

[54] **METHOD OF UTILIZING JUNK CARS
TO PRODUCE BUILDING BLOCKS**

[76] Inventor: **Warren B. Diederich**, P.O. Box 406,
Fargo, N. Dak. 58102
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abandoned.
[52] U.S. Cl.**29/403, 52/576, 52/725,**
52/DIG. 9
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[58] Field of Search**29/403; 52/576, 725,**
52/DIG. 9; 61/39

[56] **References Cited**

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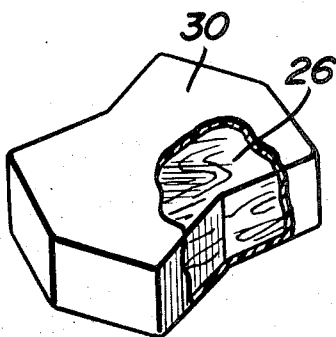
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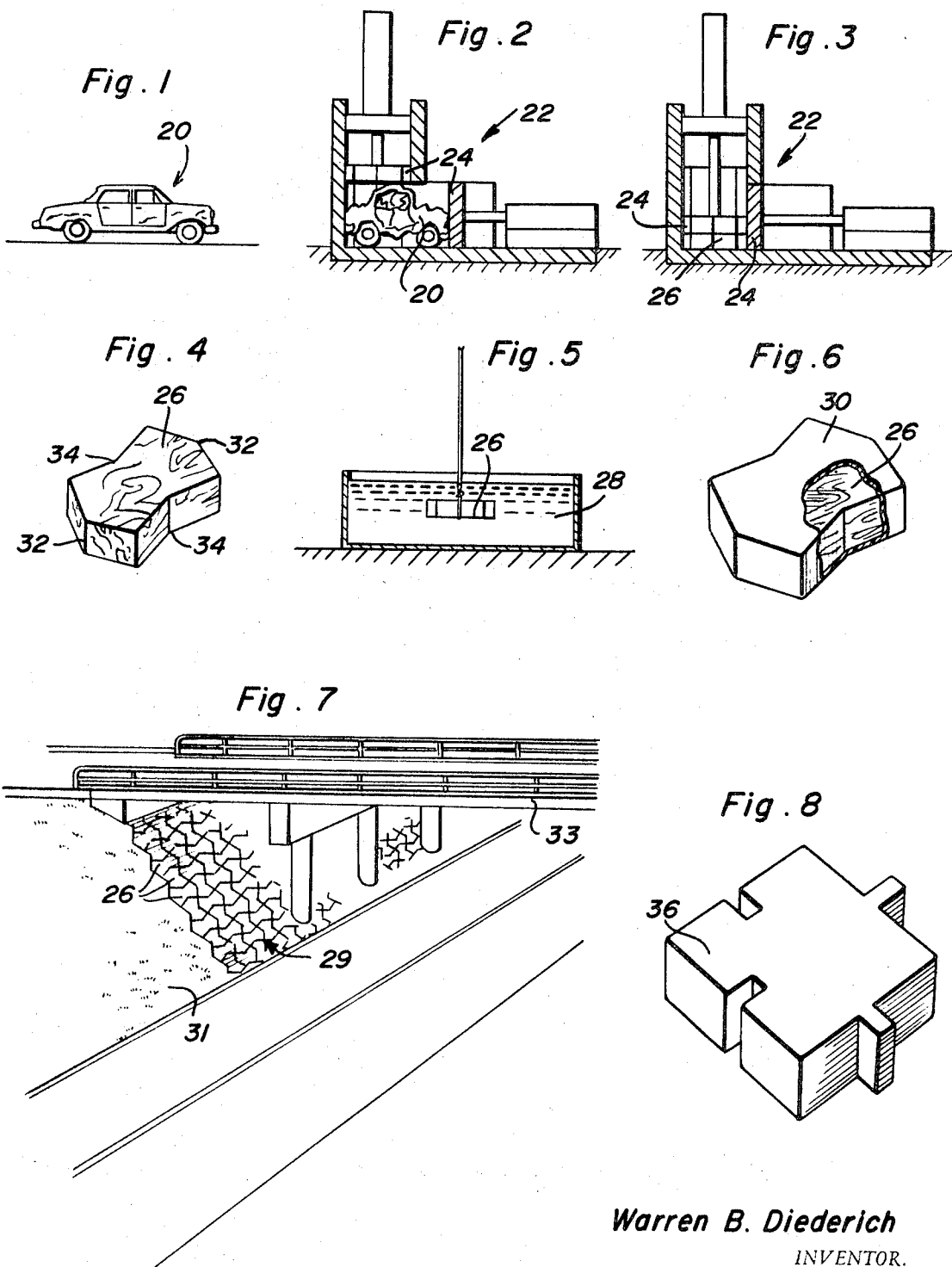
Primary Examiner—Charles W. Lanham
Assistant Examiner—D. C. Reiley, III
Attorney—Merchant & Gould

