IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

ATTY.'S DOCKET: SCHMEYKAL 2

In re Application of:	)	Art Unit: 337
SCHMEYKAL, Rudolf et al	)	Examiner: M. Cohen
Serial No.: 07/227,535	)	Washington, D.C.
Filed: August 1, 1988	)	April 30, 1990
For: TYPEWRITER OR SIMILAR MACHINE	)	

APPEAL BRIEF

Honorable Commissioner of Patents and Trademarks
Washington, D.C. 20231

Sir:

This is an appeal from the Final Office Action dated August 1, 1989.

1. STATUS OF THE CLAIMS

Claims 1 through 7 are pending in this application.

Claims 1-7 stand rejected under 35 U.S.C. §112 first paragraph for the reason that the specification failed to provide an adequate written description of the invention. Specifically, overriding clutches were not shown in drawings nor described in the specification.

The Examiner has also objected to the drawings under 37 CFR §1.83(a) which requires that the drawings must show every feature of the invention specified in the claims.

Claims 1-7 have been rejected under 35 U.S.C. §103 as being unpatentable over Inagakai ('569) in view of Shimogawara '169 or IBM Bulletin by Mink et al.

2. STATUS OF AMENDMENTS

All amendments in the claims have been entered, and the claims are as shown in the attached appendix.

On January 2, 1990, applicants filed an amendment which would have amended the specification and the drawings to include an example of a typical overriding clutch. This amendment to the specification and drawings was not entered on the ground that it contained new matter.

3. SUMMARY OF THE INVENTION

Applicants' invention as illustrated in Figure 1 uses a single motor 11 which is a reciprocation-rotation motor which accomplishes three separate tasks. These tasks are advancement of the typewriter ribbon (8), advancement of the correction ribbon (10), and lifting of the ribbons to different heights for the purpose of printing and/or reviewing information on the typewriter platen (these positions are II and I).

In addition to the reciprocation-rotation motor, applicant provides for selective advancement of the typewriter ribbon (8) and the eraser ribbon (10) by means of overriding clutches which operate in opposite directions and which are disposed between the motor (11) and the ribbons. As the motor (11) operates in opposite directions, either the writing ribbon or the eraser ribbon is selected.

Claim 3 and 4 are directed to the use of reciprocation-rotation motor in the environment of a self-correcting typewriter. The combination of the reciprocation-rotation motor and the overriding clutches is set forth in claims 2 and 5.

The shafts (21) and (22) of wheels (19) and (20) are provided with overriding clutches working in opposite directions as described in the specification page 5, lines 3 through 12.

4. ISSUES

The issues on appeal are as follows:

(1) Whether the Examiner was correct in rejecting the application because the drawings do not show the overriding clutches, and because overriding clutches are not described in detail in the specification (35 U.S.C. §112, first paragraph).

(2) Whether the Examiner was correct in rejecting claims 1, 3, and 4 under 35 U.S.C. §103 where the art when combined fails to show the use of a reciprocation-rotation motor used with a typewriter print mechanism.

(3) Whether the Examiner was correct in rejecting claims 2 and 5 under 35 U.S.C. §103 where the claims require cooperation between a reciprocation-rotation motor and one way clutches, and where the references when combined do not suggest the use of these two elements in combination for any purpose.

5. GROUPING OF THE CLAIMS

The rejection under 35 U.S.C. §112 is directed to claims 1-7.

The rejection under 35 U.S.C. §103 is also directed to claims 1-7. However, claims 2 and 5 present an additional claim combination of a reciprocation-rotation motor in combination with oppositely acting overriding clutches which is a separate issue under section 103.

6. ARGUMENT

I. 35 U.S.C. §112 first paragraph

All claims have been rejected under 35 U.S.C. §112 first paragraph because the specification fails to provide an adequate description of the inventions, particularly the overriding clutches which the Examiner states are not in the drawings nor described in the specification.

