

(No Model.)

W. LANG.
SPEED INDICATOR.

No. 268,107.

Patented Nov. 28, 1882.

fig. 1.

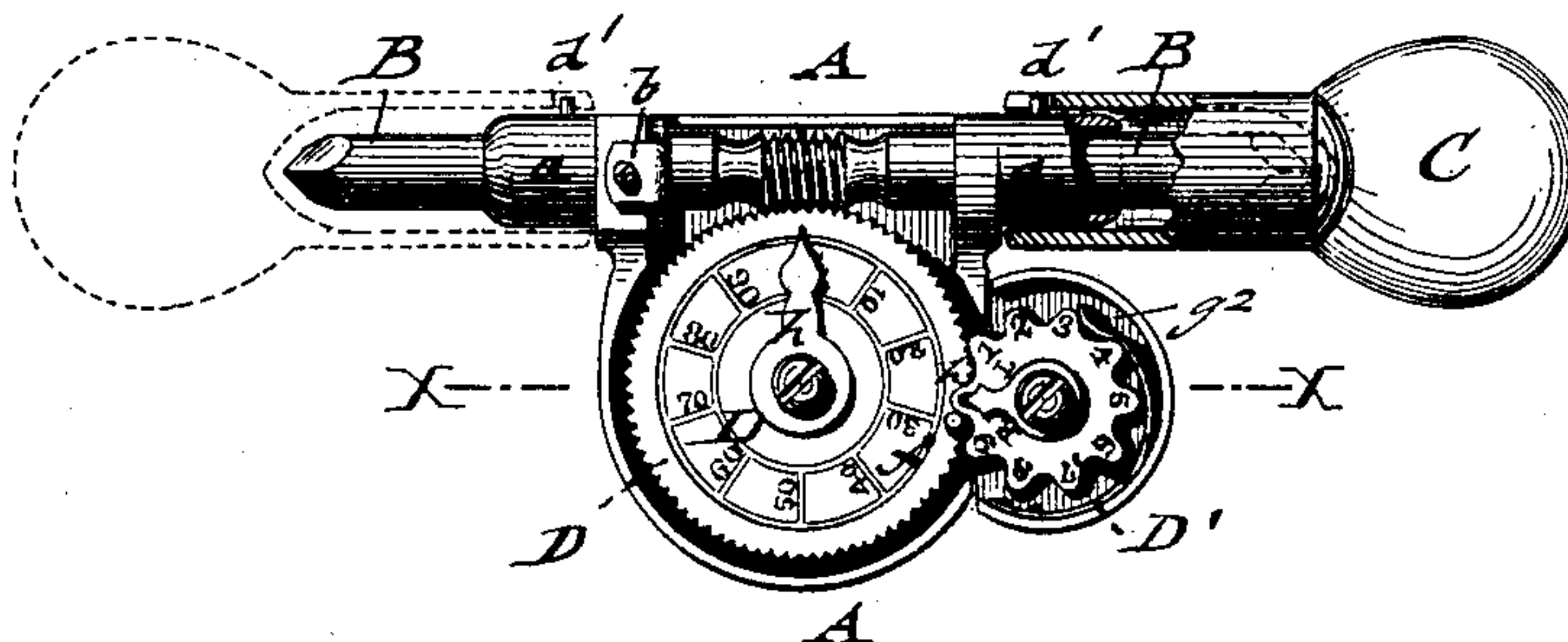


fig. 2.

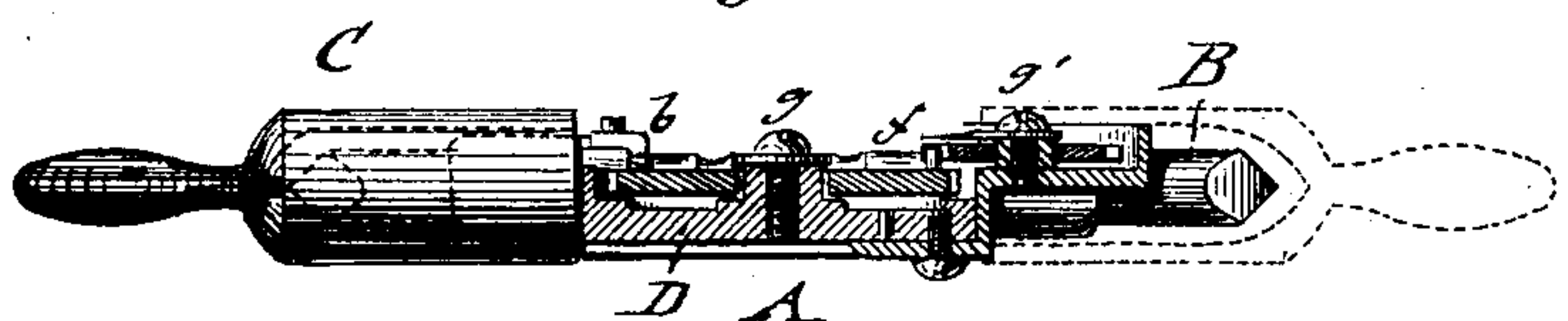
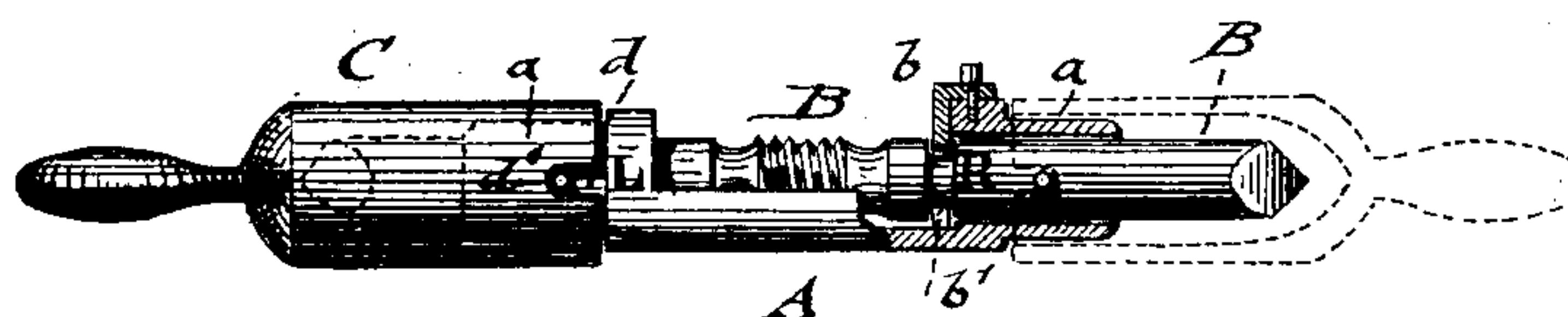