[57] **ABSTRACT**

The method of compressing discarded cars into geometrically complementary shapes and coating the shapes with an air and water impervious material. The shapes can then be used for paving revetments, building retaining walls, or piled up to form dikes or jetties.

3 Claims, 14 Drawing Figures





Warren B. Diederich

INVENTOR.

BY *Chance A. Olson*
and *Harvey B. Jackson*
Attorneys

Fig. 9

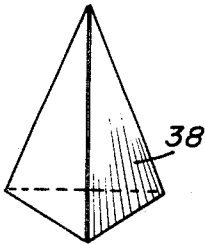


Fig. 10

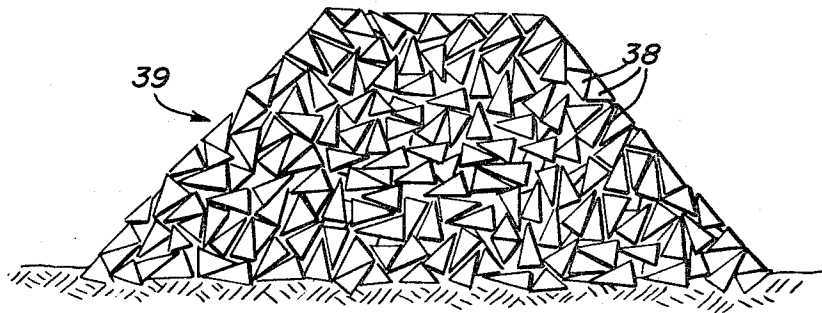


Fig. 11

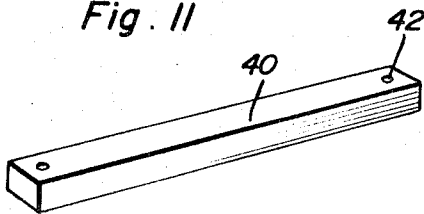


Fig. 12

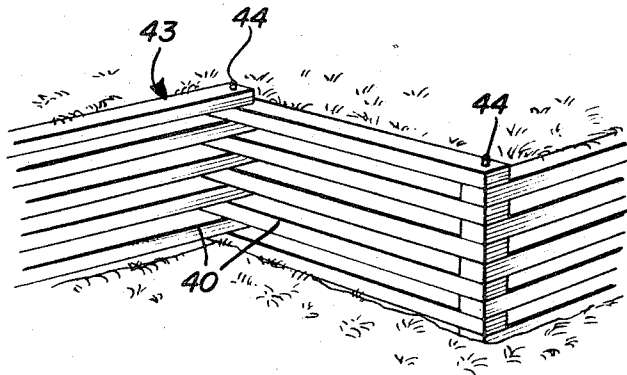


Fig. 13

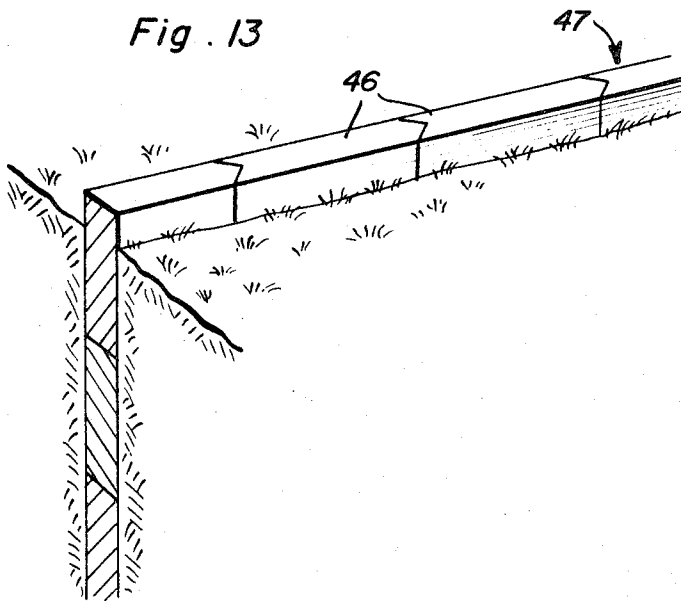
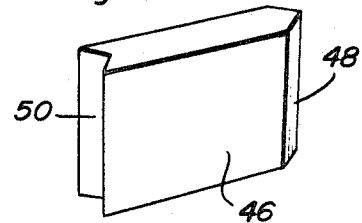


Fig. 14



Warren B. Diederich

INVENTOR.

