through force transmission means which, in practice, means that the implements for attacking the ground are floating implements and therefore would also tend to break along their connection and rotating shaft. Another patent document combining both devices is US4666213, but as in the preceding case they are non-integrated superimposed devices that suffer from the same problems as conventional hammers.

DISCLOSURE OF THE INVENTION

To mitigate the technical problems described above, the present invention relates to a hydraulic hammer device for excavators comprising at least one ripper and an energy accumulator where the energy accumulator is integrally connected to said ripper and located on the longitudinal shaft thereof, the ground being attacked on said shaft between the retracted and deployed positions of the ripper and characterized in that it comprises a cylinder which is integrally connected to the ripper and ~~housed therein~~ being longitudinally aligned with the said longitudinal shaft of the ripper.

A second particular embodiment comprises at least two cylinders integrally connected to the ripper and housed therein, forming between them an angle the vertex of which coincides with the shaft which attacks the ground; and where each of said cylinders comprises an energy chamber, the energy chambers of the cylinders communicating with one another, said cylinders being configured for alternating movement.

Energy chamber is understood as the pressure chamber in the upper portion of the cylinder which is compressed by the upward movement of the plunger (caused in turn by the injection of oil from the excavator) and is responsible for thrusting said plunger in its downward movement due to the accumulated pressure. The energy chamber is typically filled with nitrogen and/or any compressible fluid, in general.

The absence of floating parts must first be pointed out. In fact, the elements responsible for delivering blows (the cylinders) are integrally connected to the ripper and housed therein, so the impact is internal, i.e., on the same element which

CLAIMS

1. A hydraulic hammer device for excavators comprising at least one ripper (1) and an energy accumulator (4); where the energy accumulator (4) is located on the longitudinal shaft of the ripper (1) and integrally connected to said ripper (1); and where said longitudinal shaft of the ripper (1) is on that which attacks the ground between the retracted and deployed positions of the ripper (1) and **characterized in that** it comprises at least one cylinder (2) ~~integrally~~ connected to the ripper (1) and ~~housed therein~~ longitudinally aligned with the said longitudinal shaft of the ripper.

2. The device according to claim 1, wherein the cylinder (2) is housed inside the ripper (1) in a space (13) provided for such purpose in a position longitudinally aligned with the shaft which attacks the ground (F1), such that said cylinder delivers blows to the body of the ripper (1) itself in a region of impact (14).

3. The device according to any of claims 1-2 comprising at least two cylinders (2,3) ~~integrally~~ connected to the ripper (1) ~~and housed therein~~ forming between them an angle the vertex of which coincides with the shaft which attacks the ground (F1); and where each of said cylinders (2,3) comprises an energy chamber (21,31), said energy chambers (21,31) of the cylinders communicating with one another (22), such that they allow alternating movement of both cylinders (2,3).

4. The device according to claim 3, wherein the cylinders (2,3) are arranged with respect to one another such that the force vector (F2,F3) of both cylinders (2,3) is oriented towards one and the same point coinciding with the attack vector (F1) which attacks the bottom of the ripper.

5. The device according to any of claims 3 and 4, wherein the point coinciding with the attack vector (F1) which attacks the bottom of the ripper coincides with the connection point (12) of the tooth (11) with the ripper (1).

6. The device according to any of claims 3 to 5, where the cylinders (2,3) deliver blows to the body of the ripper (1) itself in a region of impact (14).