

### AMENDMENTS TO THE DRAWINGS

The attached sheet of drawings includes changes to FIG. 1. Specifically, FIG. 1 now includes the power source and associated reference number that was claimed in as-filed dependent Claim 19, and that is now referenced in paragraph [0020], via this amendment. Formal drawings that reflect this drawing amendment will be supplied upon approval.

## REMARKS

This is a full and timely response to the non-final Office action mailed January 23, 2009. Reexamination and reconsideration in view of the foregoing amendments and following remarks is respectfully solicited.

Claims 1-20 are pending in this application, with Claims 1, 9, 14, and 20 being the independent claims. No claims have been amended, canceled, or withdrawn. No new matter is believed to have been added.

### Objections to the Drawings

The Examiner has objected to the drawings. The Applicants are providing herewith corrected FIG. 1, which now includes the power source recited in as-filed dependent Claim 19. It is believed that the amendments to the drawings overcome the Examiner's objection. No new matter has been added by the amendment, and reconsideration and withdrawal of the objection is requested.

### Rejections Under 35 U.S.C. § 103

Claims 1-7 and 9-20 were rejected under 35 U.S.C. § 103 as allegedly being unpatentable over U.S. Patent Nos. 6,325,331 (McKewon) and 3,984,711 (Kordik); and Claim 8 was rejected under 35 U.S.C. § 103 as allegedly being unpatentable over McKewon, Kordik, and U.S. Patent Publication No. 2005/0247529 (Gaines). This rejection is respectfully traversed.

Independent Claim 1 relates to an actuator assembly that includes a power drive unit, an actuator, a latch rotor, one or more permanent magnets spaced apart from and at least partially surrounding the latch rotor, and an electromagnet. The latch rotor supplies a permanent magnetic field that opposes rotation of the latch rotor, and the electromagnet upon receipt electrical current, generates a magnetic field that selectively opposes or aids the permanent magnetic field supplied from the permanent magnets. Independent Claim 9 relates to an actuator drive unit that includes the same recited elements as independent Claim 1, except for the actuator.

Independent Claims 14 and 20 relate to an actuation control system. Independent Claim 14 recites the same elements as independent Claim 9, and additionally recites a control circuit adapted to receive input signals and operable, in response thereto, to selectively supply drive control signals and latch control signals. Independent Claim 20 recites the same elements as independent Claim 14, except for one or more permanent magnets.

McKewon relates to actuators that may be used in aircraft flight control systems and discloses two rather distinct actuator embodiments. In one embodiment, which is depicted in FIG. 1, the actuator (11) includes an electric motor (13), a brake (15), a gear train (17), a clutch (19), an output damper (21), and another gear train (23). The brake (15) is a spring-loaded device that engages the motor (13) to lock the actuator (col. 4, ll. 14-15). In the second embodiment, which is depicted in FIG. 2, McKewon discloses an actuator (27) that includes a stepper motor (29), a gear train (31), an output member (33), and an optional damping member (35). McKewon further espouses the fact that this second embodiment “provides all of the same functionality of typical prior-art mechanisms illustrated in FIG. 1, using only stepper motor (29), gear train member (31), and output member (33)” (col. 4, ll. 41-44). This is due, in part, to the fact that the stepper motor (29) may be “made to function as a braked, or locked device by exciting one or more phases in a fixed pattern, that is, without a time sequence” (col. 5, ll. 6-8).

Kordik relates to a variable reluctance stepper motor that includes permanent magnets interposed within the circumferential spaces of the stator pole pieces. The permanent magnets are provided to increase the dynamic and holding torque characteristics of the stepper motor while providing detent torque and dampening overshoot.

From the above it is clear that the McKewon teaches the desirability of eliminating separate braking/locking mechanisms in an actuator, and doing so by implementing the power drive unit as a motor, such as a stepper motor, that may itself function as a lock when appropriately excited. Hence, to include the stepper motor of Kordik in the actuator of McKewon, which is what the Office action suggests, runs contrary to why McKewon did away with the mechanical brake (15) in the first place – elimination of additional components that add to cost and weight (col. 4, ll. 30-34).

Applicants submit that what the McKewon/Kordik combination objectively suggests to the skilled artisan is using the stepper motor of Kordick to implement the stepper motor (29) in the actuator (27) of McKewon, and not additionally including a second stepper motor to act as a locking device.

With respect to dependent Claim 8, while not conceding that Gaines discloses or suggests what is alleged in the Office action, Applicants nonetheless submit that Gaines fails to make up for the deficiencies of the McKewon/Kordik combination that were delineated above.

In view of the foregoing, reconsideration and withdrawal of the § 103 rejections is requested.

### Conclusion

Based on the above, independent Claims 1, 9, 14, and 20 are patentable over the citations of record. The dependent claims are also deemed patentable for the reasons given above with respect to the independent claims and because each recite features which are patentable in its own right. Individual consideration of the dependent claims is respectfully solicited.

The other art of record is also not understood to disclose or suggest the inventive concept of the present invention as defined by the claims.

Hence, Applicant submits that the present application is in condition for allowance. Favorable reconsideration and withdrawal of the objections and rejections set forth in the above-noted Office Action, and an early Notice of Allowance are requested.

If the Examiner has any comments or suggestions that could place this application in even better form, the Examiner is requested to telephone the undersigned attorney at the below-listed number.

If for some reason Applicant has not paid a sufficient fee for this response, please consider this as authorization to charge Ingrassia, Fisher & Lorenz, Deposit Account No. 50-2091 for any fee which may be due.

Respectfully submitted,

INGRASSIA FISHER & LORENZ

Dated: March 27, 2009

By: /PAUL D. AMROZOWICZ, REG. NO. 45264/  
Paul D. Amrozowicz  
(480) 385-5060