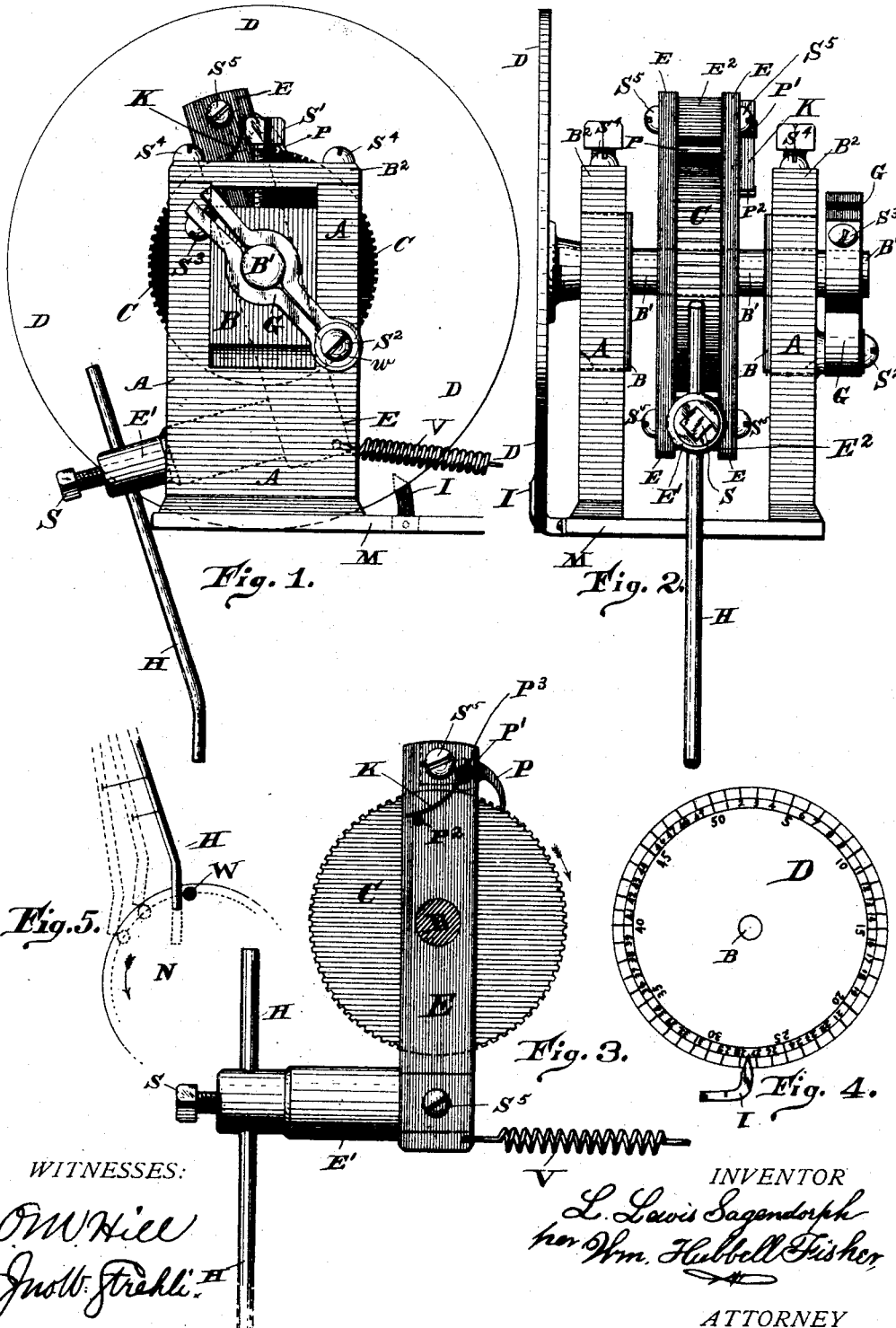


(No Model.)

L. L. SAGENDORPH.
REGISTERING DEVICE.

No. 342,388.

Patented May 25, 1886.



UNITED STATES PATENT OFFICE.

L. LEWIS SAGENDORPH, OF CINCINNATI, OHIO, ASSIGNOR OF ONE-HALF TO
HARLAN P. LLOYD, OF SAME PLACE.

REGISTERING DEVICE.

SPECIFICATION forming part of Letters Patent No. 342,388, dated May 25, 1886.

Application filed September 4, 1885. Serial No. 116,155. (No model.)

To all whom it may concern:

Be it known that I, L. LEWIS SAGENDORPH, of the city of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Registering Devices, of which the following is a specification.

My device is an index to be attached to an engine or machine to indicate the number of revolutions or complete movements made by the machine.

In the accompanying drawings, Figure 1 is a rear elevation of my device. Fig. 2 is an elevation as seen from the left-hand side of Fig. 1. Fig. 3 is an elevation of the operating-ratchet with attached mechanism. Fig. 4 is a front elevation of the indicator-face. Fig. 5 illustrates particularly the functions of the adjustable arm H.

Two standards, A, mounted on a suitable base-plate, support the mechanism. These standards are cut away and grooved to receive the journal-blocks B. The shaft B' is journaled in the blocks B, and projects beyond each standard A. A toothed wheel, C, preferably of considerable width, is shrunk onto the shaft B, or otherwise rigidly attached thereto. On each side of the wheel C is a bar, E, one of which bars may be dispensed with; but the arrangement shown is preferred. These bars E are slipped onto the shaft B' and rotate loosely thereon. Blocks E² are placed between the corresponding ends of these bars E to keep them far enough apart to prevent friction against the wheel C.

