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G. C. VOIT

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MINING BUCKET

Filed Sept. 18, 1928

Fig. 1.

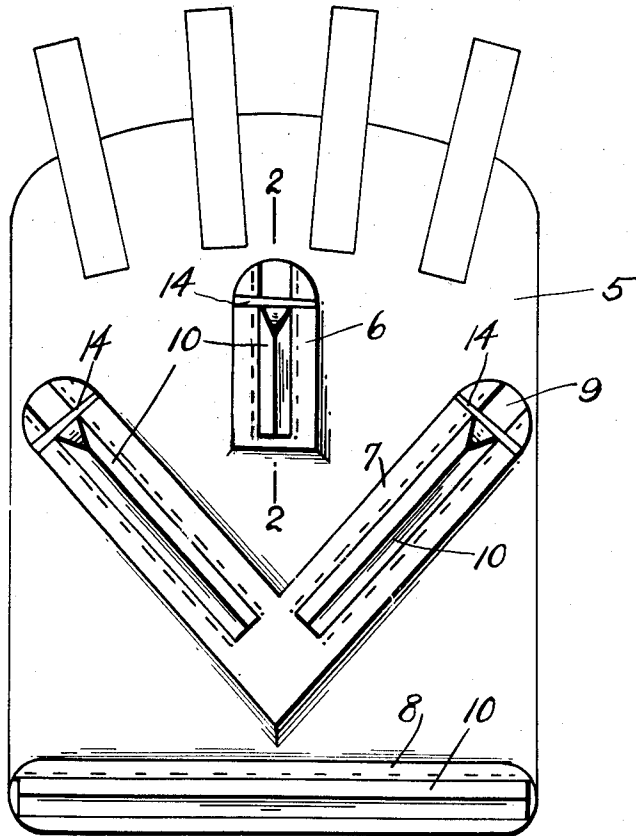


Fig. 2.

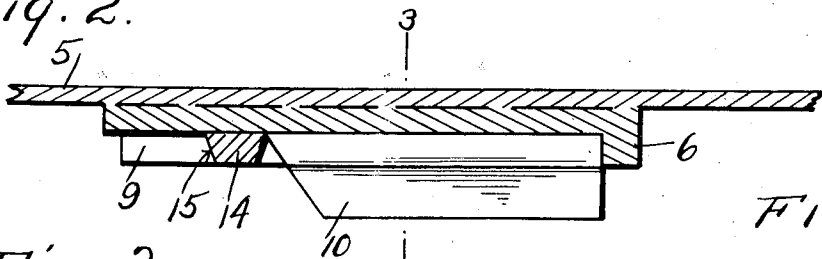


Fig. 3.

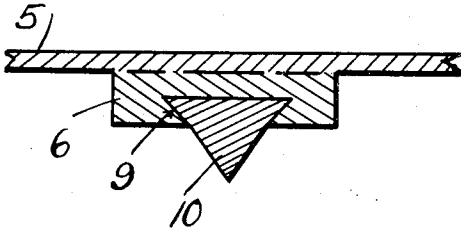
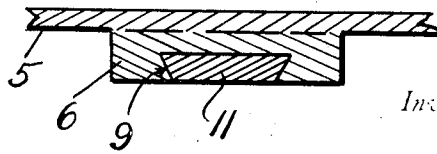


Fig. 4.



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## MINING BUCKET.

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The present invention relates to a bucket such as is used on a steam shovel in strip mining and has for its prime object to provide means on the wall of the bucket which moves along the ground in the loading operation of the bucket so that the bone coal or the hard crust on the coal may be broken away from the good coal and shoveled off onto the still pile.

Another very important object of the invention resides in the provision of means of this nature which is detachable, easily replaceable, simple in construction, strong and durable, and thoroughly efficient and reliable in use.

With the above and numerous other objects in view, as will appear as the description proceeds, the invention resides in certain novel features of construction, and in the combination and arrangement of parts as will be hereinafter more fully described and claimed.

In the drawings:

Figure 1 is a bottom plan view of a bucket embodying the features of this invention.

Figure 2 is an enlarged detail longitudinal section taken substantially on the line 2—2 of Figure 1.

Figure 3 is a transverse section taken substantially on the line 3—3 of Figure 2, and

Figure 4 is a similar section showing a filler means in place of one of the scraper blades.

Referring to the drawings in detail, it will be noted that the numeral 5 denotes the bottom wall of a bucket which has arranged thereon a longitudinal rib 6, a V-shaped rib 7, and a transverse rib 8. The rib 6 is located adjacent the front end of the wall 5, and the rib 8 is located across the rear end thereof, and the rib 7 is located between the ribs 6 and 8, so that the apex of the rib 7 points toward the center of the rib 8 and the rib 6 bisects the angle between the arms of the rib 7. The arms of the rib 7 and the ribs 6 and 8 are provided with longitudinally extending dove tailed grooves 9 for receiving blades 10, which are triangular in cross section, or dove tailed filler strips 11. The blades 10 on the strips 11 of the ribs 6 and 7 are held in place by wedge cross pins 14 in transverse dove tailed grooves 15. The forward ends of the blades 10 in the ribs 6 and 7

are bevelled rearwardly and downwardly.

With these ribs in place, it will be seen that as the bucket moves along the ground, the blades will scrape and loosen up the bone coal. The front rib will cut the coal, the blades of the rib 7 will scrape the bone coal, and the blade of the rib 8 will not only scrape the coal but direct the loosened coal to the side.

When the scraping action is not desired, the filler strips 11 may be used.

It is thought that the construction, utility and advantages of this invention will now be quite apparent without a more detailed description thereof.

The present embodiment of the invention has been disclosed in considerable detail, merely for the purpose of exemplification, since in actual practice it attains the features of advantage enumerated as desirable in the statement of the invention and the above description.

It will be apparent that changes in the details of construction and in the combination and arrangement of parts may be resorted to, without departing from the spirit or scope of the invention as hereinafter claimed or sacrificing any of its advantages.

Having thus described my invention, what I claim as new is:

1. In combination with the bottom wall of a steam shovel bucket, of means for loosening up the bone coal of a strip mine, said means comprising a plurality of scraper blades, said blades being arranged so that one is disposed at the front wall longitudinally, a pair at the intermediate portion of the wall in forwardly diverging relationship, and the remaining blade transversely of the rear end of the wall.

2. In combination with the bottom wall of a steam shovel bucket, of means for loosening up the bone coal of a strip mine, said means comprising a plurality of scraper blades, said blades being arranged so that one is disposed at the front wall longitudinally, a pair at the intermediate portion of the wall in forwardly diverging relationship, and the remaining blade transversely at the rear end of the wall, ribs having grooves to replaceably receive the blades.

3. In combination with the bottom wall

of a steam shovel bucket, of means for loosening up the bone coal of a strip mine, said means comprising a plurality of scraper blades, said blades being arranged so that one is disposed at the front wall longitudinally, a pair at the intermediate portion of the wall in forwardly diverging relationship, and the remaining blade transversely at the rear end of the wall, ribs having grooves to replaceably receive the blades, said grooves being dove tailed and said blades being triangular in cross section. 10

In testimony whereof I affix my signature.  
GROVER C. VOIT.