A double engine self loading motor scraper. A motor scraper provided with an inner bowl placed inside the main scraper bowl and suspended by hydraulic rams connected to overhead support members which are secured to the sides of the main scraper bowl. The inner bowl is loaded first and elevated vertically. The main bowl is then loaded. Approximately one-half the net scraper load is carried in each bowl. Each bowl is provided with a movable hydraulic ejecter plate for unloading the material.

1 Claim, 3 Drawing Figures
FIG. 2

FIG. 3

Michael E. Vickaryous
MICHAEL E. VICKARYOUS
INVENTOR.
SELF LOADING SCRAPERS

BACKGROUND OF THE INVENTION

Self loading motor scrapers are often employed in earth moving operations where loading conditions permit. Large rock and hard material make these machines unproductive and impractical to operate. The main objective of my invention is to provide a self loading motor scraper that can be loaded under its own power or can be push loaded in extreme loading conditions where large rock and hard material exist.

The loading system can also be applied to single engine scrapers to reduce push loading resistance.

The above advantages of the invention will be more easily understood from the detailed description and accompanying drawings in which:

FIG. 1 is a sideview of the retractable inner bowl in the raised position, connected to a double engine scraper.

FIG. 2 is a front angle view illustrating the inner bowl, hydraulic support rams, and cross members connected to the outer main bowl.

FIG. 3 is a rear view of both scraper bowls and material ejecter plates.

REFERRING TO FIGS. 1, 2, and 3

represents the double engine scraper. indicates the outer main scraper bowl. The inner bowl is supported by four hydraulic rams. Two cross members are secured to the sides of the outer main scraper bowl. The four hydraulic support rams are secured to the cross members. Guide rails are secured to the undersides of the cross members. Rollers are secured to the guide rails. Brackets secure the top ejector plate to the rollers. A hydraulic ejecter ram is secured to the back of the ejector plate. A second ejector plate is provided for the main scraper bowl.

Each scraper bowl is provided with a cutting edge and . NOTE: The cutting edges on the inner bowl can be excluded at the builders option.

OPERATION OF THE INVENTION

The scraper is loaded by lowering the inner scraper bowl. Earth material is forced into the inner scraper bowl by lowering the cutting edge into the ground and moving the machine forward. The inner bowl is elevated upwards by retracting the four hydraulic rams after it is loaded.

The first main scraper bowl is then loaded in the same manner. Approximately 50 percent of the net load is carried in each scraper bowl. Each scraper bowl is unloaded independently by opening the retaining apron and actuating the hydraulic ejecter rams. The ejecter plates flush the earth material over the cutting edges.

I claim:

1. An improved motor scraper comprising:
   a retractable inner scraper bowl secured inside the main scraper bowl,
   a pair of cross members secured to the sides of the main scraper bowl,
   a series of hydraulic rams secured on one end to the said cross members and secured on their opposite ends to the said inner bowl,
   a pair of guide rails connected to the lower sides of the said cross members,
   an ejector plate secured to the said guide rails by rollers and pin connecting means, and
   an ejecter ram connected to the back side of the said ejector plate.

* * * * *