March 8, 1932. P. FERRERO 1,848,336

NOTING APPARATUS

Filed June 24, 1929

Fig. 1

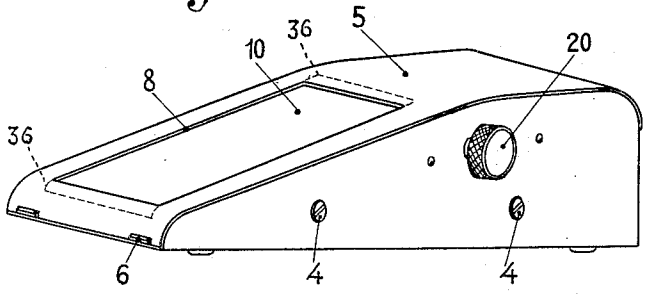


Fig. 6

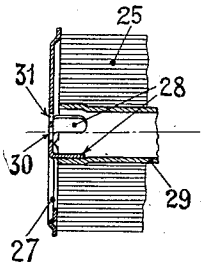


Fig. 2

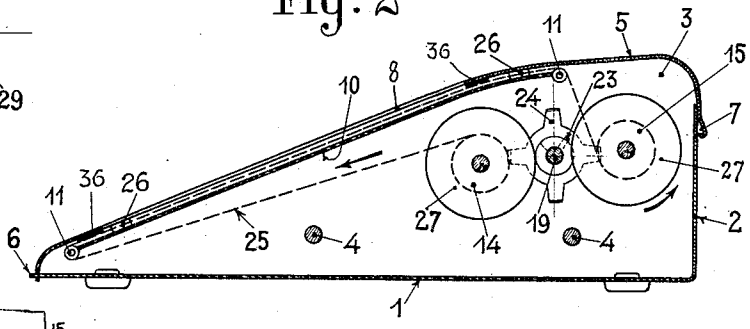


Fig. 4

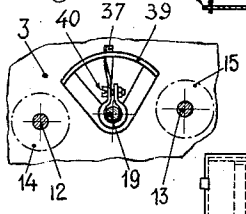


Fig. 3

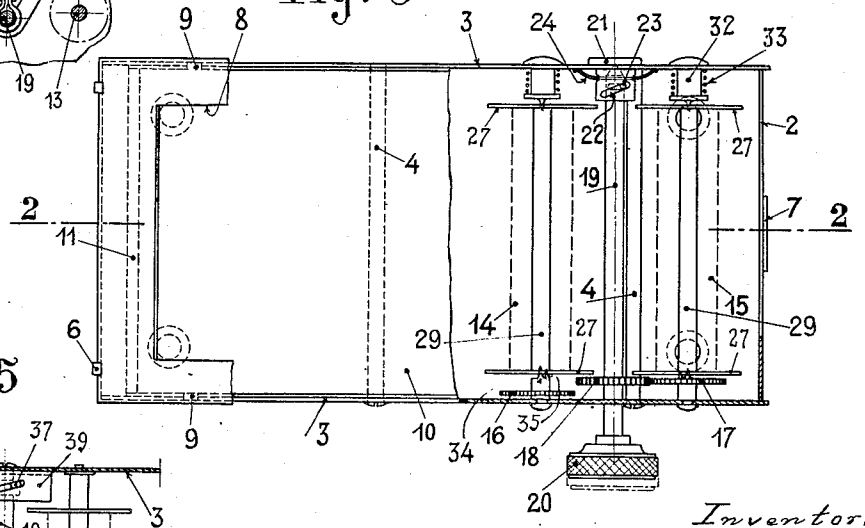
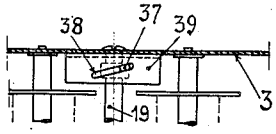


Fig. 5



Inventor:
Paolo Ferrero
By Louis Quigley
Attorney.

Patented Mar. 8, 1932

1,848,336

UNITED STATES PATENT OFFICE

PAOLO FERRERO, OF TURIN, ITALY

NOTING APPARATUS

Application filed June 24, 1929, Serial No. 373,264, and in Italy July 3, 1928.

