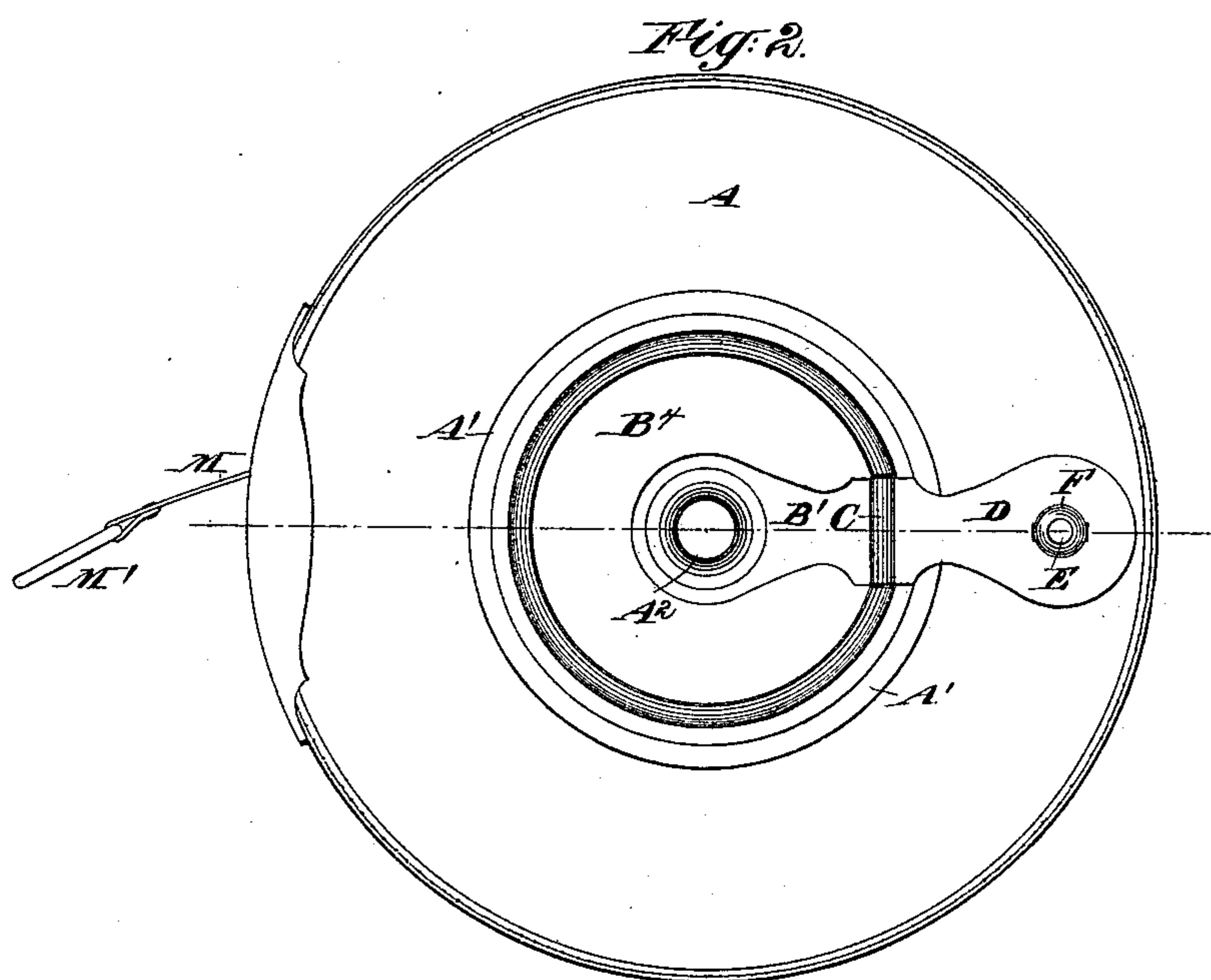
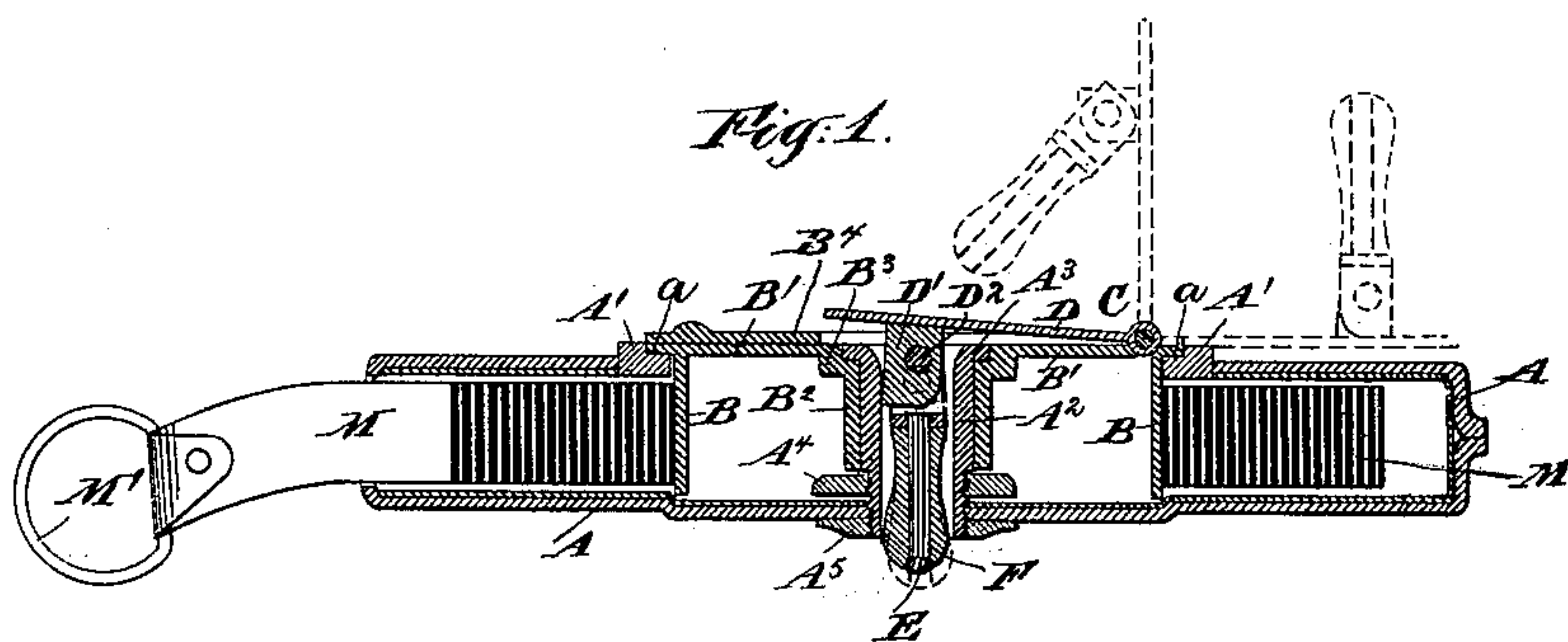


