T. E. FORD.

LINEOGRAPH.

APPLICATION FILED APR. 3, 1908.

950,846.

Patented Mar. 1, 1910

2 SHEETS—SHEET 1.

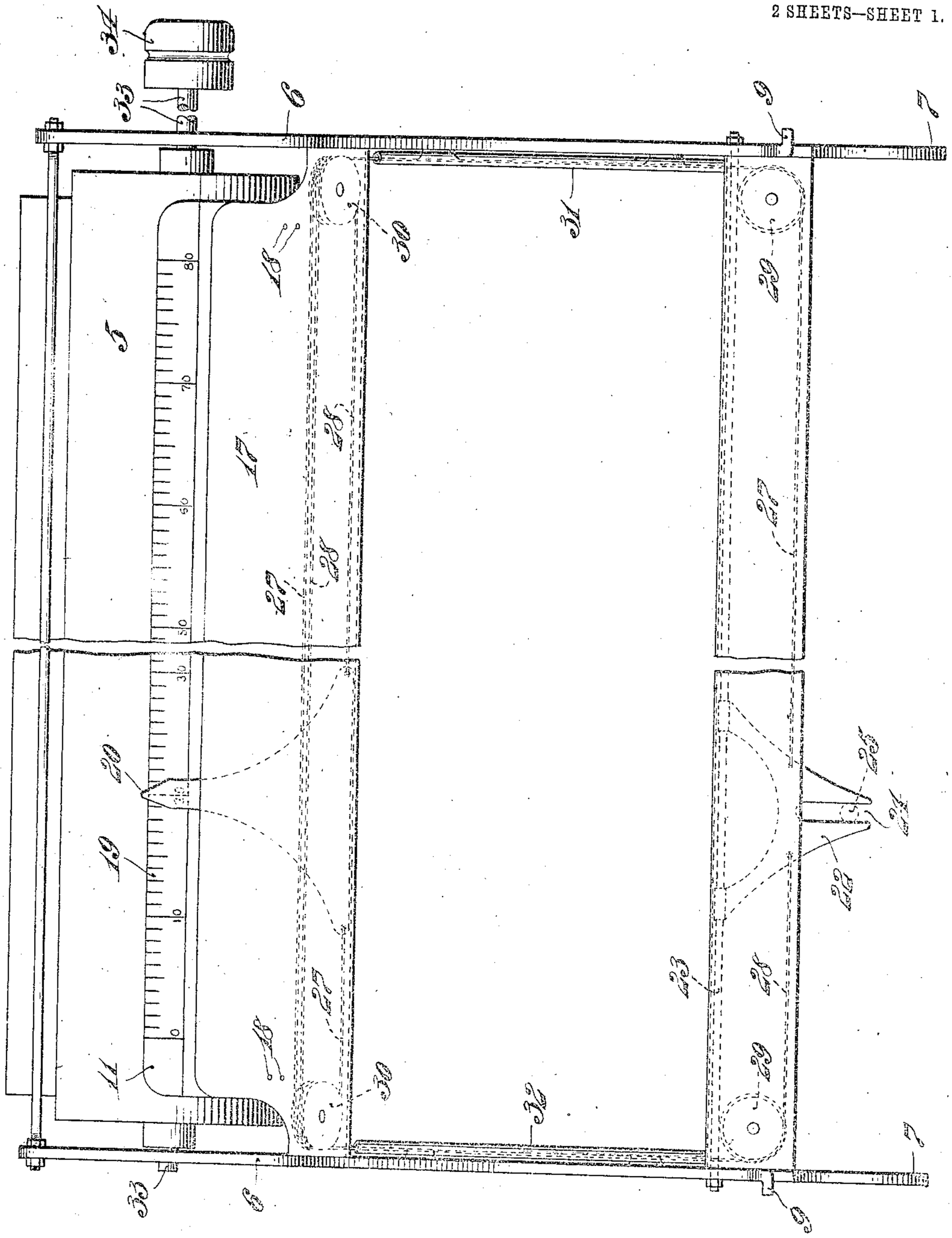

Fig. 1.

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4 SHEETS—SHEET 2.

Fig. 2.