Fig. 3.



WITNESSES:

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SPEED-INDICATOR.

SPECIFICATION forming part of Letters Patent No. 268,107, dated November 28, 1882.

Application filed September 11, 1882. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM LANG, of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Speed-Indicators, of which the following is a specification.

This invention has reference to an improved speed-indicator that can be used with equal advantage for measuring the speed of shafts rotating toward the right or left; and the invention consists of a speed-indicator the spindle of which is extended in both directions and provided with sharp points at both ends, it being retained in its bearings by a screw or other device that engages an annular groove of the spindle. A detachable handle is adapted to be locked to either bearing, so as to apply the spindle to a shaft rotating in either direction and counting the number of rotations on a suitable registering mechanism.

In the accompanying drawings, Figure 1 represents a top view of my improved speed-indicator with parts broken away. Fig. 2 is a vertical longitudinal section on line *xx*, Fig. 1; and Fig. 3 is an end view of the device, partly in section.

Similar letters of reference indicate corresponding parts.

In the drawings, A represents the supporting-frame of my improved speed-indicator. The frame A is provided with sleeve-shaped bearings *a a* for the spindle B, which is extended through both bearings and provided at each end with a sharp point, so as to form a double spindle, which can be used for counting the revolutions of shafts turning in either direction. The double spindle B is retained in the bearings *a a* by a yoke-shaped piece, *b*, which is attached by a screw to one of the bearings *a*, said yoke engaging an annular groove, *b'*, of the spindle, as shown in Fig. 3.

A detachable handle, C, having a socket-shaped portion is adapted to be placed over either end of the spindle and to be locked by a recess, *d*, to a fixed pin, *d'*, of the bearings. In place of the pin *d'* and recess *d*, any other equivalent fastening device may be used by which the handle is applied to either bearing *a*.

The spindle B is provided intermediately between the bearings *a a* with the usual worm-gear, which engages an intermeshing gear-

wheel, D, that is provided at one point of its circumference with a projecting pin, *f*, for engaging a second gear-wheel, D', that is supported above the gear-wheel D on a raised portion of the frame A. The gear-wheels D D' turn on fixed center pivots, *g g'*, attached to the frame A, to which the index-hands *h h'* are rigidly secured. The face of the gear-wheels D D' is graduated, whereby no cover is required, the number of revolutions of the wheels being read off directly by their positions towards the index-hands. The frame A is flanged as far as it extends around the gear-wheels D D', so as to protect the same and prevent interference by exterior obstructions. The gear-wheel D' is engaged by a spring check-pawl, *g²*, that retains the gear-wheel D' until the pressure of the pin *f* of the gear-wheel D on one of the teeth of the gear-wheel D' overcomes the pressure of the spring and allows the gear-wheel D' to move forward over one tooth.

The speed-indicating device is applied, in the usual manner, to the shaft after both gear-wheels D D' have been set with their zero-points to the index-hands, which is readily accomplished by turning the gear-wheel D by the spindle and the gear-wheel D' by the fingers. The revolutions of the shaft within a given time are then read off by the relative positions of the gear-wheels to the fixed index-hands.

By the use of the double spindle and detachable handle the registering device is used in the same manner for counting the revolutions of shafts revolving toward the right or toward the left, which is more convenient than the speed-indicators heretofore in use, in which the number indicated by the index-hands had to be subtracted from the units of the total number of teeth into which the gear-wheels were divided, when the speed-indicator had to be used for counting the revolutions of a shaft running in an opposite direction to that for which the device was specially constructed.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a speed-indicator, the combination of a supporting-frame, A, having bearings *a a*, a double spindle, B, retained, by suitable means, in the spindle-bearings and pointed at both ends, a detachable socket-handle, C, and means

for attaching the same to either spindle-bearing, substantially as specified.

2. The combination of a supporting-frame, A, having spindle-bearings *a a* and means
5 for retaining the spindle, a double spindle, B, pointed at both ends, a registering device, D D', operated by a worm-wheel of the spindle, a detachable socket-handle, C, and means
10 one of the bearings, substantially as specified.

In testimony that I claim the foregoing as my invention I have signed my name in the presence of two subscribing witnesses.

WILLIAM LANG.

Witnesses:

PAUL GOEPEL,
SIDNEY MANN.