

=====

科 目：機械工学  
氏 名：安藤 奈美

=====

WHAT IS CLAIMED IS:

1. A jig for measuring spring force of a coil spring, comprising:  
a cylindrical holder; and  
a guide sleeve which is slidably disposed in the cylindrical holder and whose inside diameter is substantially equal to an outside diameter of the coil spring to be measured.
2. The jig according to claim 1, wherein sliding resistance between the holder and the guide sleeve is determined to be a level at which the guide sleeve does not move only by its own weight.

DETAILED DESCRIPTION OF THE INVENTION

Field of the Invention

[0001] The present invention relates to a jig which permits a coil spring to be erected upright, for use in measurement of a specified load of the coil spring at a specified height thereof.

Related Art

[0002] Referring first to Figs. 6 and 7, there will be explained a conventional technique. Reference numeral 101 denotes a test stand of a spring load measuring device on which is placed a fixing sleeve 112 for fixing a coil spring 111 in an upright posture. The coil spring 111 is disposed in an inside space 113 of the fixing sleeve 122. Reference numeral 114 denotes a load measuring portion for measuring a specified load (spring force or elastic force) of the coil spring 111 when compressed to a specified height.

OBJECT OF THE INVENTION

[0003] In the conventional technique described above, however, an upper half portion of the coil spring 111 protrudes from the upper end of the fixing sleeve 112. Therefore, the upper half portion of the coil spring 111 may be buckled as shown in Fig. 7 when the load measuring portion 114 is lowered for the measurement, rendering the measurement impossible in some cases. In an instance where the specified load at a relatively large height is measured, the length of the fixing sleeve 112 is accordingly increased. On the contrary, where the specified load at a relatively small height is measured, the length of the fixing sleeve 112 cannot be increased. Thus, the conventional technique inevitably suffers from the aforementioned problem.

## OPERATION

[0005] In the arrangement according to the present invention, the guide sleeve is advanced or retracted by the sliding movement of the holder and the guide sleeve. Accordingly, the amount of protrusion of the coil spring from the upper end of the guide sleeve is decreased irrespective of the specified height of the coil spring to be measured, thereby preventing buckling of the coil spring.

## DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0006] A cylindrical holder 1 made of a metal material has an inner hole 2 in which a guide sleeve 3 is slidably disposed. A clearance 4 is formed between the guide sleeve 3 and the holder 1. The guide sleeve 3 has a hollow inner space 5 having a diameter substantially equal to an outside diameter of the coil spring to be measured. At an upper and a lower portion of the guide sleeve 3, there are respectively formed circumferential grooves 6, 7 in which rubber O-rings 8, 9 are respectively fitted. The O-rings 8, 9 are held in contact with an inner circumferential surface of the holder 1 which defines the inner hole 2. Sliding resistance of the guide sleeve 3 to the holder 1 owing to the contact of the O-rings 8, 9 and the holder 1 is arranged such that the guide sleeve 3 is inhibited from moving downwards only by its own weight while at the same time permitting the downward movement of the guide sleeve 3 by a certain degree of external force applied thereto.