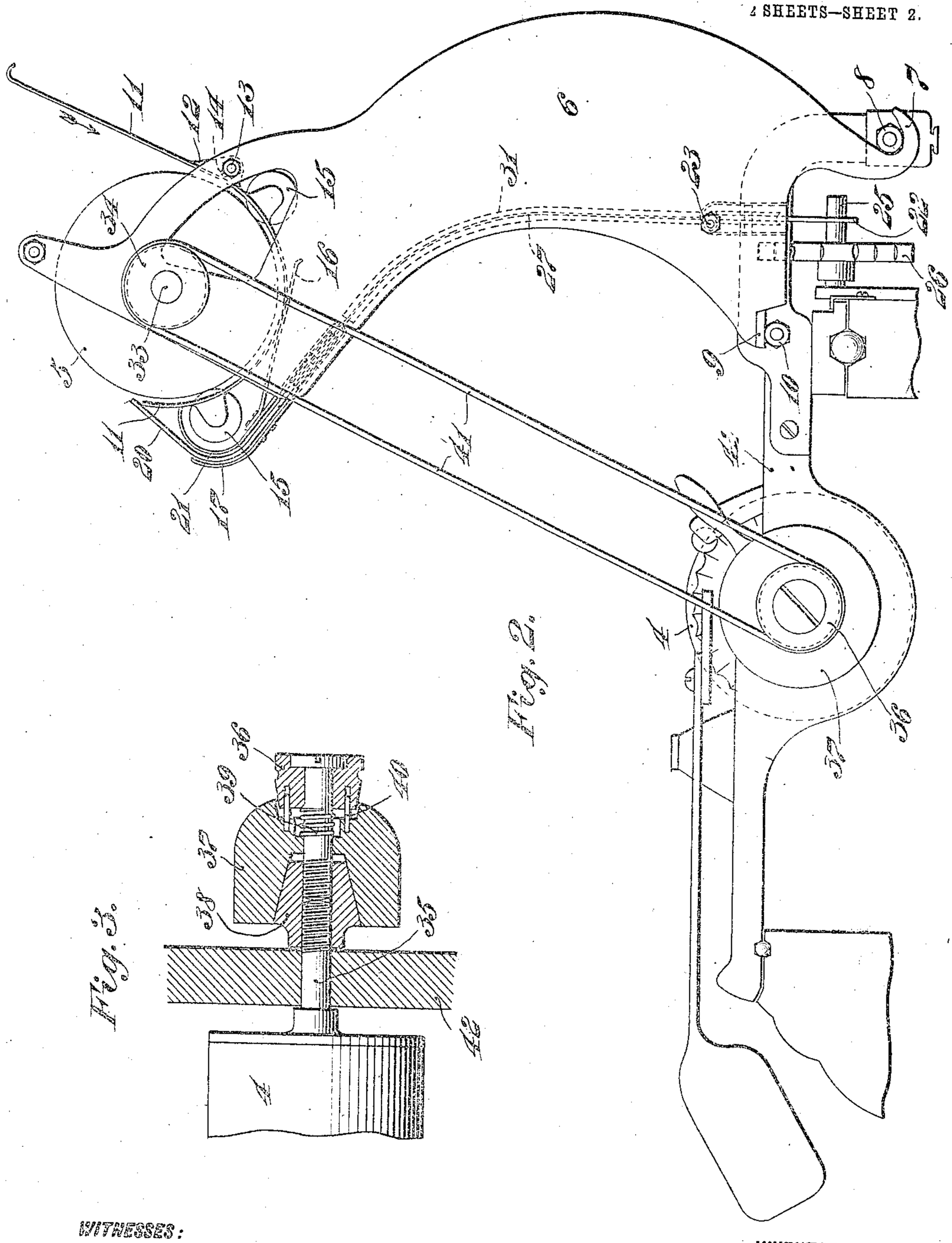

Fig. 3.

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TULLIUS EVERETT FORD, OF FRANKFORD, PENNSYLVANIA.

LINEOGRAPH.

950,846. Specification of Letters Patent. Patented Mar. 1, 1910.

Application filed April 3, 1908. Serial No. 424,958.

To all whom it may concern:

Be it known that I, TULLIUS EVERETT FORD, a citizen of the United States, residing at Frankford, in the county of Philadelphia, State of Pennsylvania, have invented a new and useful Lineograph, of which the following is a specification.

My invention relates to improvements in lineographs.

The object of my invention is to provide improved means in combination with a typewriter for supporting the copy to be transcribed, and for indicating the line and point on the line to which the copying has progressed.

Referring to the drawings:—Figure 1 is a front elevation of my device. Fig. 2 is a side view of same mounted on a typewriter, a portion only of the typewriter being shown. Fig. 3 is a detail in vertical section of the pulley and thumb turn and associated mechanism.

Similar numerals refer to similar parts throughout the several views.

The usual typewriter platen is indicated at 4. The lineograph roller is indicated at 5. Roller 5 is journaled in the side plates 6, 6, of the lineograph frame. This frame is removably secured to the top of the typewriter carriage 42 in any suitable way, as for example, the hook 7 is secured beneath the nut 8, or other suitable projection, while the lug 9 is adapted to rest on nut 10. The curved plate 11 is provided with lugs 12 which have a movable or flexible engagement with the side plates 6, 6, by the bolts 13 projecting through slots 14 in said lugs 12. Upon plate 11 are mounted the pressure rollers 15. The flat springs 16 are secured to the cross plate 17 by the rivets 18; there being two of such springs. These springs are adapted to press against the underside of plate 11 to maintain a yielding pressure of the rollers 15 against the roller 5. The front edge of plate 11 is provided with the usual scale 19 corresponding to the usual scale of the typewriter.

