. In a roving stop-motion as described, a traverse bar having a bearing, a bell-crank lever on the bearing, one arm of the bell-crank lever rotatably supporting a fluted roll having an annular groove and an eye for the roving, the other arm of the bell-crank lever being operatively connected with the stop-motion, whereby on the breaking of the roving, the roving will be wound onto the fluted roll of the stop-motion, and means for giving a retrograde movement to the fluted roll of the stop-motion, for the purpose as described.

4. A roving stop-motion comprising a traverse bar having a bearing, a suspension support having a clamping member on its upper end, a nominally horizontal bar pivoted to the lower end of the suspension support and having an eye in its outer end and a vertical hole, a screw-threaded rod in the vertical hole and having a weight on its lower end, an eye in its upper end and a nut resting on the horizontal bar, a bell-crank lever on the bearing of the traverse rod and having a long and a short arm, a pin on the long arm, a rod operatively connecting the long arm with the horizontal bar, bearings on the short arm in which is a shaft, a fluted roll secured to the shaft and having an annular groove and a central eye, a pulley fixed to the shaft, a cord secured at its lower end to the eye in the screw-threaded rod, said cord extending upwards over the pin on the long arm and then secured to the pulley so as to form a loop intermediate the pin and the pulley, for the purpose as described.

In testimony whereof, I have signed my name to this specification.

GREGORE K. KAPATAS.