(No Model.)

W. KEUFFEL.
TAPE MEASURE CASE.

No. 338,602.

Patented Mar. 23, 1886.



Witnesses:

Manierre Ellison.

Charles R. Searle.

Inventor:

William Keuffel

by his attorney

Thomas Dyer Stetson

UNITED STATES PATENT OFFICE.

WILLIAM KEUFFEL, OF HOBOKEN, NEW JERSEY.

TAPE-MEASURE CASE.

SPECIFICATION forming part of Letters Patent No. 338,602, dated March 23, 1886.

Application filed December 21, 1885. Serial No. 186,384. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM KEUFFEL, of Hoboken, in the county of Hudson, in the State of New Jersey, have invented a certain new and useful Improvement in Tape-Measure Cases, of which the following is a specification.

The invention is adapted for use with linen, steel, and all kinds of ribbons. The stiffness of metal requires a large center on which it is wound. When, as in the ordinary construction, such center is guided by the contact of the case against its periphery there is much friction. I have devised a construction and arrangement of the crank to have, when in use, a greater leverage than usual. When out of use, the crank is stored somewhat more compactly than the ordinary arrangement. It is more easily extended when required and more reliably held in the closed position when out of use. The revolving parts turn on a tubular center, which is a part of the fixed casing and extends through the case from front to rear. The crank carries a hinged handle, which, on closing the device for storage or transportation, is received within the tubular center, extending through it, being conveniently presented at the back face to receive the pressure of the finger or thumb to open the crank when it is desired to operate it.

The accompanying drawings form a part of this specification, and represent what I consider the best means of carrying out the invention.

Figure 1 is a transverse central section, and Fig. 2 is a face view, of the case with a tape wound therein.

Similar letters of reference indicate corresponding parts in both the figures wherever they occur.

I will designate all the parts which do not revolve by the letter A, using additional marks, as A' A², &c., when necessary, to indicate certain portions thereof.

A is the main casing, of tinned sheet-iron or other suitable strong and light material. Its exterior is protected and finished by a leather covering, which performs the usual functions and need not be further referred to. There is a small hole in the back and a larger one in the front face of the metallic casing.