Overriding clutches are well known in the art

Applicants in response to the Examiner's rejection submitted a German publication entitled "Vierter Aschnitt: Triebittel, "pp. 342-344", attached to the amendment of January 2, 1990. This German publication showed at page 343 numerous examples of overriding clutches. The first type is the Pawl and spring shown in Bild 1338. The second type is the spring and face face plate shown in Bild 1340.

Applicants also attempted to amend the specification by including a description of Bild 1340. Applicants contended that these examples of overriding clutches satisfy the requirement of being well known in the art under 35 U.S.C. §112. In preparation of this appeal, applicants have identified Quaker-City Gear Works, Inc. v. Skil Corporation, 223 USPQ 533 (E.D. Pennsylvania 1983), and Shanks v. Schaffer, 204 USPQ 781 (Bd patent interferences 1979) both of which hold that published German applications or published German non-patent literature are unavailable to U.S. workers and therefore insufficient to comply with the disclosure requirements under 35 U.S.C. §112.

In the amendment filed January 2, 1990, applicant also argued that overriding clutches per se are well known in the art.

Attached to this brief are copies of U.S. Patent 658,189, Weiner and 1,411,345 Habrie. Each of these patents show overriding clutches. In Habrie, the overriding clutch permits the rear wheel of the vehicle 12 to rotate faster than the drive mechanism, and this is controlled by the pawls 23 and 27 associated with the drive. Weiner shows a number of overriding clutches such as those shown in Figures 3 and 10 which permit rotation in one direction and free running movement in the opposite direction. Weiner in Figure 8 also shows yet another overriding clutch wherein the teeth face each other in a plane perpendicular to the axis of rotation.

The Weiner and Habrie patents were found in U.S. Class 74, subclass 159 which is defined as mechanical movements (intermetent grip) . grip units and features .. gripper mountings, lever ... multiple acting .... single ratchet or clutched. These two references show clearly that the basic mechanical movement of an overriding clutch has been well known in the mechanical arts in the United States, as well as in Germany.

Applicant also contends that the specification as originally drafted provides sufficient disclosure for one skilled in the art to practice applicant's invention. Applicant's disclosure states as follows:

> " The axis 21 and 22 of wheels 19 and 20, respectively, are respectively provided with overriding clutches working in opposite directions, and not shown in detail. These overriding clutches cause axial pins upwardly extending through the support 6 to be respectively moved in one direction of turning of the lift-rotation motor 11. These

> axial pins are connectable in a known manner with corresponding elements of the ribbon cassettes 7 or the correcting tape cassette 9. In this way, depending on the turning direction of the rotary of the lift-rotation 11, only one other ribbon h or 10 is driven" (see original specification page 5).

The Examiner was incorrect in requiring applicants to include further disclosure of a mechanism which accomplish the clearly stated functions of the overriding clutch.

Applicants' disclosure is clearly an enabling disclosure because overriding clutches per se are well known in the art, and are therefore not required to be included in detail in applicant's disclosure. It is well established that what is conventional knowledge will be read into patent disclosure. In re Howarath 210 USPQ 689 CCPA 1981. Here, applicants' citation of two United States patents taken from the classification system which identifies these patents by their mechanical machine elements, has clearly shown that the construction of overriding clutches is old, well-known, and not required to be repeated in applicant's disclosure. It is established beyond argument that disclosures in United States patents are publicly available as of their issue date for everything contained therein, see in re Howarath 210 at USPQ 692. U.S. patents are considered pertinent and are likely to be known by persons of ordinary skills in the art.

II. 35 U.S.C. 103

The rejection under 35 U.S.C. 103 of claims 1-7 as being unpatentable over Inagaki '569 in view of Shimogawara '169 or IBM Bulletin (Mink et al.) is clearly wrong. The Examiner's assertion that a reciprocation-rotation motor is shown in Shimogawara and the IBM Bulletin is incorrect. A reciprocation-rotation motor has

been defined by Applicants in this specification as a motor which both rotates the motor shaft and translates it in a direction parallel to the shaft.

