No. 772,289. PATENTED OCT. 11, 1904.

E. NEWMAN.

MEASURING STICK.

APPLICATION FILED OCT. 9, 1903.

NO MODEL.

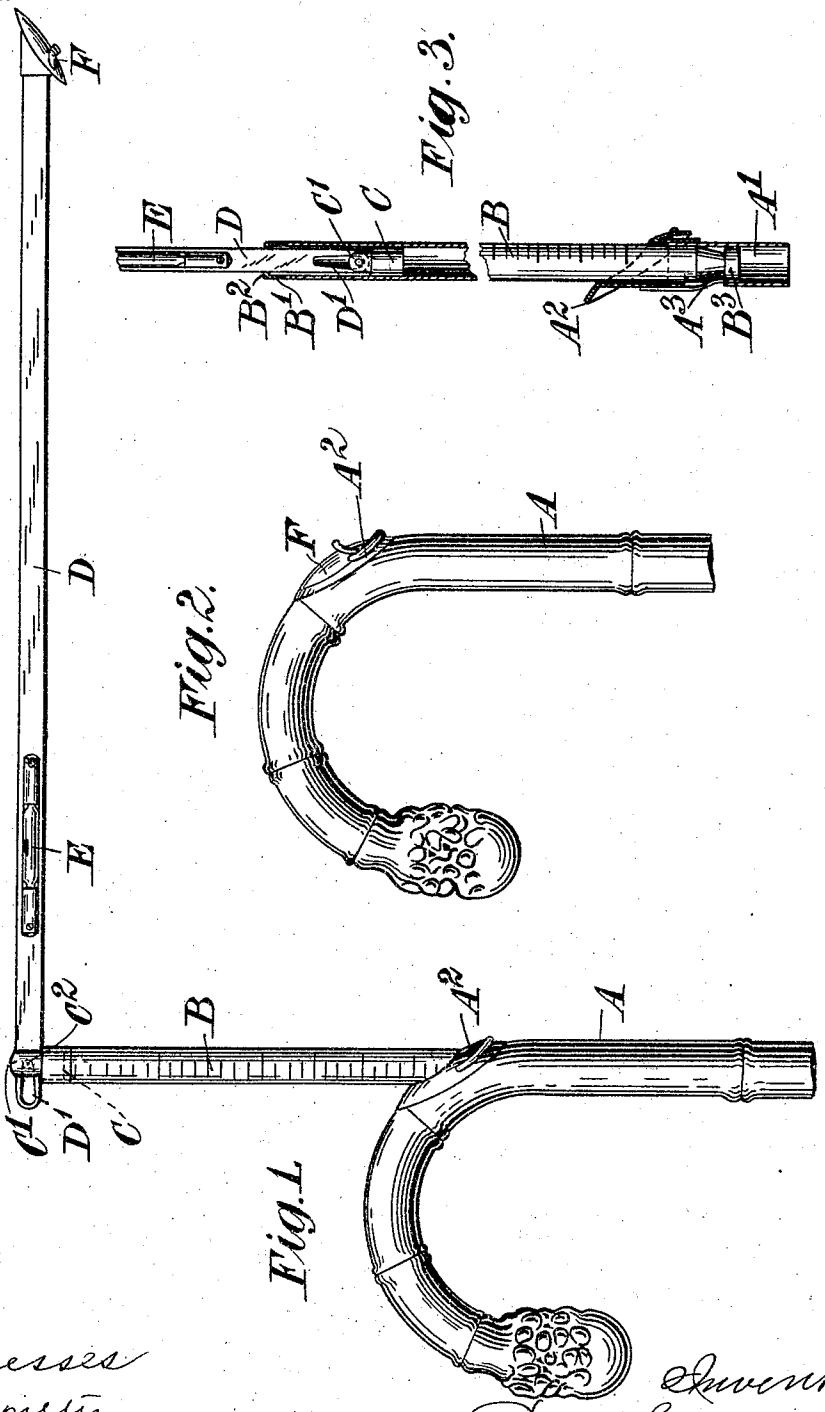


Fig. 1.

Fig. 2.

Fig. 3.

Witnesses
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No. 772,289. Patented October 11, 1904.

UNITED STATES PATENT OFFICE.

EBENEZER NEWMAN, OF LONDON, ENGLAND.

MEASURING-STICK.

SPECIFICATION forming part of Letters Patent No. 772,289, dated October 11, 1904.

