W. BARNETT & J. FLORENDINE.

SCREW CONVEYER.

APPLICATION FILED JULY 9, 1917.

1,255,276.

Patented Feb. 5, 1918.

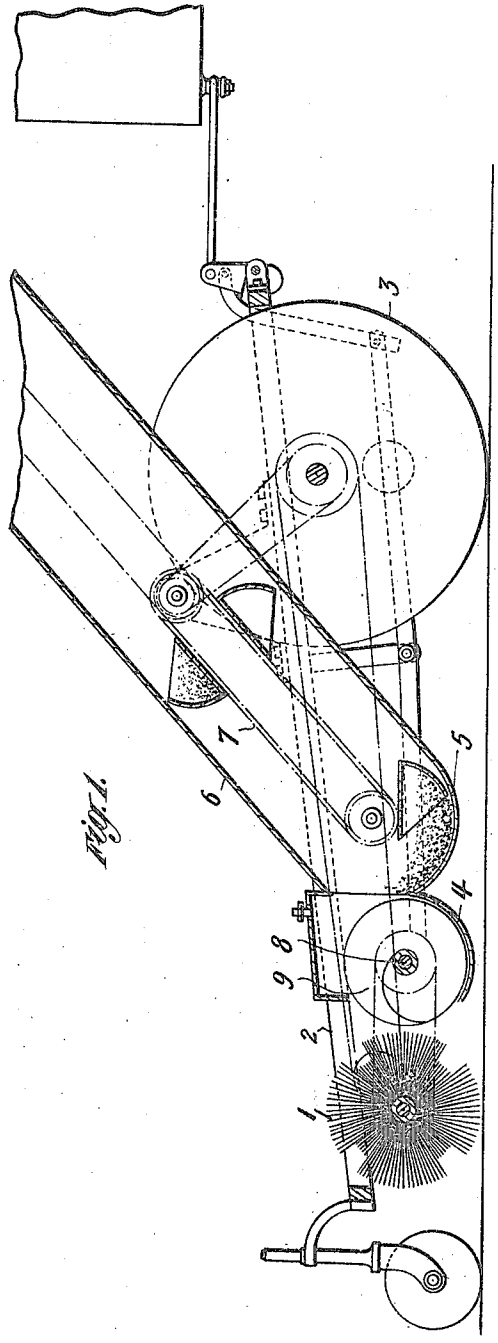

Fig. 1.

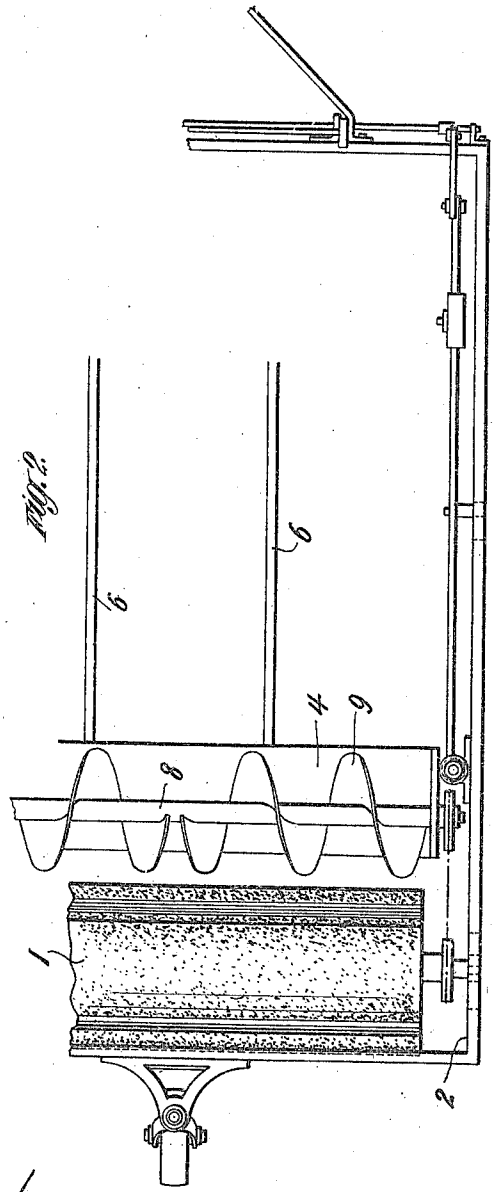

Fig. 2.

Witnesses Walter Barnett and James Florendine

By Wm. Edw. Lamb Atty.

UNITED STATES PATENT OFFICE.

WALTER BARNETT AND JAMES FLORENDINE, OF RUGBY, ENGLAND.