Typical reciprocation-rotation motors are shown in U.S. Patent 4,234,831, Kemmer; U.S. Patent 4,099,106, Nikiado; IBM Technical Disclosure Bulletin Vol. 26, No. 4 (Arter et al.); and German Patents DE 3,538,017A1 and DE 3,539,443C1. (None of these references are relied upon in the obviousness rejection) The Examiner, having withdrawn the rejection under 35 U.S.C. 112 which would have required Applicants to include additional disclosure of a reciprocation-rotation motor, has confirmed that this type of motor is well known in the electrical-mechanical arts, and that the term "reciprocation-rotation" has specific meaning and defines a specific type of motor.

Discussion of the Art Relied Upon

Inagaki (Japan 61-123569) has a driver 13 which rotates in two directions, i.e., clockwise and counterclockwise, as viewed in Figure 1. The driver has a first take-off 17 and 19 for driving a capstan 16 which transfers rotational movement of the motor shaft to the ribbon advance. The motor shaft 17 does not translate along its axis as in a reciprocation-rotation motor. Cam wheels 26 and 27 provide for the movement of the holder 9 into various positions for either printing or correcting. Wheel 26 is used to select either correction or the ribbon R. Wheel 27 is used to select the ribbon positions p4, p3, p2, p1. A cam follower 51 moves under control of wheels 26 and 27 to adjust the vertical height of the ribbon and correction tape. A one-way

clutch 43 provided between cam 27 and cam 26 permits rotation of the second cam 27 in one direction while the cam 26 may rotate in two directions because it is directly geared to the driver 13. The one-way clutch 47 therefore relates to the height positioning of the ribbon and correction tape, not to the control of rotation of the ribbons R and C. Based upon the information in the drawings and the English-language abstract, it is not possible to determine how selective advancement of the ribbon or the correction ribbon is achieved. It is, however, clear that there is no clutch provided which allows reversing direction of the motor 18 to select the drives for the ribbon or the correction ribbon wherein two separate overriding clutches are used. Still further, instead of use of a drive shaft to lift the holder 9 for the ribbon and correction ribbon, cams 27 and 26 are used for the purpose of raising cam follower 51 which in turn raises 49 which is a part of the holder 9. The Examiner is correct in recognizing that this reference does not teach the use of a reciprocation-rotation motor.

IBM Technical Disclosure Bulletin, Vol. 26, No. 1 (Mink) is another disclosure of a control for a ribbon and correcting ribbon which is based upon bidirectional movement of a single motor 10. Motor 10, which is reversible, operates through a gear 12 which drives idler gear 14 in the direction shown in the arrows in the drawing. The transfer arms 16 rotate in order to provide engagement of idler gear 10 with either tape feed 26 or tape feed 30, dependent upon the direction of rotation of the motor 10. The transfer arm 16 which carries idler gear 14 also carries a cam

member 18 which is used to control the ribbon lift arm 24 for the purpose of presenting correction tape or a writing ribbon. Continued movement in a clockwise direction of the gear 12 drives gear 26 which provides an incremental feed to correction tape 28. Similarly, a drive is supplied to the printing ribbon 32 when the motor and gear 12 move counterclockwise in order to turn gear 30 which is connected to the ribbon feed. The use of the transfer arm 16 with cam member 18 results in control of both the correcting ribbon and the writing ribbon by a directional change in motor 10. The directional change in the motor 10 results in a change in feed, select, and lift of the appropriate ribbon or correction tape to the printing position. The motor disclosed in this reference, therefore, is nothing more than a reversible motor. There is no disclosure or need for disclosure of a motor which is known as a reciprocation-rotation motor. If a reciprocation-rotation motor were present in the IBM disclosure, it would provide no useful function for the reciprocation feature of the motor output shaft. All the IBM disclosure teaches is that there are other ways to accomplish the advance and selection of ribbons; however, this is nothing more than a complex set of gears and cams which Applicants describe in the introductory portion of the specification as the type of drive to be avoided because of complexity and mass (specification page 1 - top of page 2).

