May 29, 1928. 1,671,858

H. G. FORSBERG ET AL

MEASURING DEVICE

Filed May 19, 1926

Fig. 1.

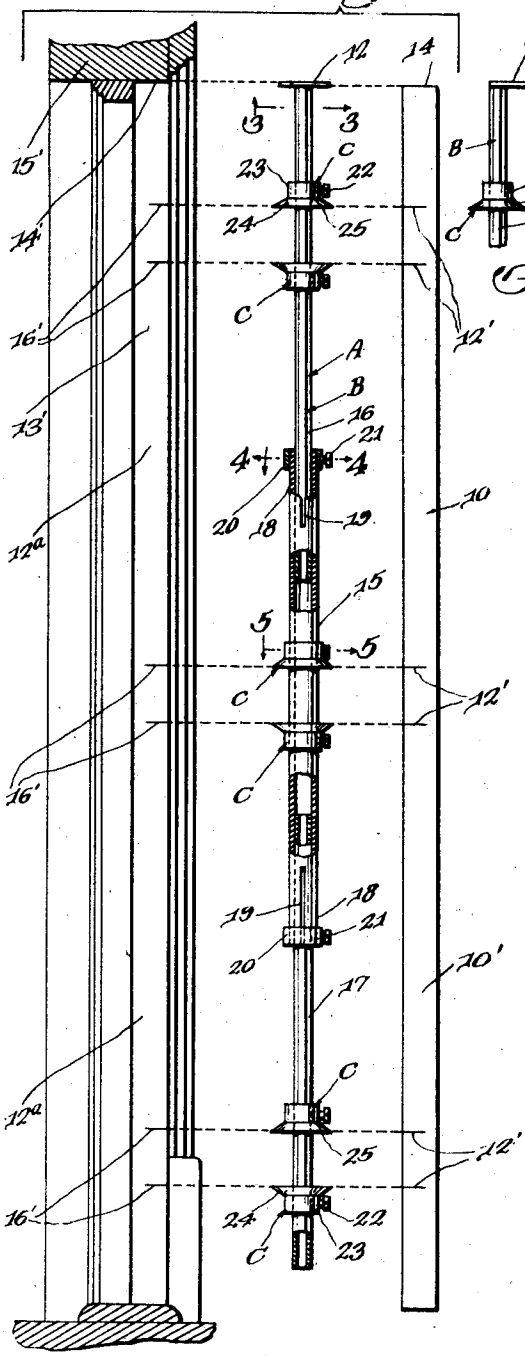


Fig. 2.

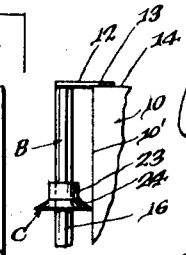


Fig. 3

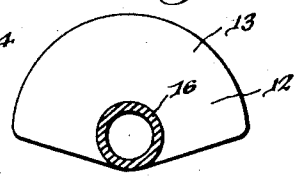


Fig. 4.

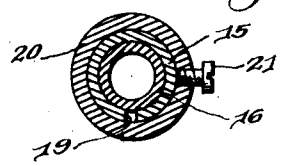


Fig. 5.

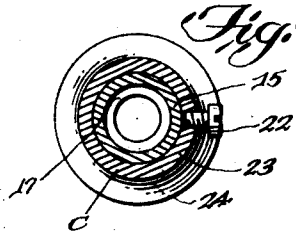
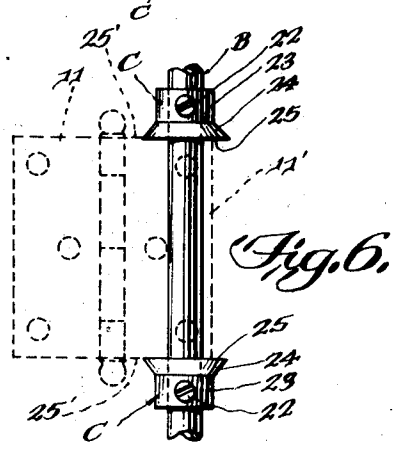


Fig. 6.



Carl A. Benson and
Hjalmar G. Forsberg
INVENTORS

BY Victor J. Evans

ATTORNEY

Patented May 29, 1928. 1,671,858

UNITED STATES PATENT OFFICE.

HJALMAR G. FORSBERG AND CARL A. BENSON, OF CHICAGO, ILLINOIS.

MEASURING DEVICE.

Application filed May 19, 1926. Serial No. 110,299.

This invention relates to certain novel improvements in measuring devices and more particularly to a device for locating hinges upon doors and door jambs and the like and has for its principal object the provision of an improved construction of this character which will be highly efficient in use and economical in manufacture.

Among the salient objects of the invention is the production of a measuring device of the character hereinafter described which includes marking elements adjustable longitudinally of a staff whereby these marking elements are adapted to operate upon one of the longitudinal edges of the door or upon the door jamb upon manual rocking of the staff transversely of the door jamb or longitudinal edge.

The present invention contemplates marking elements adjustably disposed in spaced relation with each other and including bearing sleeves slidably receiving the staff and marking edges extending outwardly from certain ends of the bearing sleeves to provide substantially flat opposite edge portions adapted for engagment with the transverse edges of a hinge leaf whereby the marking elements can be accurately spaced apart according to the length of the hinge leaf.