BY *Clarence A. O'Brien*
and *Harvey B. Jacobson*
Attorneys

METHOD OF UTILIZING JUNK CARS TO PRODUCE BUILDING BLOCK

This application is a continuation of U.S. Pat. application Ser. No. 738,996, filed June 21, 1968, now abandoned.

As the number of cars in use on the roads rises each year to unprecedented heights, correspondingly, the number of cars retired from the roads by accidents or old age, each year reaches such heights also. The problem of what to do with junked cars becomes a serious consideration and old solutions are no longer feasible. In the past, cars were put in yards to be left to rust away or salvageable parts were sold there off. Due to the sheer volume of metal generated by junked cars, this method is no longer feasible. Some cars are cut up and re-used in the refining process for steel. This is often a time-consuming process as all non-metal must be burnt off or removed and then the vehicle cut up. Recently, compressing machines have been developed that reduce the junked cars to a block of almost solid metal. This is a fairly acceptable procedure but the machines are costly and every urban complex would require a number of these machines to keep pace with the number of cars that are junked or abandoned. Also, if the metal blocks are to be used in refining steel, all non-metal must be removed, usually by burning, before compressing, thereby raising the cost of the operation and causing a serious air pollution problem. If the non-metal is not removed, the blocks are relatively useless and present the ever present problem of disposal and/or storage.

The present invention relates to a solution for the problem of disposing of junked cars whereby compressing machines, as are commonly known, are utilized to compress junk cars into certain geometric shapes. The resultant shapes are coated with an air and water impervious material and used to construct dikes, jetties and retaining walls, or for paving revetments. Each shape made from the metal of a single car is a tightly interlocked piece of metal processing tensile as well as compressive strength. Previously, shapes made out of compressed scrap metal had no tensile or compressive strength and were useless unless baled or encapsulated with a strong material to form a casing. Also, this procedure producing shapes that are so weak, geometric shapes and large shapes are unattainable.

Applicant has, therefore, devised a simple but unique method of utilizing junk cars, so that junk cars will become sought after as the basic material for a merchantable product. The merchantability of the building blocks will turn the disposal of the junk cars into a profit making operation thereby encouraging more enterprise in this direction.

Accordingly, an object of the present invention is to provide a method for the economical disposal of junk cars.

A further object of the present invention is to provide a method of making building blocks from junk cars.

A further object of the present invention is to provide a method of producing building blocks from junk cars that are impervious to deterioration.

It is a further object of the present invention to utilize junked cars in the production of building blocks having tensile and compressive strength.

It is a still further object of the present invention to produce building blocks of complementary geometric shape from junked cars.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

FIG. 1 shows a junked car to be used in the method of the present invention.

FIG. 2 is a side view, partially in section, of a machine compressing a junked car.

FIG. 3 is a view similar to FIG. 2 showing the completion of the compressing of a junked car into a building block.

FIG. 4 shows one form of building block formed by practicing the method of this invention.

FIG. 5 shows one method of rendering the block impervious to deterioration.

FIG. 6 shows the block after being rendered impervious to deterioration.

FIG. 7 shows a use of the geometric shapes of FIGS. 4 and 6.

FIG. 8 shows another geometric shape.

FIGS. 9 and 10 show another geometric shape and a use therefor.

FIGS. 11 and 12 show yet another geometric shape and a use therefor.

FIGS. 13 and 14 show still another geometric shape and a use therefor.

