(Model.)

C. E. & H. H. LEISTNER.

Tape Measure.

No. 233,358. **Patented Oct. 19, 1880.**

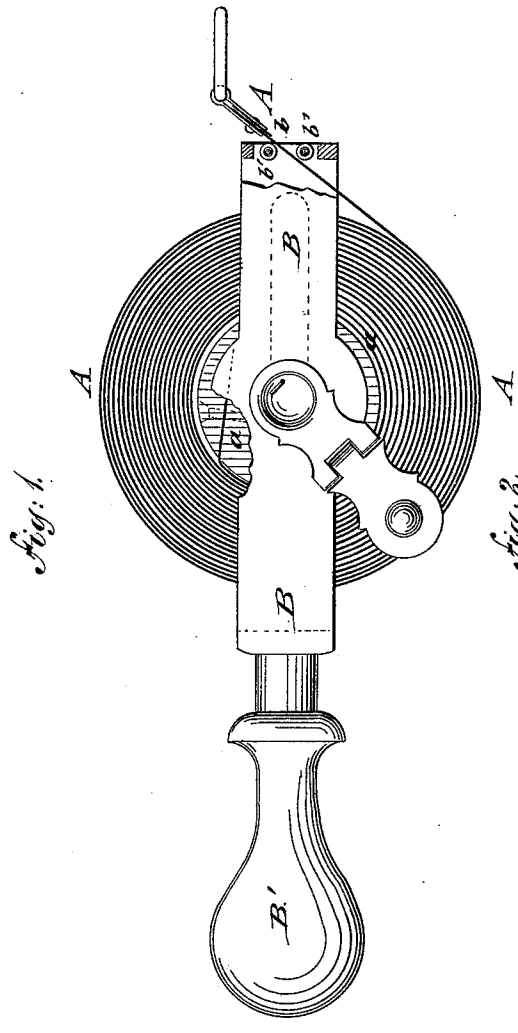


Fig. 1.

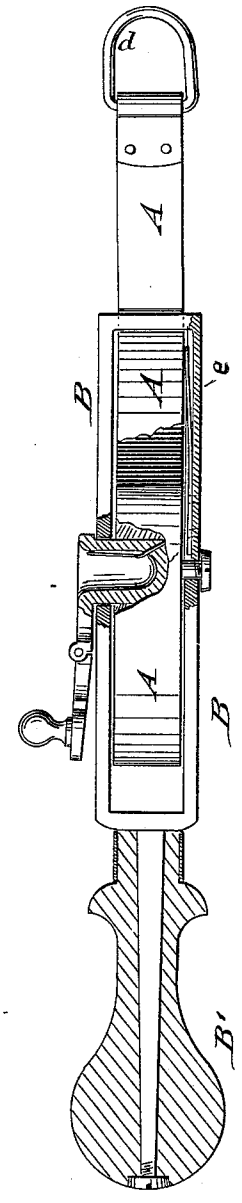


Fig. 2.

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CARL E. LEISTNER AND HEINRICH H. LEISTNER, OF LEIPSIG, SAXONY, GERMANY, ASSIGNORS TO KEUFFEL & ESSER, OF NEW YORK, N. Y.

TAPE-MEASURE.

SPECIFICATION forming part of Letters Patent No. 233,358, dated October 19, 1880.

Application filed June 9, 1880. (Model.)

To all whom it may concern:

Be it known that we, CARL EMIL LEISTNER and HEINRICH HERMANN LEISTNER, of Leipsig, in the Kingdom of Saxony and Empire of Germany, have invented certain new and useful Improvements in Tape-Measures, of which the following is a specification.

This invention has reference to an improved tape-measure, by which measurements can be taken with great facility, and in which the steel tape is less liable to corrosion, so as to be more permanent and durable.

The tape-measures heretofore in use were inclosed in leather or metal casings, within which the steel tapes were wound up. Dirt or moisture adhering to the tape could not be removed, but passed with the tape into the casing, from which the moisture could evaporate but slowly, so as to render thereby the tape liable to corrosion.

Another objection to the old style of tape-measure is that repairs could only be made with difficulty by taking all the parts apart.

These objections we intend to obviate by our improved tape-measure, by doing away entirely with the inclosing-casing and supporting the steel tape in a frame with a handle, by which the use of the measure is greatly facilitated and the same less liable to injury and repairs.

The invention consists of a steel tape, which is wound up on a center roller and guided by a diametrical supporting-frame provided at one end with a handle and at the opposite end with an opening and guide-rolls for the tape. The tape is wound up on its center roller by a folding crank in the usual manner.

In the accompanying drawings, Figure 1 represents a side view of an improved tape-measure, partly in section, through the guide-rolls of the tape, and Fig. 2 is a vertical longitudinal section of the same.

Similar letters of reference indicate corresponding parts.

In the drawings, A represents a steel tape-measure, which is wound upon a center roller, *a*, the shaft of which turns in bearings of a diametrical supporting-frame, B, said frame being provided at one end with a handle, B′, and at the opposite end with a recess, *b*, and two guide-rolls, *b′ b′*. The steel tape A is graduated in any suitable manner and secured at its inner end to the center roller. The outer end of the tape is provided with a handle, *d*, of ring or link shape, of greater width than the recess *b* in the end of frame B, so that the end of the tape cannot pass through between the guide-rolls *b′ b′*.

The tape-measure A is unwound by being pulled out, as customary in tape-measures, and is wound up by means of a folding crank secured to the shaft of the center roller. The outer section of the folding crank has a loosely-turning handle, by which the tape may be wound up on the roller when the folding crank is opened for turning. By folding the outer section of the crank over the inner section the handle is inserted into a socket of the shaft and retained therein by the friction of a binding-spring.

A band-spring, *e*, which is riveted at one end to the inside of the frame B, near the center bearings of the roller-pivot, bears by its outer end upon the successive convolutions of the steel tape, so as to retain the same in wound-up position on the roller and prevent the playing loose and expanding of the tape.

We do not claim the folding crank for winding up the tape, as this has been heretofore in use in tape-measures.

Having now described our invention, we claim as new, and desire to secure by Letters Patent—

1. The combination of a supporting-frame having a handle at one end, an interior band-spring at its middle portion, and a recess and guide-rollers at the opposite end, with a tape-measure mounted upon a central revolving roller, and being retained by the pressure of the spring upon its outer convolutions, substantially as set forth.

2. The combination, with a supporting-frame having an interior retaining band-spring, of a tape-measure mounted upon a central revolving roller, the end of said spring bearing successively upon the outer convolutions of the tape-measure, substantially as set forth.

In testimony that we claim the foregoing as our invention we have signed our names, in the presence of two witnesses, this 14th day of May, 1880.

CARL EMIL LEISTNER.
HEINRICH HERMANN LEISTNER.

Witnesses:
HEINRICH WILHELM ZIEGERT,
HENRY VAN ARSDALE.