Application filed October 9, 1903. Serial No. 176,443. (No model.)

To all whom it may concern:

Be it known that I, EBENEZER NEWMAN, a subject of the King of England, residing at London, England, have invented certain new and useful Improvements in or Relating to Measuring-Sticks, of which the following is a specification.

This invention relates to improvements in measuring-sticks particularly adapted for measuring horses, and has for its object to provide a more compact and efficient article than has heretofore been possible.

According to this invention the measuring-stick comprises a hollow stick shaped and finished to represent an ordinary walking-stick, and within this slides a tube bearing a measuring-scale. Free to slide within the tube is a gaging-arm which, when not in use, is stowed within the tube, but can be withdrawn and set at right angles to the tube when the measuring-stick is in operation.

In the accompanying drawings, which illustrate one method of carrying out this invention, Figure 1 illustrates a measuring-stick with the inner tube partially extended for use. Fig. 2 shows the stick with the inner tube stowed; and Fig. 3 is a longitudinal section of the upper portion of the inner tube, showing the method of stowing the gaging-arm.

Like letters indicate like parts throughout the drawings.

The hollow stick A may be of any convenient construction and is provided at its upper end with a metal socket A′, having a cap A^2. Through the socket and into the hollow stick A slides a tube B, bearing a measuring-scale. Free to slide within the tube is a plug C, having lugs C′. To the plug is pivoted a gaging-arm D, conveniently formed of a strip of metal having at one end a slot D′, through which a pin C^2, secured in the lugs C′ of the plug C, passes. The upper end of the tube B is provided with a cap B′, having an internal flange B^2, which prevents the plug C from being withdrawn from the tube B, but allows the lugs C′ to project above the end of the tube.

The gaging-arm D carries a spirit-level E and is provided at its free end with a plate F, adapted to fit down upon the plate A^2 on the stick when the measuring-tube is not in use.

The tube B is recessed at its lower end, as shown at B^3, and the socket A′ carries a spring A^3, adapted to bear against the tube and drop into the recess B^3 when the tube is extended to its full limit, thus preventing the complete withdrawal of the tube from the stick.

The operation of this device is as follows: Presuming the parts of the measuring-stick to be collapsed, as shown in Fig. 2, the plate F is first raised and the gaging-arm withdrawn until the plug C comes into contact with the internal flange B^2 on the tube B. The further movement of the gaging-arm now serves to withdraw the tube B, and when the latter has been extended a sufficient distance the arm D is swung over to one side, as shown in Fig. 1, and then moved in the direction of its length toward the tube B, so that it becomes locked at right angles to the latter. The locking effect is obtained by providing the sides of the slot D′ with cam-faces, the lower one of which, engaging the pin C^2, presses the arm firmly against the end of the tube B, and this end being squared insures the locking of the gaging-arm at right angles to the tube B. After positioning the gaging-arm the tube B may be raised or lowered, as found necessary, until the required adjustment is obtained, when the measurement may be read off from the scale in the usual manner. To collapse the measuring-stick, the order of operations need only be reversed.

Both sides of the slot D′ are provided with cam-faces, so that whichever way the arm D may be thrown over the same locking action may be obtained.

It will be understood that the hollow stick A may be of any shape and finished, if desired, with a round head at the top in place of the bent handle, as shown in the drawings.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a measuring-stick the combination of a hollow stick, a tube free to slide in the stick and bearing a measuring-scale, a gaging-arm adapted to slide into the tube when not in use and to be set at right angles thereto when in operation and means for fixing it rigidly in

the latter position when desired, substantially as set forth.

2. In a measuring-stick the combination of a hollow stick, a tube free to slide in the stick and bearing a measuring-scale, a plug sliding in the tube and a gaging-arm hinged to the plug and free to be received by the tube or set at right angles thereto, substantially as set forth.

3. In a measuring-stick the combination of a hollow stick, a tube free to slide in the stick and bearing a measuring-scale, a plug sliding in the said tube, and a gaging-arm connected with the plug by a slot and pin and free to be received by the tube or set at right angles thereto, substantially as set forth.

4. In a measuring-stick the combination of a hollow stick, a tube free to slide in the stick and bearing a measuring-scale, a plug sliding in said tube, and a gaging-arm connected with the plug by a slot and pin, the slot having a cam-face on its lower side to engage the pin and the arm being free to be received by the tube or set at right angles thereto, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EBENEZER NEWMAN.

Witnesses:
H. D. JAMESON,
F. L. RAND.