Referring now to the drawings, a junked car is represented by numeral 20 and a compressing machine is represented generally by numeral 22. A junked car 20 with the engine removed therefrom is the material from which building blocks are to be made. A compressing machine 22, of conventional design, is used to compress the car into a substantially solid block. The machine 22, by varying the cross-sectional areas and shape of the moving pistons 24 and opposed surfaces, can produce substantially any geometric shape in a block that is desired. An example of a block 26 that could lend itself to such compression techniques is shown in FIG. 4. The block 26 at this stage is properly shaped for modular construction but due to its being primarily composed of metal it would be readily susceptible to rust and corrosion if wet, or electrolytic action if submerged in sea water. Therefore, the next step is to coat the block with an air and water impervious material. This material could be paint, sprayed concrete, epoxy, or a bituminous base material such as tar, etc. A method of coating the blocks is shown in FIG. 5 where the material is in the form of a bath 28 and building blocks are dipped therein. The block 26 then has a coating 30 of such material so that air or moisture cannot attack and deteriorate it. The block as now configured and coated is ready to be utilized. The block 26 shown in FIGS. 4 and 6, having opposite angles 32, 32 and 34, 34 equal and the adjacent angles 32 and 34 complementary, lends itself to paving 29 by rotating each block 90° to the abutting block. Such paving is shown in FIG. 7 being used on a revetment 31 under a bridge 33. This utilization for paving would also find utility for the banks and bottoms of canals and culverts, river banks, or for general slope protection where erosion or ground sliding is a problem.

The block 36 shown in FIG. 8 is an adaptation of the tongue and groove interlock, which would lend itself to the compressing process above set forth, and is primar-

ily a paving block which could be employed for all the situations set forth in the description of block 26.

The block 38, as shown in FIG. 9, is of the familiar tetrahedron configuration which lends itself to piling or building up into mounds. This capability is especially well suited to the building of jetties 39, breakwaters, or underwater reefs where the building units must be built-up to be of a height substantially greater than the surrounding base on which it is built, as shown in FIG. 10.

The block 40, shown in FIG. 11, is shown in a plank or log configuration with holes 42 punched through the ends thereof. This configuration is adapted to be built-up into wall 43 units by driving tie down rods 44 into the ground through holes 42, in the overlapped ends of the blocks 40. The walls thus formed are commonly used as retaining walls and cribbing where severe grade changes are experienced. These walls may also be utilized along shore lines and as sea walls.

The block 46, shown in FIG. 14, is another block form having complementary convex and concave ends, 48 and 50 respectively, which are shown to be angular but could be curved. The blocks are shown used in a seepage cut-off wall 47 in FIG. 13, but they also lend themselves to the paving applications mentioned in relation to blocks 26 and 36, above set forth.

The invention as set forth above demonstrates how applicant's method permits junk cars to be utilized in many beneficial ways. The removal of the engine of the cars is the only preparation needed to utilize the car in the invention. There is no need to burn out all non-metal or to remove the glass. The compression machine used in the method, as set forth above, is a standard machine with special cross-section pistons to provide specific geometric shapes enabling it to be used as riprap. The volume of a car so compressed would be approximately 7 cubic feet and would have an average weight of 1 ton which is approximately the size and weight of the stone riprap sought to be replaced. The use of a single car compressed into a single block yields a unit with tensile and compressive strength which has not heretofore been available in compressible metal junk. The further step of coating with an air and water impervious material not only renders the block resistant to deterioration but by choice of the coating and the color can lend beauty to an installation where the blocks are utilized. It is understood that most any piece of metal equipment such as a tractor, pickup truck, farm machinery, or any large single piece of machinery

could be used as the raw material for the building blocks.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

I claim:

1. A method for converting a junk car containing some amounts of the original nonmetallic materials therein into an environmentally stable unitary-shaped construction block having a relatively high tensile and compressive strength and a substantially smaller volume than the original volume of said junk car, said method consisting of compressing said junk car at ambient temperature into a block and then coating said block with a continuous layer of an air and moisture impervious material.

2. The method of converting junk cars which contain some amounts of the original nonmetallic materials therein into environmentally stable unitary-shaped construction blocks without removal of the nonmetallic materials, said method consisting of the steps of supplying junk cars from a junk yard, separately compressing each junk car at ambient temperature into a single block of unitary shape sustaining construction having substantial tensile and compressive strength and having substantially less volume than the original volume of the junk car, and coating the block with a continuous layer of an air and moisture impervious material to enable use of the block in any environment without damage.

3. The method of defined in claim 2 wherein the compressing step reduces the volume of the junk car to a block having a volume of approximately 7 cubic feet with an average weight of approximately 1 ton for use of the blocks as riprap, said compressing step also forming substantially parallel planar top and bottom surfaces on the block and edge surfaces extending therebetween with the edge surfaces including projections and recesses for interengagement with adjacent identical blocks, said coating step including the dipping of the block into a bath of material to provide a coating of substantially uniform thickness.

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