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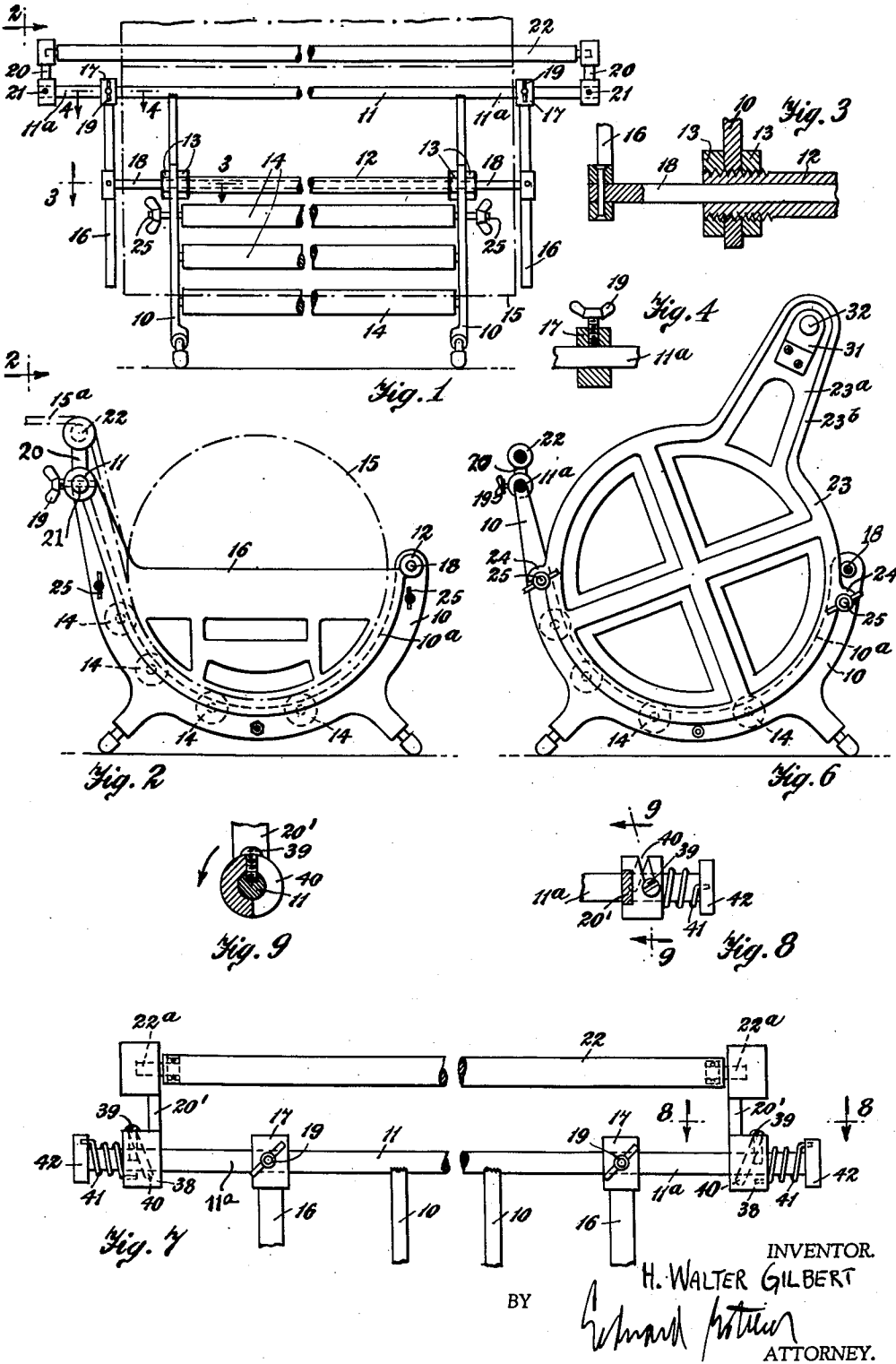
H. W. GILBERT

