Dec. 23, 1969 K. V. LUTZ 3,485,341

REPLACEABLE SHOES FOR PAVING AUGERS

Filed March 4, 1968

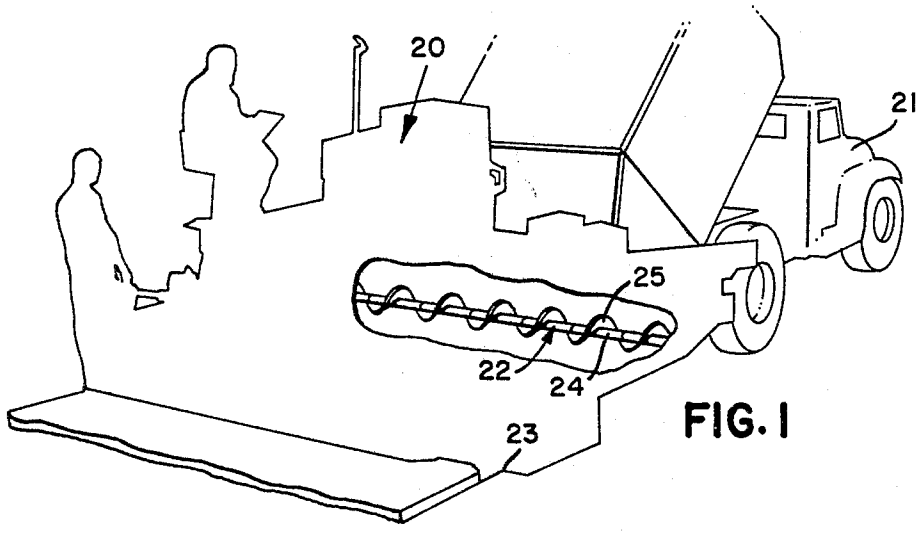


FIG. 1

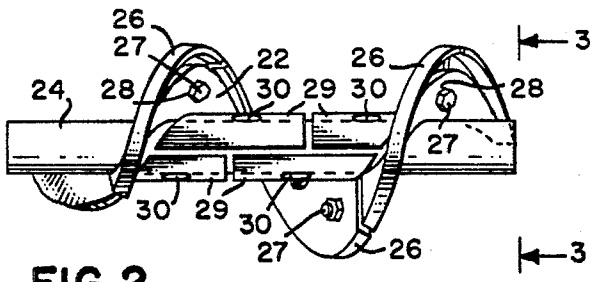


FIG. 2

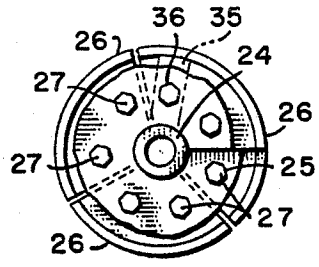


FIG. 3

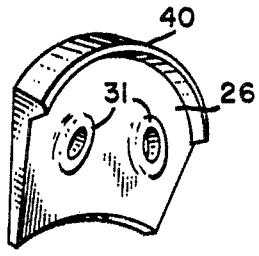


FIG. 4

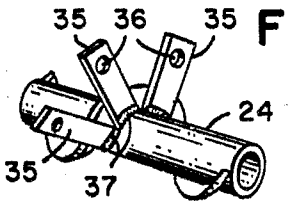


FIG. 5

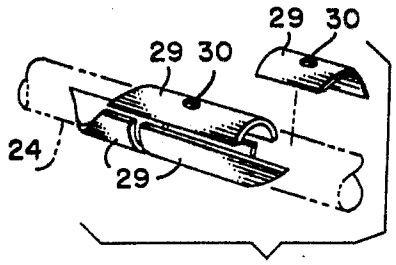


FIG. 6

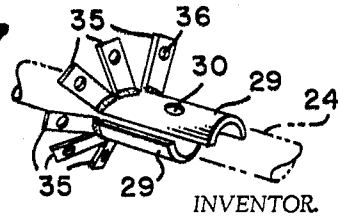


FIG. 7

INVENTOR.
KENNETH V. LUTZ

BY Jack M. Wiseman

ATTORNEY

United States Patent Office 3,485,341 Patented Dec. 23, 1969

3,485,341

REPLACEABLE SHOES FOR PAVING AUGERS

Kenneth V. Lutz, 10081 Carmen Road,
Cupertino, Calif. 95014

Filed Mar. 4, 1968, Ser. No. 710,340
Int. Cl. B65g 33/26, 33/08
U.S. Cl. 198—213 4 Claims

ABSTRACT OF THE DISCLOSURE

Shoes for worn or new paving augers that can be placed over and in conformity with the paving auger and attached thereto to provide additional life for the auger. The replacement shoes can be secured to the auger as by bolts or the like, and, in the event, the existing auger is worn too badly to allow bolting, then flat bars can be secured or welded to the auger hub and the replacement shoes attached to the flat bars.

The present inveniton relates generally to paving augers, and more particularly to replacement shoes for paving augers to extend the life and the efficiency of the paving auger.

BACKGROUND OF THE INVENTION

Ordinarily, paving augers are subjected to excessive wear in handling abrasive paving materials and become worn in a relatively short time. It is not economical to discard the entire paving auger, and repairing worn portions as by welding can be unsatisfactory and expensive. Therefore, a need exists for repairing paving augers in an expeditious and economical manner.