SCREW CONVEYER.

1,255,276. Specification of Letters Patent. Patented Feb. 5, 1918.

Original application filed November 29, 1916, Serial No. 134,113. Divided and this application filed July 9, 1917. Serial No. 179,476.

To all whom it may concern:

Be it known that we, WALTER BARNETT and JAMES FLORENDINE, subjects of the King of Great Britain, residing at Rugby, Warwickshire, England, have invented certain new and useful Improvements in Screw Conveyers, and of which the following is a specification.

In screw conveying mechanism generally and particularly in the conveying mechanism of road sweeping machines by which mechanism the road refuse has to be traversed along the length of a trough, it has already been proposed to construct the trough segmental in cross section and to provide a shaft extending lengthwise through the trough, and the shaft has been fitted with a helical blade which hitherto has been constructed of non-flexible metal or of a brush construction having spaced bristles. When such apparatus constructed with a non-flexible and continuous metal blade is employed for conveying materials with which occasionally hard pieces of some other material are mixed, it has been found that the helical blades are liable to be broken or some hard piece of foreign material may jam and stop the operation of the conveyer, usually resulting in breakage of the helical blades. When constructed with blades of bristles or spaced members, the conveying of fluid or semi-fluid material is inefficient.

Now the object of the present invention is to construct such a conveyer, comprising a segmental trough through which a revolving shaft extends carrying a helical blade, in such manner that jamming action and breakage of the helical blade does not occur from hard foreign matter and seepage and delay of fluid or semi-fluid matter is eliminated. To this end according to this invention the helical blade or blades carried by the revolving shaft is or are constructed of one piece continuous material which is not rigid, that is to say of material which is flexible and to some extent resilient, and the said helical blades are therefore according to this invention composed of india rubber, leather or some similar material, but preferably of india rubber, so that the helical blades are not thrown out of action or damaged by hard substances and fluid or semi-fluid material is propelled positively through the trough, the flexible blade operating on the trough after the manner of a squeegee.

Although applicable generally to conveyers of the type first stated, yet the invention is particularly adapted for use with the conveying mechanism of road sweeping machines, such for example as has been described in the specification of our patent application Serial No. 134,113 filed November 29th 1916 of which application this is a divisional application and an example of application of the invention is shown on the accompanying drawings.

Figure 1 shows a sectional elevation of a road sweeping machine of the kind described in the specifiction of our aforesaid application, and Fig. 2 is a part plan view of the same.

Referring to the drawings, a road brush 1 is carried in bearings at the rear of the machine from the framework 2 and is revolved from the road wheels 3 by suitable gearing, so that the refuse is thrown by the brush 1 into a segmental trough 4, to the forward edge of which is fixed the boot end 5 of the casing 6 of a bucket or other suitable elevator 7, the trough 4 and the elevator casing 6 being supported from the framework 2 of the machine.

Through the trough 4 extends a shaft 8 carried in bearings in the ends of the trough and driven by chain gearing from the axle of the brush 1, and on the shaft 8 is fixed a helical blade or blades 9, which blades are to be formed preferably of india rubber, although the blades might be formed of leather or similar flexible material. In the application of the invention illustrated two helical blades 9 of opposite inclination are shown as fixed on the shaft 8, the blades meeting at the center of the boot 5 of the conveyer, and the blades act to carry the refuse thrown into the trough 4 from the ends of the trough to the boot of the conveyer, the blades acting to transfer the refuse from the trough 4 to the boot 5 of the conveyer.

Obviously the invention is applicable to conveyer mechanism other than the conveyer mechanism of road sweeping machines, and

it is specially useful when the material to be conveyed is likely to contain hard substances foreign to the bulk of the material.

What we claim as our invention and desire to secure by Letters Patent is:—

1. In screw conveying mechanism; the combination with a segmental trough to receive the material to be conveyed and along which said material is to be traversed, a shaft extending through the length of said trough, bearings to carry said shaft, and means for revolving same; of a one piece helical blade composed of flexible and resilient material fixed on the said shaft to traverse the material along the trough.

2. In screw conveying mechanism; the combination with a segmental trough to receive the material to be conveyed and along which said material is to be traversed, a shaft extending through the length of said trough, bearings to carry said shaft, and means for revolving same; of a helical blade composed of india rubber fixed on the said shaft to traverse the material along said trough.

In witnesss whereof we have hereunto set our hands in the presence of two witnesses.

WALTER BARNETT.
JAMES FLORENDINE.

Witnesses:
ERNEST PARKER,
THOMAS WILLIAM ROGERS.