The pointer 20 is slidably seated between the plate 17 and the plate 21 and has a horizontal movement therebetween. The yoke 22 is slidably mounted on the horizontal bar 23 bolted to the side plate 6, and is provided with the downwardly extending slot 24. This slot is adapted to engage with the fixed shaft 25 of the escapement wheel 26 of the typewriter. Operative relationship is established between pointer member 20 and yoke member 22 by the fine piano wires 27 and 28 running over the pulleys 29 and 30; it being noted that each wire runs over both pulleys 30 to maintain the proper directional relation. These wires are preferably guided through the tubes 31 and 32 to maintain them in a curve corresponding to the inner curve of plate 6, that is, to prevent them from interfering with free access to the typewriter platen roller 4.

On shaft 33 of roller 5 is mounted the pulley 34, while on the shaft 35 of platen roller 4 is mounted the pulley 36, the thumb turn 37, and the cone 38. The cone 38 is rigid with shaft 35, while the thumb turn 37 has a clutch engagement therewith normally maintained by the spring 39 operating between pulley 36 and thumb turn 37, the positive rotative relationship between 36 and 37 is maintained by the pins 40 rigid with one member and movably engaging with apertures in the other member, to permit of manual operation to secure arbitrary independent movement between roller platen 4 and roller 5. The pulleys 34 and 36 are connected by the belt 41.

The operation of my device is as follows:—The sheet to be copied is inserted in the direction of the arrow, that is, to the rear of the roller, between the plate 11 and the roller 5, see Fig. 2. The line to be copied is brought above the margin of the scale plate 19 in the usual way. The carriage is then moved to bring the pointer 20 into the position to indicate the first letter of the line to be copied. It will thus be seen that with each step of the movable carriage 42, upon which the lineograph roller is mounted, the position of the yoke 22, being secured to the stationary shaft 25 of the typewriter, will change step by step with respect to said carriage and the position of the pointer 20 will be changed correspondingly on the scale plate 19. At the end of the line the carriage of the typewriter is brought back to the initial position and the roller platen 4 is moved one point forwardly in the usual way. Rotative motion of roller platen 4 is communicated through the belt 4 and pulleys 34 and 36, to roller 5, which will be similarly advanced. It is to be understood that the rollers 4 and 5 are of corresponding diameter, that is, have corresponding peripheral dimensions. As the carriage is brought back to the initial position it is also obvious that

the pointer 20 will similarly be brought back to initial position with respect to scale plate 19. Thus the operation is repeated until the copying of the sheet is completed.

What I claim is:—

1. In combination with a typewriter, having a platen roller and a movable carriage supporting the same, a lineograph comprising a copy holder supported by said movable carriage, and a pointer for step by step indication on the copy to be transcribed of the point to which the transcribing has advanced, said pointer adapted to be held in a fixed position irrespective of the movement of the carriage and copy holder.

2. In combination with a typewriter, having a platen roller and a movable carriage supporting the same, a lineograph comprising a copy holder supported by said movable carriage, having a rotating element, means for securing corresponding movement between the copy-holder and the said platen roller, and a pointer for step by step indication on the copy to be transcribed of the point to which the transcribing has advanced, said pointer adapted to be held in a fixed position irrespective of the movement of the carriage and copy holder.

3. In combination with a typewriter, having a platen roller and a movable carriage supporting the same, a lineograph comprising a copy holder supported by said movable carriage, a pointer slidably mounted in said copy holder and means for securing relative movement between the copy holder and pointer corresponding to the travel of the carriage.

4. In combination with a typewriter, having a platen roller and a movable carriage supporting the same, a lineograph comprising a copy holder, comprising a framework mounted on the movable carriage and movable therewith, a pointer slidably mounted in the copy holder framework near the upper part thereof, a yoke slidably mounted in the copy holder framework at the lower part thereof, said yoke having engagement with a fixed portion of the stationary framework of the machine, and flexible means for maintaining the pointer in the same relative position with the yoke, irrespective of the movement of the copy holder framework.

5. In combination with a typewriter, having a movable carriage and a platen roller supported thereon, a copy holder mounted on and movable with the carriage, and having a rotative element, means for securing corresponding movement between the rotative element and said platen roller, a pointer slidably mounted in the copy holder framework, and means for maintaining said pointer in a fixed position irrespective of the movement of the carriage and copy holder.

6. In combination with a typewriter, having a platen roller, a lineograph device for holding the copy to be transcribed, means for indicating the line to which the transcribing has progressed, comprising a lineograph roller and a coöperating guide, belt and pulley means for normally securing the equal movement of both rollers, and a separable clutch between one roller and pulley for permitting the arbitrary movement of one roller independently of the other.

7. In combination with a typewriter, a lineograph device, comprising means for holding the copy to be transcribed, means for indicating the line to which the transcribing has progressed, a pointer adapted to have relative travel along the line to indicate the point to which the transcribing has progressed and means for establishing a relative movement between the pointer and the typewriter carriage.

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