SUMMARY OF THE INVENTION

In general terms, it is an objective of the present invention to provide a facile means for repairing worn paving augers with a minimum of effort and expense. Specifically, by way of example, a replacement shoes provided with openings therein can be laid over in conformity with the worn paving auger, and openings can then be drilled in the auger in alignment with the openings in the replacement shoes, with the shoes then attached to the auger by bolts or the like. In the event that the paving auger is too worn to have openings drilled therein, flat plates with openings therein are secured to the auger hub and the replacement shoes are secured to the flat plates by bolting or the like. In addition, it is possible to provide spoke means integral with a base member wherein the base member is shaped in conformity with the shaft of the paving auger, wherein the base member can be secured to the shaft with the spoke means extending radially therefrom to receive the replacement shoes for attachment thereto. Further, the replacement shoes can be provided with bosses at the openings therein to enable the replacement shoe to more readily fit the worn paving auger, and wherein the shoe can be secured thereto without putting unnecessary strain on the replacement shoe casting.

It will be appreciated that the above are examples of placing replacement shoes on a paving auger, and it will be apparent that repair or worn curved surfaces can be broadly achieved by similar structure.

BRIEF DESCRIPTION OF THE DRAWINGS

The principles of the invention will be more readily understood by reference to the following detailed description of the drawings, of which:

FIGURE 1 is a persepctive view of a representative paving machine with a paving auger shown in a cut-a-way portion thereof;

FIGURE 2 is a partial elevation view of the paving auger showing an embodiment of the invention;

FIGURE 3 is an end view of the paving auger showing another modification of the invention;

FIGURE 4 is an enlarged perspective view of a replacement shoe for a paving auger;

FIGURE 5 is a perspective view of another modification of the invention of structure for supporting a replacement shoe;

FIGURE 6 is a perspective view of another modification of the invention for preventing wear of the paving auger shaft; and

FIGURE 7 is a perspective view of attachment plates integral with shaft protection plates.

DESCRIPTION OF THE PREFERRED EMBODIMENT

In FIG. 1, a paving machine is shown in outline form and is designated generally by the numeral **20**. The paving machine **20** is drawn by a truck **21**, and the paving material, normally asphalt, is discharged as by a paving auger **22** through an outlet spreader **23**. The paving auger **22** is rotated by a drive means (not shown), and as the auger **22** is rotated it is in contact with the paving mixture or asphalt along its length to occasion considerable wear on the auger shaft **24** and auger plates **25**. As the paving auger **22** wears away it becomes less efficient, and the need for restoring the efficiency arises.

Referring now to FIG. 2, a worn paving auger **22** is shown with replacement shoes **26** attached thereto as by bolts **27**. Openings **28** have been drilled in the worn auger **22** to receive the bolts **27**. Also shaft protective plates **29** are shown as welded to shaft **24**. See also FIG. 6 wherein openings **30** are provided in plates **29** to serve as openings for welding the plates **29** to the shaft **24**.

The replacement shoe **26** is best shown in FIG. 4, wherein bosses **31** facilitate the fitting of the shoe to the auger plates **25**, in that the surface of plates **25** is normally uneven and the bosses allow for facile securement of the replacement shoes **26** to the plates **25** without putting unnecessary strain on the plates **25**.

In FIG. 3, the auger plates **25** have worn to such an extent that they do not offer a safe securement of the replacement shoes **26**, and, thus, plates **35** have been welded to the shaft **24** to extend in a radially outward direction. The plates **35** are provided with openings **36** to receive bolts **27** to thereby secure replacement shoes **26** to the plates **35**. Such construction is also seen in FIG. 5, wherein the plates **35** are shown welded as at **37** to shaft **24**. It is also possible that the plates **35** could be integral with shaft protective plates **29**, and, thus, shaft protection and plates for securing replacement shoes could be added to the auger **22** as an integral piece, as shown in FIG. 7.

In FIG. 4 the replacement shoe **26** is shown provided with two bossed openings **31** and a curved outer flange **40** that is adapted to fit over the auger plates of the paving auger **22**. The shoe **26** is usually a one-piece casting, and the bosses **31** facilitate the fitting of the shoe on uneven auger plate surfaces, and allow the shoe to be tightened against the auger plate without placing unnecessary strain on the shoe casting.

Thus structure has been described which allows for the securement of replacement shoes on a paving auger, and further structure is described that allows the addition of replacement shoes even when the paving has been worn too far to allow drilling through the worn auger plates. In addition, structure has been described which protects the auger shaft from wear, and to which integral plates may be added thereto for additional support.

The details of the structure described can be modified from that specifically shown and described herein, and, accordingly, the foregoing description is not to be construed in a limiting sense, and the actual scope of the

invention is to be in accordance with the appended claims.

What is claimed is:

1. In an auger having a shaft and auger plates thereon, the combination of a replacement shoe for fittingly engaging said auger plates, said replacement shoe having bosses provided with openings therethrough and an integral outer arcuate flange about the outer periphery, and means for aligning and securing said replacement shoes with said auger plates to extend the life of said auger.

2. The combination of claim 1 wherein shaft protective plates fittingly engage said shaft between said auger plates, and means for securing said shaft protective plates to said shaft for extending the life of said shaft.

3. The combination of claim 1 wherein a plurality of plates are radially secured to said shaft, and wherein said

plates are provided with openings therethrough adapted for alignment with openings of said bosses, whereby said replacement shoes are secured to said plates.

4. The combination of claim 2 wherein radially extending plates are integral with said shaft protective plates, and said replacement shoes are secured to said radially extending plates by said means for aligning and securing.

References Cited

UNITED STATES PATENTS

1,684,254	9/1928	Bailey	198—713
2,309,418	1/1943	Schweickart	198—213
3,306,433	2/1967	Blanshine	198—213

RICHARD E. AEGERTER, Primary Examiner