The present invention has for its object a noting apparatus which consists of a casing in which are mounted two spools adapted to wind or unwind a paper strip which slides on a platen arranged beneath an opening in the top plate or cover of said casing.

The present invention further comprises means for the selective operation of either of said spools by a single knob, and means for locating and removing paper spools in and from the apparatus.

On the annexed drawings is shown by way of example an embodiment of this invention and

Figure 1 is a perspective view of a desk form of apparatus;

Figure 2 is a longitudinal section on line 2—2 of Fig. 3;

Figure 3 is a plan view of the apparatus with a portion of its casing removed;

Figure 4 is a fragmentary section of a modified construction;

Figure 5 is a fragmentary plan view of modification of Fig. 4;

Figure 6 is a fragmentary sectional view of a detail to an enlarged scale.

In the embodiment illustrated in Figures 1-3, the casing of the apparatus comprises a bottom plate 1, a back wall 2, side walls 3—3 interconnected by transverse rods 4, and a cover plate 5 which is secured in position by engaging it on lugs 6 of bottom plate 1 and on a ridge 7 of back wall 2 (see Figures 1 and 2).

The side walls 3 and the cover 5 are shaped to impart to the whole of the apparatus a tapering or reading-desk form and the downwardly inclined top wall or cover 5 has an opening 8 formed in it, the remaining surface of said wall being suitable for carrying writings or the like, say a calendar.

Inside the casing and under the tapering and apertured portion of wall 5 is located a platen 10 which is held in position by lugs 9 thereon engaging recesses 26 of the edges in side walls 3; said platen 10 may have rounded end edges for assisting the motion of the paper strip, or it may, as shown, have loosely rotatable rollers 11 at its end edges.

In said casing are mounted to rotate around parallel axes two spools 14 and 15 carrying a paper strip 25 the mounting of said spools being made as hereinafter described.

Said spools 14–15 are rigidly connected with gears 16 and 17 respectively, which gears 16 and 17 lie in different planes (see Fig. 3) to be engaged separately by a pinion 18 which is fixed to a shaft 19 mounted to rotate and move longitudinally; said shaft 19 having fixed to it a knob 20 lying outside of the casing.

Shaft 19 has one end loose in a sleeve 21 which has a spiral slot 22, a pin 23 fastened on shaft 19 entering said slot 22. Sleeve 21 is journalled in a bore of one of side plates 3, and a resilient washer 24 engaged with sleeve 21 and bearing against said side plate 3 restricts frictionally the rotation of sleeve 21 with respect to plate 3.

Location and size of parts are such that when pinion 18 is in its intermediate position and released from both gears 16 and 17, the said pin 23 is at the middle of slot 22, while when pin 23 is at either end of said slot, pinion 18 meshes with either of gears 16 or 17.

Each paper spool comprises head flanges 27 each provided with longitudinal lugs 28 adapted to engage the core 29 of the spool (see Fig. 4); each head flange 27 having a central pivoting hole 30 and a hole 31 spaced from central hole 30, for engagement with driving gear 16 or 17.

Each spool 14 and 15 is located in position by a retractible pivot pin 32 acted on by spring 33, and by a central pin 34 fixed to its associated gear 16 or 17, said pins 32 and 34 supporting the flanges 27 of said spools while an eccentric pin 35 on the hub of each gear engages hole 31 to drive said flanges and spools.

Strips 36 of velvet or similar material are located at the edges of opening 8 as shown in Figures 1 and 2, to control the motion of the paper strip 25.

In operation, cover 5 and platen 10 are removed from casing 1—2—3, flanges 27 are located in position at the ends of the core 29 of a paper roll, and the spool so provided

is then mounted in position in the apparatus on pins 32 and 34, in the location of spool 14 in Fig. 3; then paper strip 25 is unwound from spool 14 to provide a loop as shown in Fig. 2, and platen 10 is inserted in said loop and engaged in position by its lugs 9; finally the end of the paper strip is fastened to the core of spool 15 mounted on gear 17 and concentric pin 32, and cover 5 is put back again in position.

