MEANS AND METHOD OF DESTROYING OLD AUTOMOBILES AND THE LIKE
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6 Claims

ABSTRACT OF THE DISCLOSURE
Scrap metal is compacted by placing it within an enclosed space, the temperature of the space is raised by igniting an explosive charge therein and finally a wall of the enclosed space is driven into compacting engagement with the scrap metal by means of an explosive charge.

This invention relates to a means and method of destroying old cars in a convenient and economical manner.

As the standard of living goes up and with it the production, use and discarding of more and more automobiles each year, a problem has been created as to just how to best get rid of the old worn-out family car. The problem has become quite acute even in some areas where suburban outgrowth has caused the junk yard to swell to an ever-well outside of town.

Suggestions have been made to strip and then ship old cars far out to sea for burial. And, much different equipment to burn, break and bale the old cars up for easier handling has also been proposed.

Most powerful equipment for breaking-up and compacting old cars is hydraulically operated. It is usually large, cumbersome, noisy and troublesome. Furthermore, it is of such expense to manufacture and service that only very large junk or scrap yard facilities can afford the initial investment and operating expense involved.

This invention contemplates the use of explosive power to compact old cars and the like.

It is an object of this invention to teach the use of explosives to both plasticize and compress compact old car bodies after they have been stripped and made ready.

It is an object of this invention to disclose a simple apparatus including few moving parts and made rugged and sturdy for its intended purpose. Such apparatus includes a combustion chamber recepive of a whole car body and in which an explosive charge may be ignited to raise the temperature in the compartment and to subject the car body to a latent heat sufficient to make it less resistant to compacting forces to follow.

The apparatus proposed also includes power operated piston means acting in the chamber to compact the car body after it has been subjected to the high heats of the first explosive charge. The source of power may be, and is preferably, a second explosive charge to drive the piston member to accomplish its intended purpose.

In the disclosure which follows, similarities are made to both the combustion chamber of an automobile engine, wherein combustion raises temperatures and drives a piston member, and also to firearms and heavy artillery wherein explosives are used to propel a member, breech closures are provided and successive chamber areas are employed.

Having these and other devices in mind, and with an open mind to all possibilities, the following description of one foreseeable embodiment of this invention is given by way of example and without any limitations other than are specifically recited.

Referring to the drawing:

FIGURE 1 pictorially shows an unsightly pile or stack of old automobiles.

FIGURE 2 is a front schematic and partially cross-sectional view of one form of the apparatus envisioned.

FIGURE 3 is a side cross-sectional view taken in the plane of line 3—3 of FIGURE 2 through one of the combustion chambers of the apparatus disclosed hereinafter.

FIGURE 4 is a back view of the apparatus.

FIGURE 5 is a top plan view, in cross-section, of the apparatus for destroying old cars and the like, of this invention, as shown in the plane of line 5—5 of FIGURE 3.

In practically every city of the world, or just outside, there is a grave yard for old cars and other vehicles. Frequently, other scrap metal is also collected in these depositories and it is common to see old cars stacked three and four high as in FIGURE 1, and identified 10.

Usually, the cars are stripped of everything of value along the way to their final destruction, in whatever form it may be. Good parts and side panels are removed, accessory items are salvaged, tires and wheels are removed, windshields and side glass are destroyed, and seats, headliners, etc. are eventually burned out.

All that remains is a shell which has been made as practically indestructible as possible.

Wherein lies the problem.

One solution is to provide a concrete bunker or housing 12 with one or more cylindrical chambers 14 of a size receptice of an old car body 16, therein. In the unit shown there are two chambers 14, side-by-side, and each with a cylindrical steel liner 18, or such, for further strength and reinforcement.

A large explosion resistant door 20 is pivotally hung, as at 22, to swing between the two chambers 14 so that when it closes one, it leaves the other open.

In the instance shown, the bunker 12 is formed to include a swing way 24 for the quarter-section door 20 so that it is backed-up or stopped by outer wall parts 26, at the open ends of the chambers; against lateral movement due to an explosion or such in the chambers for reasons soon to be appreciated.