2,220,230

UNWINDING MACHINE

Filed April 3, 1939

2 Sheets-Sheet 1



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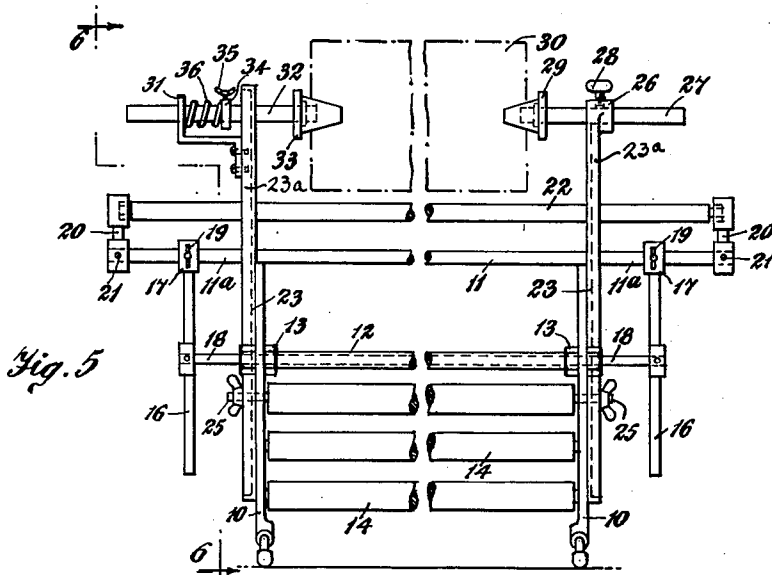
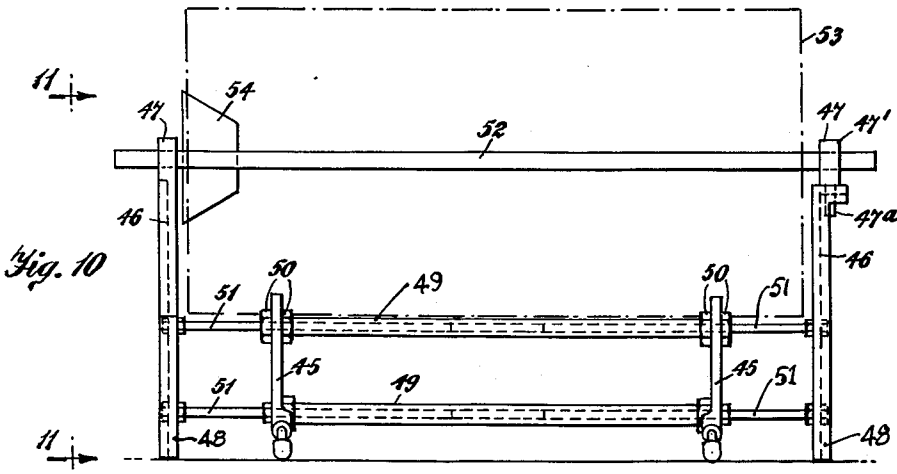
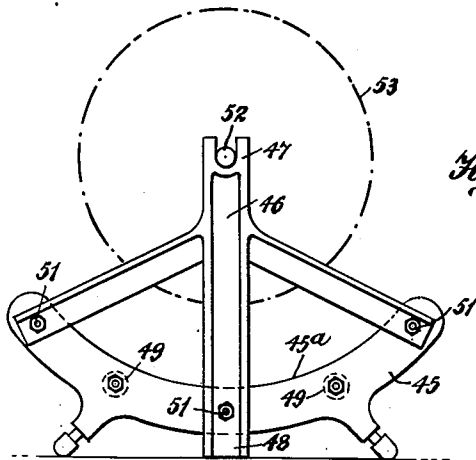
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2 Sheets-Sheet 2



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2,220,230

UNWINDING MACHINE

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Application April 3, 1939, Serial No. 265,718

3 Claims. (Cl. 242—68)

This invention relates to new and useful improvements in an unwinding machine.