Screws or bolts S⁵ pass through the bars E and blocks E², binding them together, and make a frame which rotates or oscillates on the shaft B' about the wheel C. The pawl P, mounted on the shaft P', (see Fig. 3,) engages the teeth of the wheel C, and is kept against these teeth by the spring K. The preferred attachment of the spring K to the shaft P' is very simple and efficient. A slit, P³, is made across the end of the shaft P' at right angles to the line of the pawl P. In this slit P³ the straight spring K is secured, and it is then bent around over the pin or lug P². This gives it the required tension.

The bar E' is attached to lower ends of the

bars E, and its lower end being placed between them takes the place of or may be connected to a rigid extension of the lower block E². A bar, H, passes through the end of the bar E', and is secured there by the set-screw S for the purpose of setting the rod H and regulating the rapidity of the rotation of the dial-plate, and the number of notches the wheel C is rotated at each throw or movement of the machine. A spring, V, is attached to the lower end of the bar E, and also to some other convenient point. It acts to draw the pawl P back, as shown in Fig. 1.

Where journal-boxes C are present, each standard A is respectively provided with a separate cap, B², placed across the top of each standard, and the screws S' secure their respective caps B² to their respective standards. Through each cap B² a bolt, S', passes and bears against the bearing-block, which it serves to keep in place. When desired, the journal-boxes B may be dispensed with, and the journals of shaft B' work in openings in the solid plate.

At the rear of the device is a friction-clutch, G. This clutch is preferably made of a single piece of metal split through nearly its entire length, and provided with enlargements and openings to accommodate the screw S² and the end of the shaft B'. The clutch is firmly attached to the standard A by the screw S², a washer, w, intervening. It then clasps the shaft B' and the amount of pressure or friction which it exerts on the said shaft in opposition to the rotation of said shaft is regulated by the screw S³.

The indicator disk or plate D is centered on the front end of the shaft B', and rigidly secured thereto, so that it may turn with the shaft.

An indicator or index hand or pointer, I, is attached to the base-plate M, or other fixed part of the machine, and projects in front of the disk D. This pointer indicates the amount of movement of the disk D.

The mode of operation is very simple and almost apparent from the device itself. The device is attached to the engine or machine, so that some part of the moving machinery, preferably a pin on a wheel, may strike the

arm H. When the rod H is struck, it brings the bars E E' into the position shown in Fig.

3. With this movement the pawl P turns the wheel C, shaft B', and disk D, the amount of the movement being registered as one on the dial. When the rod H is released, the spring V draws the parts back to the position shown in Fig. 1. In this return movement, however, the friction-clutch G prevents the shaft B' from making a return rotation, so that the wheel C and disk D remain stationary, and the pawl P is dragged backward over the teeth of the wheel C. Each movement of the machine produces a forward movement of the disk D, and the number of these movements is shown by the indicator I on the disk D. When a single disk D is insufficient to represent the desired revolutions of the machine, this disk may be geared with a series of disks in the usual or any desired manner, either on its periphery or on the shaft, so that the various disks may represent units, tens, hundreds, &c.

The advantages of the adjustability of the arm H will be apparent from Fig. 5, where the arm H is shown in connection with a cam or rotary movement on the machine. N indicates a cam or disk fixed to a shaft rotating in stationary bearings. A lug, W, is fixed on the disk or cam, or, when the disk or cam rotates in a strap or yoke, the lug W may be affixed to said strap or yoke. Each rotation of the cam causes lug W to move the arm H forward and the registering-disk to be rotated, the arm being then immediately drawn back into position to be again moved by the lug W.

While the arm H occupies the position shown in solid lines in Fig. 5, the lug W will cause arm H to rotate the disk one digit. If, now, the arm H be lowered and reset by means of set-screw S in the position shown in dotted lines in Fig. 5, the lug W will move the arm H farther, and cause the pawl P to skip a greater number of teeth of the wheel C, and

cause the disk D to be rotated more than one digit. In this manner the number of digits to be registered at each movement of the machine can be regulated. In some classes of machines it may require some intermediate mechanism to specially adapt this arm H to the machinery to be registered, and in some instances it may be desirable to dispense with arm H and allow the arm or piece E' to be moved directly by the machine whose movements are to be registered.

While the various features of my invention are preferably used together, one or more may be used without the remainder, and, in so far as applicable, in connection with registering devices other than the one herein specifically set forth.

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

1. The combination of shaft B', wheel C, bar E, pawl P, standard A, and split friction-clutch G, provided with clamping-screw S³, substantially as and for the purposes specified.

2. The combination of standard A, shaft B', toothed wheel C, bars E, pawl P, spring K, bar E', and split friction-clutch G, provided with the clamping-screw S³, substantially as and for the purposes specified.

3. The combination of standards A, provided with bearing-blocks B, shaft B', toothed wheel C, bars E, pawl P, spring K, bars E', spring V, clutch G, disk D, and indicator I, substantially as and for the purposes specified.

4. The combination of shaft B, wheel C, pawl P, bar E, shaft P', provided with slit P³, and spring K, one of whose ends is located in said slit P³, pin or lug P², against which the spring bears and by which it is put in tension, substantially as and for the purposes specified.

L. LEWIS SAGENDORPH.

Witnesses:

JNO. W. STREHLI,
O. M. HILL.