European Patent Application 0,107,169, Shimogawara, teaches use of a ribbon feed for a serial printer. This type of printer, however, does not utilize a correcting ribbon as would be used on a typewriter. Therefore, initially, there is a single

ribbon 17 which is driven by a gear 21 coupled with a shaft of motor 20. Motor 20 provides vertical direction movement and feed for the ribbon 17. The vertical direction is the vertical location of the print thimble 11, and not the vertical direction of the ribbon 17. Therefore, motor 20 provides for control of ribbon advance and a portion of the control of thimble 11 which requires vertical and axial rotation in order to select print. The object is shifting of the print thimble 11 and the ink ribbon 17 with a single drive motor. The motor 20 is a stepping motor.

A second motor 28 is disclosed as having an axially movable shaft for rotating print thimble 11. (See Abstract.) The motor 28 rotates the thimble by a shaft movable in the axial direction and a plane to cam engages with the shaft to enable axial movement. The rotate motor 28 is shown in Figure 5. The shaft 29 cannot only be rotated in the running direction of the motor 28, but it can also be shifted in the vertical direction (see column 6, lines 13-23). The axial shifting produced by motor 4 is used to select print either at the upper portion or the lower portion of the print thimble as shown in Figure 6. This is a shift between upper characters 25 and lower characters 26 as is seen in Figure 6 and described at pages 6 and 7 of the specification. Therefore, the shifting up and down is used to select the upper or lower position characters 25 or 26 of the print thimble 11. Therefore, the stepping motor is not used to advance the ribbon, which is instead a function of motor 20. Motor 20 is used for the inked ribbon feed, not motor 28. This is, therefore, fundamentally different from Applicants' claimed

invention which uses the reciprocation-rotation motor for the purpose of driving ribbons as well as selecting ribbons by means of a height control achieved with the extension of the motor shaft. Stated another way, the claims relate to height control of a ribbon, and this reference teaches height control of a print thimble, two entirely different objectives. The stepping motor 28 of the '169 reference is also used to rotate the shaft 29. The shaft 29, as shown in Figure 6, provides for radial turning of the print thimble, not a ribbon advance. Still further, it should be noted that there are no one-way clutches disclosed in the '169 reference.

1. The Art does not teach the use of the claimed reciprocation-rotation motor.

The references when combined do not suggest or teach one of skill in the art to arrive at the invention set forth in Applicants' claims. Applicants in claim 1 recite a reciprocation-rotation motor which is used for transporting the ribbon and for upward and downward positioning of the ribbon. In order to render this claim obvious, the Examiner must have some reason or rationale which would suggest the use of a reciprocation-rotation motor which is well known in the art and which is known in the printing art as taught by Shimogawara '169. The problem is that Shimogawara does not teach use of a reciprocation-rotation motor (which is his case is also a stepping motor) for the purpose of control of ribbon position and advance in a typewriter.

Shimogawara is a printer which does not provide the erase function, and which does not require that the ribbon be

removed from the platen so that the operator can view typewritten information. In Shimogawara, the ribbon remains in place across the platen, and control is provided to the printing element. There is, however, nothing in Shimogawara which would suggest use of the disclosed reciprocation-rotation stepping motor for the purpose of control of a ribbon in a typewriter.

In the references relied upon by the Examiner which teach ribbon advance and ribbon shifting in typewriters (IBM Technical Disclosure, Mink and Inagaki '569), there is no recognition that a reciprocation-rotation motor would be useful for the purpose of providing ribbon shift and ribbon advance for both a correct ribbon and a write ribbon in a typewriter. Instead, the IBM Technical Disclosure relies upon a complex mechanical gearing system and cam which will allow ribbon advance and shift in position by mere control of a motor in one direction or another. If the reciprocation-rotation stepping motor were to be added to the IBM Technical Disclosure, nothing new would result. In fact, the IBM device would work perfectly fine without use of the reciprocating shaft of a reciprocation-rotation motor. The inclusion of the reciprocating shaft in the IBM disclosure would require replacement of the cam 18 and relocation of the lift arm 24 to a position where it may be acted on by the axial movement of a motor armature. This, however, destroys a portion of the IBM teaching. Still further, the IBM teaching would be completely destroyed if one were to insert reversible clutches for control of tape feeds 26 and 30 and elimination of the cam 18. However, that substitution would require use of Applicants'

claimed invention, which is clearly a far-fetched extension of the teachings of the IBM Technical Disclosure in light of the reciprocation-rotation motor art of record.

