Claims:

~~1. Method of making a dispensing apparatus for measuring a quantity of material to be dispensed,~~
~~the dispensing apparatus having a dispensing unit for dispensing at least part of the material,~~
~~the dispensing apparatus having a reservoir containing the material to be dispensed,~~
~~the dispensing apparatus further having connectors between the reservoir and the dispensing unit, and the method including the steps of:~~
~~placing a scale under the reservoir, the scale being for connection to a processor for processing electronic signals from the scale and for converting the signals into a weight measurement; and~~
~~inserting tubes into the reservoir, the tubes carrying material into and from the reservoir, wherein inserting the tubes into the reservoir takes place by means of one of the following:~~
~~i. through a flexible membrane surrounding the connectors,~~
~~ii. with flexible tube sections between the connectors and the dispensing unit, and~~
~~iii.~~ i. ~~through a reservoir cap, the cap sliding relative to the reservoir.~~

~~2.~~ 1. A dispensing apparatus for measuring a quantity of material to be dispensed, the dispensing apparatus having:
a dispensing unit for dispensing at least part of the material;
a reservoir (1) containing the material to be dispensed (2);

~~connectors~~tubes between the reservoir (1) and the dispensing unit, the tubes carrying material into and from the reservoir (1);

a scale (1) under the reservoir (1), the scale (6) being for connection to a processor for processing electronic

signals from the scale (6) and for converting the signals into a weight measurement; ~~and~~characterized by ~~tubes inserted into the reservoir, the tubes carrying material into and from the reservoir,~~ the tubes being inserted into the reservoir (1) by means of one of the following:

i. through a flexible membrane (3) surrounding the ~~connectors~~tubes, and

~~ii. with flexible tube sections between the connectors and the dispensing unit, and~~

~~iii.~~ii. through a reservoir cap (3), the cap sliding relative to the reservoir (1).

~~3.~~2. ~~Method as claimed in claim 1, or a~~Apparatus as claimed in claim ~~2~~1, wherein the material is ink or a solvent and the reservoir (1) is contained in a printer.

~~4.~~3. ~~Method or a~~Apparatus as claimed in any of the preceding claims, wherein the scale (6) is a load cell.

~~5.~~4. ~~Method or a~~Apparatus as claimed in claim ~~4~~ 3, wherein the load cell is connected to a processor that filters and processes the electronic signals from the load cell, converting the signals into a weight measurement which is sent to a dispensing application control logic to record the weight during dispensing

~~6.~~5. ~~Method or a~~Apparatus as claimed in any of claims 1 to ~~5~~4, wherein the tubes are inserted into the reservoir (1) through the reservoir cap (3), a cylindrical smooth dry bearing (20) being attached firmly to the reservoir cap (3).

~~7.~~6. ~~Method or a~~Apparatus as claimed in claim ~~6~~ 5, wherein the tubes are inserted into the reservoir (1) through the reservoir cap (3), the reservoir (1) further including a

tube holder (5, 17) rigidly holding plunged tubes (13) and the cylindrical

smooth dry bearing (20) being free to slide vertically along the tube holder (5, 17).

~~8.~~7. ~~Method or a~~Apparatus as claimed in claim ~~7~~ 6, wherein the cylindrical smooth dry bearing (20) is free to slide in rotation around the tube holder (5, 17).

~~9. Method or apparatus as claimed in any of the preceding claims, the tubes being inserted into the reservoir with the flexible tube sections between the connectors and the dispensing unit, the reservoir including a cap and the dispensing apparatus including at least one of a tubing holder and a reservoir holder.~~

~~10. Method or apparatus as claimed in claim 9, wherein the cap includes plunged tubes, one extremity of the tube sections being connected to the plunged tubes.~~

~~11. Method or apparatus as claimed in claim 9 and 10, a second extremity of the tube sections being connected to rigid tubes tied to the tubing holder.~~

~~12. Method or apparatus as claimed in any of claims 9 to 11, wherein the tubing holder is connected to a body of the dispensing apparatus.~~

~~13. Method or apparatus as claimed in any of claims 9 to 11, wherein the dispensing apparatus includes a tubing holder and a reservoir holder, the reservoir holder being connected to the tubing holder by means of the scale.~~

~~14. Method or apparatus as claimed in claim 13, wherein the flexible tube sections are tied to the tubing holder, a second extremity of the tube sections being connected to flexible tubes tied to the reservoir holder.~~

~~15.~~8. ~~Method or a~~Apparatus as claimed in any of claims 1 to ~~5~~4, the tubes being inserted into the reservoir (1) through the flexible membrane (3), wherein the membrane is fixed to a mouth of the reservoir (1) with a seal across the thickness of the sides of the mouth.

~~16.~~9. ~~Method or a~~Apparatus as claimed in any of claims 1 to ~~5~~4, the tubes being inserted into the reservoir through the flexible membrane (3), the tubes having one of a shape for piercing the membrane (3) and a cap including a sharp point for piercing the membrane (3).

~~17.~~10. ~~Method or a~~Apparatus as claimed in any of claims 1 to ~~5~~4, the tubes being inserted into the reservoir (1) through the flexible membrane (3), wherein the membrane (3) includes marks indicating where the tubes are inserted

~~18.~~11. ~~Method or a~~Apparatus as claimed in claim ~~17~~ 10, wherein the membrane (3) around the marks is thinner than the surrounding membrane material.

~~19.~~12. A use of the apparatus as claimed in any of claims ~~2~~1 to ~~18~~11 for determining the consumption of the material to be dispensed from the dispensing apparatus.

~~20.~~13. The use as claimed in claim ~~19~~ 12, wherein the consumption of material is determined while the dispensing unit is in operation.