Claims

1. A screwing tool with a longitudinal axis X comprising, according to said longitudinal axis, a first, drive part, which is designed to receive torque applied by a user or by a tool-holder, and a second, transmission part, which is secured in rotation to said first part, and is designed to cooperate with a screw, in order to re-transmit to said screw the torque received, said second part having a peripheral envelope with a generally conical form, the base of which is situated on said first part side, and having three longitudinal concavities with conical generatrices, regularly distributed, defining three identical radial transmission lobes, each of which has, in a cross-section perpendicular to said longitudinal axis, a distal tangential portion which extends substantially according to an arc of a circle and which is extended on both sides by two connection portions, each of which is defined by a curve comprising a substantially radial main part and having a point of inflection before re-joining a proximal joining region which ensures the joining with an adjacent connection portion,

   characterized in that, according to said longitudinal axis, said proximal joining regions have a cone angle which is smaller than the cone angle of said distal tangential portions, and is substantially less than 5°, preferably less than 3°.

2. The screwing tool as claimed in claim 1, characterized in that said cone angle of said proximal joining regions is substantially between 0.5 and 2.5°, and preferably between 1 and 2°.
3. The screwing tool as claimed in claim 1 or 2, characterized in that the angle which is situated between said substantially radial main parts of said two connection portions of a given transmission lobe is equal to, or greater than, the angle which is situated between said substantially radial main parts of two adjacent connection portions belonging to adjacent transmission lobes.
4. The screwing tool as claimed in claim 3, characterized in that the angle which is situated between said substantially radial main parts of said two connection portions of a given transmission lobe is substantially between 75 and 85°.

5. The screwing tool as claimed in one of the preceding claims, characterized in that each of said proximal joining regions has substantially the form of an arc of a circle.
6. The screwing tool as claimed in one of claims 1 to 4, characterized in that each of said proximal joining regions has two concavities separated by a central, slightly convex portion.
7. The screwing tool as claimed in one of the preceding claims, characterized in that said peripheral envelope is without a sharp edge.
8. The screwing tool as claimed in one of the preceding claims, characterized in that said peripheral envelope is truncated at its free end, such as to define a substantially flat surface which is perpendicular to said axis X at the end of said second part.
9. The screwing tool as claimed in one of the preceding claims, characterized in that a ratio between a radius measured at the middle of one of said proximal joining regions and a radius measured at the middle of one of said distal tangential portions is substantially between 0.3 and 0.7.
10. A screw which is designed to cooperate with a screwing tool as claimed in one of the preceding claims, comprising a portion containing a screw pitch and a head comprising a recess which is designed to receive at least partially the second part of the screwing tool, said recess having a peripheral envelope with a generally conical form, the base of which is situated on its opening side, and having three longitudinal excess thicknesses with conical generatrices, regularly distributed, defining three identical radial transmission receptacles, each of which has, in a cross-section perpendicular to a longitudinal direction, a distal tangential portion which extends substantially according to an arc of a circle, and is extended on both sides by two connection portions, each of which is defined by a curve comprising a substantially radial main part, and having a point of inflection before re-joining a proximal joining region which is situated on one of said excess thicknesses, and ensures the joining with an adjacent connection portion,

characterized in that, according to said longitudinal direction, said proximal joining regions have a cone angle which is smaller than the cone angle of said

distal tangential portions, and is substantially less than 5°, preferably less than 3°.

11. The screw as claimed in claim 10, characterized in that said cone angle of said proximal joining regions is substantially between 0.5 and 2.5°, and preferably between 1 and 2°.
12. The screw as claimed in claim 10 or 11, characterized in that the angle which is situated between said substantially radial main parts of said two connection portions of a given transmission receptacle is equal to, or greater than, the angle which is situated between said substantially radial main parts of two adjacent connection portions belonging to adjacent transmission receptacles.
13. The screw as claimed in claim 12, characterized in that the angle which is situated between said substantially radial main parts of said two connection portions of a given transmission receptacle is substantially between 75 and 85°.
14. The screw as claimed in any one of claims 10 to 13, characterized in that said peripheral envelope is without a sharp edge.
15. The screw as claimed in any one of claims 10 to 14, characterized in that a ratio between a radius measured at the middle of one of said proximal joining regions and a radius measured at the middle of one of said distal tangential portions is substantially between 0.3 and 0.7.