Any desired matter may be written on paper strip 25 which appears in opening 8 above platen 10, and then the strip with its written matter may be wound up on spool 14 or 15, either to provide a blank region of paper in register with opening 8 or to again bring the formerly-written matter in register with opening 8.

The paper strip is moved by operating knob 20; and each time such knob is rotated, it drives shaft 19 and pin 23. As rotation of sleeve 21 supporting the end of shaft 19 is restricted by friction washer 24, when the knob 20 is actuated, pin 23 moves along spiral slot 22 of sleeve 21 before driving sleeve 21 is caused to rotate, and thus shaft 19 with pinion 18 is caused to move longitudinally to carry gear 18 in mesh with either gear 16 or 17.

Thus it follows that on knob 20 being operated in one direction, it drives either of spools 15 or 14 to feed paper strip 25 in one direction, and on being operated in the reverse direction the pinion 18 is automatically released from the gear of the unwinding spool with which it meshes and is brought into mesh with the gear of the other spool.

In the modification of Figures 4 and 5, shaft 19 has an arm 37 frictionally engaged thereon, said arm being in turn engaged in a spiral slot 38 of a stationary part 39; a screw 40 provides for adjusting the pressure and frictional engagement of arm 37 on shaft 19. The operation is similar to the described one, because on shaft 19 being operated said arm 37, by its engagement with spiral slot 38, causes the shaft to move longitudinally and thereafter the said arm slips on shaft 19.

By the arrangement disclosed in Fig. 2, the further advantage is secured that the paper strip is moved in the same direction as knob 20 is operated.

By means of such an apparatus notes written on the paper strip may be stored and again read when desired, and a supply of fresh paper may be expeditiously installed for further use.

The paper strip is held tensioned over the platen 10, and the cover 5 is formed of relatively thin material to facilitate the use of the apparatus.

What I claim as my invention and desire to secure by United States Letters Patent is:

1. In writing apparatus, mechanism for reeling and unreeling a paper strip to be written on, comprising a pair of rotatable spools for feeding the strip from one to the other; a rotatable operating shaft; a driving pinion fixed thereto; a gear rigidly connected to each spool, said gears being offset with relation to each other and to said pinion; a rotatable sleeve wherein one end of said shaft loosely fits formed with a spiral slot; and a pin on the shaft slidably engaged in said slot, thereby to impart an endwise movement to the shaft during its rotation in either direction, so as to mesh the driving pinion alternatively with either gear.

2. Apparatus according to claim 1, in which a spring washer is provided which is engaged with the sleeve so as to restrict the rotation of the operating shaft.

3. In writing apparatus, a casing, and mechanism therein for reeling and unreeling a paper strip to receive writing; said mechanism embodying a pair of reversely-rotatable spools for feeding the strip in either direction from one to the other, an operating shaft mounted in the casing for rotation and axial displacement, a driving pinion fixed to said shaft, a gear connected to each spool, said gears being offset with relation to each other and to the driving pinion, and a pair of co-operating elements, one embodying a lateral projection and the other being provided with a spiral slot wherein such projection is engaged for automatically imparting an endwise movement to said shaft when the latter is rotated in either direction, thereby to mesh the driving pinion alternatively with either gear; one of the co-operating elements being carried by the shaft and the other by the casing.

4. In writing apparatus, a casing, and mechanism therein for reeling and unreeling a paper strip to receive writing; said mechanism embodying a pair of reversely-rotatable spools for feeding the strip in either direction from one to the other, an operating shaft mounted in the casing for rotation and axial displacement, a driving pinion fixed to said shaft, a gear connected to each spool, said gears being offset with relation to each other and to the driving pinion, and a pair of co-operating elements, one embodying a lateral projection and the other being provided with a spiral slot wherein such projection is engaged; one of the co-operating elements being carried by the shaft and the other by the casing, and either of them being frictionally engaged with its carrier for converting the first portion of the rotation of the shaft in either direction into an axial movement of said shaft to cause the pinion carried thereby to mesh with either gear to drive the gear and the spool connected thereto.

In testimony whereof I affix my signature.

PAOLO FERRERO.