In the chamber space 14 is a plunger or piston like member 30. It fits the cylindrical space and is reciprocally vertically the full length of the chamber as will be shown.

In the embodiment disclosed the member 30 includes a shank 32 fitted in a smaller bore 34 which helps guide the larger part.

Behind the end of the plunger or piston shank 32, is a breech space 36. This is closed by a breech block 38 much in the way of a heavy field artillery piece; a cannon or such.

Now then, within each of the chamber space 14 and the breech space 36 of each chamber member is intended to be an explosive charge 40 and 42 and means of setting it off. In both instances the charge could be carried by the closure door; the larger one 20 and the smaller breech block closure 38.

Over and beyond this, some means of venting the space 14 is needed and may be such as a removable plug 44 or otherwise.

The apparatus disclosed is used as follows:

Being provided at a scrap or junk yard, either permanently or as a portable unit temporarily left there, it is set up to receive and compact car bodies alternately within the two chamber spaces 14.

A car body, stripped and made ready, is slid, pushed, dropped or otherwise deposited in the one of the chambers which is open and not closed by the heavy and indestructible door 20. In doing so, or before, the piston or plunger part 30 is moved back in the chamber space against the far end wall.
An explosive charge 42 is placed in the breech space 36 and the block 38 is swung into place to close the bore 34.

An explosive charge is similarly placed in the chamber space 16, as in closing the door 20 over the open end thereof, or with the removable plug 44.

The next step is to detonate the charge 40 to raise the temperature in the chamber space 16 and make the metal of the car body more plastic and susceptible to being squashed or compacted, as is about to be done.

In due course, after this, the charge 42 is detonated to drive the plunger or piston member 30 home and squash the car body against the stopped door 20. In doing so some venting of the chamber 16 is advisable. However, use of further compression for higher temperature purposes is not to be overlooked.

While this has been occurring in the one chamber, it will be appreciated that the compacted car body has been removed from the other chamber space and another car body has been made ready for destruction.

Although not shown, it will be appreciated that a crankshaft with suitable crank throw connections to the two piston members might be feasible, that the chambers might rotate and the closure door or such be stationary, like the cartridge cylinder of a revolver, and that other innovations might be included and used with the basic idea presented.

I claim:
1. The method of compacting scrap metal comprising; placing scrap metal in an enclosed space igniting an explosive charge in said spaced for raising the temperature therewithin, and igniting a second charge outside and next adjacent a wall of said enclosed space for driving said wall into compacting engagement with the scrap metal therewithin.
2. The method of compacting scrap metal of claim 1, comprising; venting said enclosed space in the course of compacting said scrap metal.
3. Apparatus for compacting scrap metal, comprising; means providing a combustion chamber open at one end, and having a piston member operable therein, said chamber providing means being receptive of scrap metal therewithin and having a combustion resistant closure for the open end thereof, means for raising the temperature within said chamber for making the scrap metal therein more plastic and susceptible to being compacted, and explosive means operable of said piston for driving the same in said chamber and compacting the scrap metal, said temperature raising means including an explosive charge.
4. The apparatus of claim 3, including side-by-side combustion chamber means having a common closure operable therebetweent and across the open ends thereof for alternate loading and compacting the scrap metal in said different chamber means.
5. Explosive means for compacting scrap metal and comprising;
an explosive resistant bunker having a pair of cylindrical chambers provided in parallel spaced relation therein, said chambers being open at like ends and receptive of scrap metal for compacting therein, an explosive resistant closure positionable to close one of said chambers and to leave the other thereof open, power operated means within said chambers for compacting the scrap metal against an end wall thereof, a source of explosive power within said chambers for actuating said power operated means, and a first source of explosive power for raising the temperature in a closed chamber prior to the compacting of the scrap metal by said power operated means.
6. The explosive compacting means of claim 5, including, means for moving said closure between the open ends of said chambers for alternately closing one for compacting use and opening the other to abort compacted scrap metal and receive more scrap metal for compacting therein.

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