A' is a re-enforcing-ring, of the form represented, which may be of brass, attached to A by soldering. Its inner edge is rabbeted, as indicated by *a*. I employ a tubular center which forms a part of the fixed work. A² is the body of this tube. This is screw-threaded, as shown. A⁴ A⁵ are screw-threaded rings which match thereon and clamp the back of the case A between them. A³ is a flange on the front end of this tubular center A².

I will use the letter B to indicate the annular revolving part or reel, certain portions being designated, when necessary, by additional marks, as B' B², &c. The exterior, B, is exactly cylindrical and forms the surface on which the ribbon M is smoothly wound.

B' is a plane plate, soldered to B and extending a little beyond to form a flange.

B² is an inner tube, soldered or otherwise firmly attached to the inner edge of B'. This inner tube, B², fits closely and easily on the body of the fixed inner tube, A², and forms the center for the revolution. The junction of B' with B² is re-enforced on the interior at B³, as plainly shown in Fig. 1. The front is rabbeted to receive the flange A³. The front of the periphery of B' matches in the rabbet *a*. It forms a support, not as a center on which the reel turns, (that function is performed by the central parts more perfectly and with less friction,) but it forms a support to prevent the reel moving too far inward or backward relatively to the case.

C is a knuckle-joint in the front of B, near the periphery, which serves as the turning-axis for a plate, D, which, by the aid of lugs D' and a transverse rivet, D², connects with a hinged pin, E, carrying a thimble, F, which is free to turn thereon. These parts, when in the position for use, constitute the crank-handle for operating the reel. The lugs D' rub against the interior of the tube A² when the device is closed, and by the gentle but reliable friction thus induced hold the parts together. When it is desired to extend the crank and condition it for use, the operator applies a gentle force to the crank-handle E, and pressing inward lifts the plate D. The latter plate and the hinged joint C and the entire structure are elastic. As a convenient way of fitting them together, the lugs D' should be made too wide

and filed off or otherwise reduced until the device offers just sufficient resistance to the closing and opening.

D⁴ is the facing-plate, which may be finely finished and ornamented, having an aperture matching the shape of the plate D, and of corresponding thickness. It make a smooth surface with D when the latter is closed. It may be secured to the front of B' by soldering or otherwise.

It being understood that the tape M extends out through a suitably re-enforced hole in the periphery of the casing A, and is equipped with a suitable ring, M', at its outer end, which remains always exterior to A, and that the opposite end of M is connected by the ordinary or suitable means which allow it to swivel, and that the reel B has been turned continuously to wind up the ribbon until the whole is stored, the plate D is at the conclusion of the operation turned on its axis C and folded into the plane of one face of the box or case A, being received in the closely-fitting aperture in the facing-plate B⁴. In this movement the crank-handle E is thrust through the hollow interior of A², and its extreme end brought flush with or slightly protruded beyond the back face of the casing. It may remain in this condition and be transported in the pocket or otherwise for any period. When it is desired to use it, the ribbon M may be drawn out by pulling on the ring M', the reel revolving with only slight frictional resistance, being guided by the central tube, A², and held against escaping by the flange A³, and against being forced in too far by the peripheral flange B³. When it is required to reel it in again, a gentle force applied to the back acting on the end of the crank-handle E displaces the hinged plate D by forcing it out so much that it can be easily acted on by the finger and brought into the extended position for use. The crank-handle

E is then seized and operated as usual, except that the greater leverage afforded by my construction is of advantage. When the ribbon is all stored, the plate D is again turned into the closed position. The lugs D' act with gentle force against the interior of the tube A², inducing a friction which holds it locked.

Modifications may be made in the forms and proportions of the details. The facing-plate B³ may be omitted. So, also, may the slight offset in the back which nearly coincides with the periphery of the reel B. The leather on the exterior of A may be omitted or its place supplied by a knit fabric, a coating of gutta-percha, papier-maché, or various other materials.

I claim as my invention—

1. In a tape-measure case, the tubular center A², fixed to the casing A, and arranged to constitute a rigid center for the reel B, combined with a folding crank-arm, as herein specified.

2. The lug D' and the pivoted handle on the pivoted plate D, combined with and arranged to engage frictionally the interior of the tubular center A² and to lock the device by the elasticity of its members, substantially as herein specified.

3. The crank-handle E, pivoted on the hinged plate D C, in combination therewith and with the reel B, case A, and central tube, A², and arranged to allow the unlocking by pressure on the end of the handle presented at the back, all substantially as herein specified.

In testimony whereof I have hereunto set my hand, at New York city, this 14th day of December, 1885, in the presence of two subscribing witnesses.

W. KEUFFEL.

Witnesses:

M. F. BOYLE,
CHARLES R. SEARLE.