To all whom it may concern:

Be it known that I, SELMER H. HEIVARK, residing at Hawley, in the county of Clay and State of Minnesota, have invented a new and Improved Rope-Measuring Device, of which the following is a specification.

This invention has reference to that class of measuring devices that automatically measure the length of a section of rope, ribbon or cloth, as the same is drawn off the coil, roll or bolt, and my said invention primarily has for its purpose to provide a device of the character noted that is especially designed for measuring rope when making a sale of rope across the store counter.

Another object of my invention is to provide a rope measuring device, of a simple and economical construction, in which the parts are compactly arranged and adapted for measuring rope of different thicknesses without any readjustment of the parts and in which provision is made for quickly and conveniently setting the indicator dial back to a normal position after measuring off a section of the rope sold from the rope bulk or coil.

With other objects that will be hereinafter explained, my invention is a rope measuring device that embodies the peculiar construction and novel arrangement of the parts hereinafter described, specifically pointed out in the appended claims and illustrated in the accompanying drawing, in which:

Figure 1 is a perspective view of my measuring device showing the rope outlet and the transmission gearing.

Fig. 2 is a similar view showing the rope inlet and the crank for operating the rope drum and transmission.

Fig. 3 is a front elevation of the parts shown in Fig. 1.

Fig. 4 is a vertical longitudinal section on the line 4-4 on Fig. 6.

Fig. 5 is a horizontal section on the line 5-5 on Fig. 3, the dial gear being shown as shifted to disengage itself from the adjacent transmission to allow for turning the dial back to zero.

Fig. 6 is a transverse vertical section on the line 6-6 on Fig. 3.

In carrying out my invention, I provide an inverted U-shaped casing 1 that has elongated ears 20-20 at the lower edge of the opposite sides to receive fastening screws 21-21 for conveniently mounting the casing on a store counter as is clearly shown in Fig. 1 of the drawing.

Each end of the casing 1 is closed by a cover member 10, and at a point midway the ends of the casing, the latter has a main shaft 2, that is journaled in the opposite sides of the casing 1 and which carries a driven gear 3 located outside of the casing front and held to mesh with a transmission gear 4 on a shaft 40 that carries a small pinion 41 held in mesh with the gear edge or rim of a dial gear 6, slidably mounted on a stub shaft 60 that projects outside of the casing side as is best shown in Fig. 3, by reference to which it will be also seen the dial gear 6 is normally held pushed out in operative engagement with the pinion 41 by a coiled spring 7, on the shaft 60 back of the gear 6. By slidably mounting the dial gear 6 as shown, it can be readily pushed back on its shaft 60, out of engagement with the pinion 41, to permit turning the dial back to zero, it being understood that when the dial is relieved of the pressure against it, the spring 7 instantly shifts the dial gear out back again into engagement with the pinion 41 as indicated in dotted lines Fig. 5 and in full lines Figs. 1 and 6.

The drum or large roller 3, that fixedly held on the shaft 2, within the casing 1, see Fig. 6, opposes a smaller roller 8, that is mounted in a hinged bottom member 9, the hinged end of which terminates in a guide for the rope to be measured, which when a section is being drawn off the rope coil, extends over the member 9 between the upper and lower rollers and passes from the casing through an opening 10 in the front end thereof as is clearly shown in Fig. 1.

To hold the rope in frictional contact with the large roller 3, whereby to rotate the said roller 3 to actuate the transmission that rotates the measuring dial, the hinged member 9 is normally forced up in the direction of the roller 3, under spring pressure, a retractable spring 12 being shown for thus holding the said member 9.

By holding the lower roller up against the upper roller under tension, applied to a hinged bearing member, arranged as shown and described, different thicknesses of rope can be entered between the two rollers 3 and 7 to be measured, without readjusting any of the parts of the device.

From the foregoing taken in connection with the drawing, the manner in which my
device operates and the advantages thereof will be readily apparent, the same can be economically made and readily applied to a store counter as shown.

What I claim is:

1. A rope measuring device of the character stated comprising the following elements in combination; an open bottom casing having base members for mounting the same upon a counter or other base, each end of the casing having a guide slot, a bottom member that extends across the casing from one end guide slot to the guide slot at the opposite end, the said bottom member being hinged to the casing near one of its ends for swinging in the vertical plane, an upper rope guide roller, a shaft upon which the roller is fixedly mounted, the said shaft having bearings at the opposite ends in the opposite sides of the casing, one end of the shaft being formed for receiving an operating crank, a drive gear on the other end, an indicator dial mounted on one side of the casing, transmission gearing for connecting the dial and the drive gear on the upper rope guide roller, a lower rope guide roller journaled in the hinged bottom member, a tension device tending to normally hold the rope that passes through the casing and between the upper and lower rollers in frictional contact with the upper roller, whereby to rotate the said upper roller as the rope is pulled through the casing.

2. A rope measuring device, that comprises an open bottom casing adapted to be attached to a suitable base, an upper roller transversely journaled in the casing and having a shaft that extends beyond the side of the casing, a bottom member in the lower end of the casing that extends across the casing and under the upper roller, the said member being hingeably connected to one end to the casing and having said end shaped to form a guide for the rope to be measured, a lower rope guiding roller journaled on the said bottom member, means for holding the said bottom member under tension to press the lower roller up against the upper roller, an indicator dial, a stub shaft projected from one side of the casing, a dial gear slidably mounted on the said stub shaft and transmission gearing that connects the dial gear with the driven gear on the upper roller shaft and means on the stub shaft tending to normally hold the dial gear in mesh with the transmission gearing.

3. In a measuring device of the character described; a casing that includes opposite side members spaced apart, a relatively fixedly located upper rope engaging roller held between the aforesaid side members, a bottom rope engaging roller yieldingly supported between the side frame members to hold the rope under tension against the top roller, an indicator dial, a transmission gear driven by the rope engaging roller as the rope is pulled between the opposite rollers, the said gearing including a dial gear slidably and loosely mounted whereby it can be shifted on its bearing to turn freely backward, and means tending to normally hold the said dial gear in mesh with the transmission gearing.

SELMER H. HEIMARK.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."