The invention has for an object the construction of an unwinding machine intended for piece goods and materials and characterized by the provision of a roller for guiding the web coming off the roll of material irrespective of the width of the roll.

Still further the invention proposes a novel arrangement for supporting said roll in the vicinity of said roller.

As another object of the invention it is proposed to provide auxiliary side members cooperative with certain side supports of the unwinding machine and provided with parts adapted to support a roll of material for unwinding.

Still further the invention proposes an unwinding machine of novel design.

Another object of the invention is the construction of a machine as described which is simple and durable and which may be manufactured and sold at a reasonable cost.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawings and to the appended claims in which the various novel features of the invention are more particularly set forth.

In the accompanying drawings forming a material part of this disclosure:

Fig. 1 is a front elevational view of an unwinding machine constructed according to this invention.

Fig. 2 is an end elevational view looking in the direction of the line 2—2 of Fig. 1.

Fig. 3 is a fragmentary enlarged horizontal sectional view taken on the line 3—3 of Fig. 1.

Fig. 4 is a fragmentary enlarged horizontal sectional view taken on the line 4—4 of Fig. 1.

Fig. 5 is a front elevational view of the machine shown in Fig. 1 with additional parts applied.

Fig. 6 is a vertical sectional view taken on the line 6—6 of Fig. 5.

Fig. 7 is a fragmentary elevational view similar to Fig. 1 but illustrating a modification of the invention.

Fig. 8 is a horizontal sectional view taken on the line 8—8 of Fig. 7.

Fig. 9 is a vertical sectional view taken on the line 9—9 of Fig. 8.

Fig. 10 is a front elevational view of an unwinding machine constructed according to another form of this invention.

Fig. 11 is an end elevational view looking in the direction of the line 11—11 of Fig. 10.

The unwinding machine, according to this invention, includes a pair of spaced side supports 10 for resting upon a counter, table or the like, and having semicircular top edges 10a. A rod 11 is fixedly mounted across the rear ends of the edges 10a and has projecting end portions 11a. A tube 12 is mounted between the front ends of the edges 10a. This tube is shown held in position by nuts 13 threadedly engaged on the ends thereof and abutting the faces of the side supports 10. The rod 11 is secured upon the side supports 10 by welding, brazing, or the like.

A plurality of rollers 14 is mounted between the side supports 10 and project slightly above the said semi-annular top edges 10a for supporting a roll of material, indicated by the dot and dash lines 15. These rollers 14 are arranged so that there is a bottom pair straddling the longitudinal center of the side supports 10 and additional rollers extending upwards between the rear arms of the side supports. In all, there are four rollers in the particular design illustrated on the drawings.

End wall members 16 extend forwards and rearwards and are disposed to the outer faces of the said side supports 10 and at their rear ends are formed with socket portions 17 which are slidably mounted on the projecting end portions 11a. Rods 18 are mounted upon the front ends of the end wall members 16 and these rods slidably engage into the tube 12 so as to be extendable and retractable therein. Each socket 17 is provided with a clamp screw 19 which may be turned in to engage the rod 11 for fixedly locking the side wall members in position.

Brackets 20 are fixedly mounted on the ends of the projecting end portions 11a, preferably by pins 21 which engage through these parts. These brackets 20 extend upwards. A roller 22 is supported between the brackets 20 and is located immediately above the first-mentioned rod 11. Preferably, the rollers 14 and 22 are provided with ball bearings so that they may rotate freely. The operation of the device is as follows:

The end wall members 16 may be pulled outwards or pushed inwards to adapt the unwinding machine to a given roll of material 15. The roll of material 15 is placed upon the rollers 14 as indicated by the dot and dash lines 15 in Figs. 1 and 2. The end of the web of the roll of material, indicated by reference numeral 15a, is

extended over the top of the roller 22. Since this roller 22 is substantially the same length as the length of the rod 11 it will be adapted to engage the web portions of rolls of materials of various sizes. The roller 22 facilitates the drawing off of the web and thus the unwinding of the roll of material.

