CLAIMS

1. An apparatus for processing battery scraps, the apparatus comprising:

a housing having a back wall, a front wall and a chamber formed between the front wall and the back wall,

a first port formed at an upper portion of the chamber;

a second port and a third port formed at a lower portion of the chamber and arranged adjacent to each other along a longitudinal direction of the housing;

a filter plate positioned between the chamber and the second port;

a driving plate movably disposed in the chamber between the front wall and the back wall;

a bearing plate movably disposed in the chamber between the front wall and the driving plate; and

a coupling member engageable to the driving plate and the bearing plate;

wherein displacement of the driving plate towards the front wall causes the coupling member to disengage the bearing plate;

wherein displacement of the driving plate towards the back wall beyond a predetermined distance between the driving plate and the bearing plate causes the coupling member to engage the bearing plate.

2. The apparatus as recited in claim 1,

wherein upon the bearing plate being brought into abutment against the front wall, a displacement of the driving plate towards the bearing plate is to compress battery scraps received in the chamber between the driving plate and the bearing plate to squeeze liquid contents out of solid contents of the battery scraps and collected at the second port while retaining the solid contents in the chamber, and

wherein upon the driving plate being at the predetermined distance from the bearing plate, a displacement of the driving plate towards the back wall causes the coupling member to engage the bearing plate such that further displacement of the driving plate towards the back wall carries the bearing plate to displace towards the back wall to move the solid content towards the third port.

3. The apparatus as recited in claim 2, further comprising a shaft movably coupled to the housing and passing through the front wall and the back wall, wherein the driving plate is rotatably mounted to and axially fixed to the shaft, the bearing plate is rotatably mounted to the shaft and axially movable relative to the shaft, wherein the coupling member is fixed to the shaft and the bearing plate is positioned between the driving plate and the coupling member, wherein the coupling member abuts against the bearing plate upon the driving plate being positioned at the predetermined distance from the bearing plate such that displacement of the driving plate toward the back wall carries the bearing plate to displace towards the back wall.

4. The apparatus as recited in claim 3, wherein the coupling member is fixed to the shaft at a position spaced apart from the driving plate at the predetermined distance.

5. The apparatus as recited in claim 3, wherein the front wall has an opening formed thereon, the coupling member being positioned in alignment with the opening such that a displacement of the driving plate towards the front wall carries the coupling member to extend out of the housing through the opening.

6. The apparatus as received in claim 5, wherein the opening is positioned at a center of the front wall and has a first perimeter contour complementary to a cross section of the shaft and a second perimeter contour complementary to a cross section of the coupling member, wherein the first perimeter contour intersects the second perimeter contour to form bearing members surrounding the center portion of the opening such that the opening allows the coupling member to pass through while the bearing members support the shaft at the center portion of the opening.

7. The apparatus as recited in claim 6, wherein the coupling member comprises a plurality of twigs radially extending outwardly from the shaft, wherein the opening comprises a plurality of slots shaped and positioned complementary and corresponding to the plurality of twigs.

8. The apparatus as recited in claim 7, wherein the bearing members are each formed between adjacent two of the plurality of slots.

9. The apparatus as recited in claim 3, wherein the shaft is rotatable relative to the housing.

10. The apparatus as recited in claim 3, further comprising a pair of rails fixed in the chamber and arranged parallel to the longitudinal direction, wherein the driving plate and the bearing plate each has a pair of notches to engage the pair of rails pass.

11. The apparatus as recited in claim 1, further comprising a driving device coupled to the shaft, wherein the driving device is operable to move the shaft towards the front wall and towards the back wall.

12. The apparatus as recited in claim 1, further comprising a stopper mounted to a front end of the shaft for abutting against the front wall to prevent the front end of the shaft from moving into the chamber.