CLAIMS

1. Injection device for injecting liquid medicine to a patient, comprising:

- a housing,
- a static structure comprising a first gear member, said static structure as a whole being fixed relative to the housing,
- a dynamic structure comprising a medicine container, means for pushing liquid medicine out of said medicine container for its injection to a patient, and a second gear member engaged with the first gear member, said dynamic structure as a whole being moveable relative to the housing,
- a drive member for driving one of the first and second gear members so as to cause the dynamic structure to move relative to the static structure along a predetermined direction due to the engagement between the first and second gear members, and
- clutch means for maintaining engagement between the first and second gear members in normal condition of the injection device, and for allowing disengagement of the first and second gear members upon a shock received by the injection device along the predetermined direction,

said clutch means comprising:

- means for allowing the other of the first and second gear members to move away from said one of the first and second gear members and thus disengage from said one of the first and second gear members,
- a blocking member which, in a predetermined position, prevents the other of the first and second gear members from moving away from said one of the first and second gear members, and
- a return spring for maintaining the blocking member in the predetermined position, the force of said return spring being overcomeable by the other of

the first and second gear members upon a shock received by the injection device along the predetermined direction and moving the other of the first and second gear members away from said one of the first and second gear members.

2. Injection device according to claim 1, wherein said one of the first and second gear members is a wheel and the other of the first and second gear members is a rack.

3. Injection device according to claim 1 or 2, wherein the drive member is mounted on the static structure and said one of the first and second gear members is the first gear member.

~~4. Injection device according to any of claims 1 to 3, wherein the clutch means comprise:~~

- ~~means for allowing the other of the first and second gear members to move away from said one of the first and second gear members and thus disengage from said one of the first and second gear members,~~
- ~~a blocking member which, in a predetermined position, prevents the other of the first and second gear members from moving away from said one of the first and second gear members, and~~
- ~~a return spring for maintaining the blocking member in the predetermined position, the force of said return spring being overcomeable by the other of the first and second gear members upon a shock received by the injection device along the predetermined direction and moving the other of the first and second gear members away from said one of the first and second gear members.~~

45. Injection device according to any of claims 41 to 3, wherein the means for allowing the other of the first and second gear members to move away from said one of the first and second gear members comprise at least one flexible member through which the other of the first and second gear members is mounted in the injection device.

56. Injection device according to any of claims 1 to 4 ~~or 5~~, wherein the predetermined position of the blocking member is a rest position in which the blocking member is maintained by the return spring against a stop member.

67. Injection device according to claim 56, wherein the stop member is a pin engaged in an oblong opening of the blocking member.

78. Injection device according to any of claims 41 to 67, wherein the blocking member is a lever.

89. Injection device according to any of claims 1 to 78, wherein the drive member is an engine.

910. Injection device according to any of claims 1 to 89, wherein the means for pushing liquid medicine out of the medicine container comprise a piston rod, a transmission for driving the piston rod and a second drive member for driving the transmission.

101. Injection device according to claim 910, wherein the second drive member is an engine.