In Figs. 5 and 6 another embodiment of the device has been disclosed in which flat members 23 are releasably attached upon the outer faces of the side members 10 and have projecting arms 23a supporting a roll holding device as herein-after more fully explained. Each flat member 23 is formed with rib portions 23b to reinforce and stiffen the same. Each flat member 23 has hook elements 24 on diametrically opposite sides engageable with fastening elements 25 mounted upon the side members 10. These fastening elements comprise studs and wing locking nuts. The locking nuts may be turned to hold the flat members in position, or they may be loosened and the flat members lifted out.

One of the flat members 23 is provided with a socket 26 at its upper end. This socket supports a rod 27 which may be clamped in various extended positions by a set screw 28. The inner end of the rod 27 is provided with a rotative turning head 29 adapted to engage into one of the sides of a roll of silk or other material, indicated by the dot and dash lines 30.

The other flat member 23 is provided with an offset bracket 31. A rod 32 engages through the offset bracket 31 and through the upper end of the flat member and at its inner end is provided with a complementary rotative head 33. This head 33 is adapted to engage the other side of the roll of material 30 for holding the same in position. A collar 34 is fixedly mounted on the rod 32 by a clamp screw 35. A spring 36 acts between the collar 34 and the bracket 31 for normally resiliently urging the rod 32 inwards against the material 30.

Rolls of material 30 of different widths may be mounted upon the heads 29 and 33 merely by adjusting the rods 27 and 32 to accommodate the same. This permits unwinding of rolls of silk of different widths.

In Figs. 7 to 9 inclusive another embodiment of the invention has been disclosed which distinguishes from the prior form in the fact that a novel arrangement has been provided for removably mounting the roller 22 in position above the rod 11. For this purpose a bracket 20' is mounted upon each end of the rod 11 and supports the roller 22 in a particular manner. Each bracket 20' is formed with a hub portion 38 rotative on the projecting end portion 11a. A pin-tle screw 39 projects from the end portion 11a and engages into a helical groove 40 formed in the hub portion 38. A spring 41 is coaxially mounted on the projecting end 11a and has one end attached to the hub 38 and the other end to a head element 42 fixedly mounted on the extreme end of the projecting end 11a. The spring 41 normally turns the bracket 20' rearwards so that it assumes a vertical position by the end of the helical groove 40 striking the pintle 39.

The roller 22 is mounted between the upper ends of the brackets 20'. The roller 22 is supported upon the brackets by reason of having end portions 22a which engage into receiving openings formed on the adjacent faces of the brackets. The roller 22 may be removed by pulling the same forwards so as to simultaneously pivot the brackets 20' forwards against the restraining ac-

tion of the springs 41. As the brackets 20' move forwards they will be simultaneously moved apart because of the pintles 39 working in the helical grooves 40. This separation of the brackets will cause the end portions 22a to come out from the upper ends of the brackets and so the roller 22 is freed. This permits an exchange of rollers, repairs and the like.

In Figs. 10 and 11 another embodiment of the invention has been disclosed. In this form of the invention the unwinding machine includes a pair of spaced side supports 45 for resting on a counter, table or the like and having semi-circular top edges 45a. End walls 46 extend forwards and rearwards and are disposed to the outer faces of the side supports 45 and have bifurcated upper ends 47. These end supports also have central support feet 48 also adapted to rest upon the counter, table or the like. The side supports 45 are held in fixed positions by tubes 49 which are mounted between the side supports. Each tube 49 is secured in position by nuts 50 which are threadedly mounted thereon and which engage opposite sides of the side supports. Rods 51 slidably engage into the ends of the tubes 49 and rigidly connect with the end walls 46. A rod 52 for supporting a roll of cloth, indicated by the dot and dash lines 53, is mounted between the bifurcated ends 47. The rod 52 is provided with a blade 54 engageable into one of the ends of the roll of cloth for non-rotatively connecting the roll with the rod 52. One of the bifurcated ends, indicated by numeral 47', is a separate piece having a bottom peg 47a by which it is swivelly mounted on the end wall 46. This permits the remote end of the rod 52 to be swung off the remote bifurcated end 47 during engagement of the roll 53 thereon.