The Inagaki patent, '569, utilizes cams 26 and 27 for selecting the printer position and ribbon. Cam 26 is used to shift between the write ribbon and the correction ribbon. Cam 27 is used to select between positions p1-p4 as shown in Figure 4. This reference does not include a reciprocation-rotation motor, as claimed. Placement of a reciprocation-rotation motor in the Inagaki apparatus will require substantial modification of the Inagaki structure. The cams 26 and 27 would have to be removed, and a movable shaft be utilized with driver 13. Still further, the axis of driver 13 would have to be shifted so that the movable shaft could raise and lower the holder 9. In short, the substitution of the reciprocation-rotation motor would require a complete redesign and reinvention of the claimed lift mechanism of Applicants.

It is therefore submitted that there is absolutely nothing in any of these references, singly or in combination, which could be construed as teaching a way or means for their combination. Still further, there is nothing in these references when combined which would teach the use of a reciprocation-rotation motor where the reciprocation feature is used to raise and lower the ribbon heights by a direct drive as Applicants claim.

2. <u>The Prior Art does not suggest a reciprocation-rotation motor in combination with overriding clutches</u>.

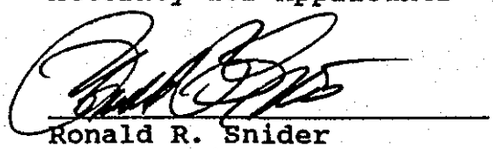
Applicants have claimed a pair of overriding clutches, a feature the Examiner has not even attempted to grapple with in the rejection of claims 2-5. Applicant's claimed combination of overriding clutches and a reciprocation-rotation motor is not suggested or obtainable from the references relied upon. Even if the references are combined, the claimed combination does not result. Claims 2 and 5 are clearly patentable.

CONCLUSION

It is therefore respectfully submitted that the Examiner has erroneously rejected the claims under 35 U.S.C. §112 first paragraph where overriding clutches are well known in the mechanical arts. It is further submitted that the Examiner has erred in rejecting the claims under 35 U.S.C. §103 where the claims reciting a reciprocation-rotation motor and the combination of a reciprocation-rotation motor (claims 2 and 5) have not been met by the references even if combined.

Respectfully submitted,

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7. APPENDIX

The Claims on Appeal are:

1. A typewriter or similar machine comprising a pivotable support for supporting at least one tape means so as to move said at least one tape means upwardly and downwardly, said at least one tape means being movable in steps; and a reciprocation-rotation motor for transporting said at least one tape means into upward and downward positions by pivoting said pivotable support.

2. A machine in accordance with claim 1, wherein the reciprocation-rotation motor comprises a motor shaft and the machine further comprises a drive means for driving said at least one tape means, toothed wheels for transferring the rotational movement of the motor shaft to said at least one tape means, and oppositely acting overriding clutches respectively for connecting or disconnecting the drive, responsive to the rotational direction of the reciprocation-rotation motor.

3. A typewriter having at least one ribbon means moveable upwardly and downwardly in steps comprising:

a pivotable support for supporting the at least one ribbon means; and

a reciprocation-rotation motor pivoting said support and transporting the at least one ribbon means to an in use position.

4. The machine in accordance with claim 3, wherein the at least one ribbon means comprises a ribbon and a correcting tape.

5. The machine in accordance with claim 3, wherein the reciprocation-rotation motor comprises a motor shaft and the machine further comprises a drive means for driving said at least one ribbon means, a plurality of toothed wheels for transferring the rotational movement of the motor shaft to the at least one ribbon means, and oppositely acting overriding clutches respectively for connecting or disconnecting the drive, responsive to the rotational direction of the reciprocation-rotation motor.

6. The machine in accordance with claim 1, wherein said at least one tape means comprises a ribbon cassette having a ribbon therein.

7. The machine in accordance with claim 6, wherein said at least one tape means further comprises a correcting tape cassette having a correcting tape therein.