We are aware of the fact that prior to our invention there are devices now on the market, for the purpose, which include marking elements defining marking edges. These devices have been found unsatisfactory for the reason that the edges are so disposed in opposite relation as not to permit accurate gauging of the hinge leaf. This is by reason of the fact that the marking edges are not so constructed as to provide flat edge portions which are adapted for engagement with the transverse edges of a hinge leaf.

Other objects will appear hereinafter.

The invention consists in the combination and arrangement of parts to be hereinafter described and claimed.

The invention will be best understood by reference to the accompanying drawings illustrating the preferred form of construction and in which:

Fig. 1 is a typical longitudinal view of the invention showing the same disposed in relation with a door jamb and a door.

Fig. 2 is a fragmentary typical and side elevational view of the upper end portion of the invention.

Fig. 3 is a sectional detail view taken substantially on line 3—3 of Fig. 1.

Fig. 4 and Fig. 5 are sectional detail views taken substantially on lines 4—4 and 5—5 respectively of Fig. 1.

Fig. 6 is a fragmentary detail view illustrating a hinge leaf disposed upon flat edge portions of marking elements embodied in the invention.

To clearly illustrate the application and utility of our invention we have illustrated in the drawing a door 10 which is adapted to be hinged, through the medium of hinges 11, to a door jamb construction 12ª.

The measuring device A embodying our invention includes a segmental plate 12 adapted to have its outer end portion 13 disposed upon the top edge 14 of the door 10. Suspended from this plate 12, which plate is substantially semicircular in form, is a measuring staff B. This measuring staff, Fig. 1, includes an intermediate sectional part 15 of preferably tubular formation and adapted to slidably receive end sectional parts 16 and 17 likewise tubular in form.

By constructing the sectional parts making up the staff B tubular in form and by slidably associating the end sectional parts with the intermediate sectional part, it is manifest that the measuring device will be comparatively light and that the device can be collapsed to permit the same to be placed in confinement in a tool box (not shown) or in a leather glove (not shown).

The end portions 18 of the intermediate sectional part 15 include longitudinal slits 19. These end portions 18 carry collars 20 including set screws 21 which are adapted to be threaded into bearing relation with adjacent portions of the end portions 18 for bearing the end portions 18 into frictional relation with the end sectional parts 16 and 17.

The sectional parts making up the staff B adjustably carry marker elements C. These marker elements are each secured in an adjusted position longitudinally of the sectional part with which it is associated through the medium of a set screw 22. Each of these marking elements defines an annular bearing sleeve 23 and an annular marking edge 24 which extends outwardly from one end of the bearing sleeve to define a substantially flat edge portion 25 for reasons hereinafter understood.

In use, when it is desired to locate the

hinge the hinge 11 is disposed with one of its leaves 11′ arranged between adjacent marker elements 23 as shown in Fig. 6 of the drawing. These marking elements are then adjusted toward the hinge leaf 11′ until their flat edge portions 25 bear upon the tranverse edge portions 25′ of this hinge leaf. After the marking elements have been properly adjusted the same are secured in adjusted position through the medium of the set screws 22. The staff B is then disposed longitudinally of one of the longitudinal edges 10′ of the door 10 with the plate 12 engaging the top edge 14 of the door. The staff B is then manually pressed toward the longitudinal edge of the door to bring the marking elements into engagement with the longitudinal edge 10′. After this has been accomplished the staff B is rocked transversely of the edge 10′ to cause the marking edges 24 of the marking elements to operate upon the edge 10′ of the door to define the lines 12′.

When the measuring device is used to locate the hinges on the door jamb 12^a the staff B is disposed longitudinally of the side 13′ of the door jamb 12^a with the plate 12 in abutment with the top portion 14′ of the head jamb 15′ of the door jamb 12^a. After this has been accomplished the staff B is gently forced toward the side 13′ to bring the marking edges 24 into operative position whereby when the staff B is rocked transversely of the side 13′ the marks 16′ will be defined. These marks 12′ and 16′ locate the point where the hinges 11 are to be located.

While we have illustrated and described the preferred form of construction for carrying our invention into effect, this is capable of variation and modification without departing from the spirit of the invention. We, therefore, do not wish to be limited to the precise details of construction set forth, but desire to avail ourselves of such variations and modifications as come within the scope of the appended claims.

The invention having been set forth, what we claim as new and useful is:

1. A measuring device including an elongated member, pairs of marking elements adjustable longitudinally of the elongated member, each marking element comprising a sleeve and a marking edge extending transversely thereof at one end, the marking edges of each pair being disposed toward each other and providing opposite flat edge portions for engagement with transverse edges of a hinge, and means for securing the marking elements in an adjusted position with respect to the elongated member.

2. A device of the character stated including an adjustable extensible member having a length approximately equal to the height of a door or jamb, a locating element at one end of said member adapted to engage the upper side of said door or jamb when said member is located in operating position, pairs of marking elements including bearing sleeves adjustably mounted on said member, each of said marking elements including marking edges extending transversely of said sleeves and adapted to be disposed toward each other in adjustable relation whereby when said member is rocked about said position locating element said marking elements will engage the edge of said door or said jamb so as to mark indicating lines thereon.

In testimony whereof we affix our signatures.

HJALMAR G. FORSBERG.
CARL A. BENSON