The end walls 46 may be pulled out or moved inwards to adjust the unwinding machine for a roll of a desired width. The roll is then supported between the bifurcated ends and may be unwound as desired.

While I have illustrated and described my invention with some degree of particularity, I realize that in practice various alterations therein may be made. I therefor reserve the right and privilege of changing the form of the details of construction or otherwise altering the arrangement of the correlated parts without departing from the spirit or scope of the appended claims.

Having thus described my invention, what I claim as new and desire to secure by United States Letters Patent is:

1. An unwinding machine, comprising a pair of spaced side supports for resting on a counter, table or the like and having semi-annular top edges, a rod mounted across the rear ends of said edges to extend between the supports and having end portions projecting outwardly beyond the supports, a tube mounted between the front ends of said edges, a plurality of rollers mounted between said side supports and projecting slightly above said semi-annular top edges for supporting a roll of material, end wall members extending forwards and rearwards and disposed outwards of the outer faces of said side supports and at their rear ends slidably mounted on said projecting end portions, rods mounted on the front ends of said end wall members and slidably engaging in said tube so as to be extendable from the ends of said tube, brackets mounted on the ends of said projecting end portions and extending upwards, and a roller mounted between said brackets and above said first-mentioned rod.

2. An unwinding machine, comprising a pair of spaced side supports for resting on a counter, table or the like and having semi-annular top edges, a rod mounted across the rear ends of said edges to extend between the supports and having end portions projecting outwardly beyond the supports, a tube mounted between the front ends of said edges, a plurality of rollers mounted between said side supports and projecting slightly above said semi-annular top edges for supporting a roll of material, end wall members extending forwards and rearwards and disposed outwards of the outer faces of said side supports and at their rear ends slidably mounted on said projecting end portions, rods mounted on the front ends of said end wall members and slidably engaging in said tube so as to be extendable from the ends of said tube, brackets with hub portions having helical grooves and turnably mounted on the ends of said projecting end portions and normally extending upwards, a roller mounted between and having its end portions engaging said brackets and normally disposed above said first-mentioned rod, pintles mounted on said projecting end portions and engaging said helical grooves, and resilient means for holding the brackets in said normally upwardly extending position, whereby when said latter mentioned roller is moved forwards, said brackets will turn and separate releasing said roller.

3. An unwinding machine, comprising a pair of spaced side supports for resting on a counter, table or the like and having semi-annular top

edges, a rod mounted across the rear ends of said edges to extend between the supports and having end portions projecting outwardly beyond the supports, a tube mounted between the front ends of said edges, a plurality of rollers mounted between said side supports and projecting slightly above said semi-annular top edges for supporting a roll of material, end wall members extending forwards and rearwards and disposed outwards of the outer faces of said side supports and at their rear ends slidably mounted on said projecting end portions, rods mounted on the front ends of said end wall members and slidably engaging in said tube so as to be extendable from the ends of said tube, brackets with hub portions having helical grooves and turnably mounted on the ends of said projecting end portions and normally extending upwards, a roller mounted between and having its end portions engaging said brackets and normally disposed above said first-mentioned rod, pintles mounted on said projecting end portions and engaging said helical grooves, and resilient means for holding the brackets in said normally upwardly extending position, whereby when said latter mentioned roller is moved forwards, said brackets will turn and separate releasing said roller, said resilient means including elements fixedly mounted on said projecting end portions, springs coaxial on said projecting end portions and having one end of each connected with one of the brackets and their other ends connected with said elements.

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