UNITED STATES PATENT OFFICE

JOHN THIES AND FRANK THIES, OF HUTCHINSON, KANSAS

WHEEL-LUG CLEANER


This invention relates to an attachment for tractor wheels designed to keep the wheel lugs clean, one of the objects being to provide a device of this character which will strip clay and other accumulations of material off the lugs as the wheel rotates, said cleaner being held in position on the wheel by the lugs on which it acts.

Another object is to provide a device of this character which can be applied readily and which, after once being placed in position, requires no further attention.

With the foregoing and other objects in view which will appear as the description proceeds the invention resides in the combination and arrangement of parts and in the details of construction hereinafter disclosed and claimed it being understood that changes in the precise embodiment of the invention herein disclosed may be made within the scope of what is claimed without departing from the spirit of the invention.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings,

Figure 1 is a side elevation of a tractor wheel having applied thereto a cleaner such as constitutes the present invention.

Figure 2 is a rear elevation of the wheel and cleaner, the fender to which the scrapers are connected being in section.

Figure 3 is a side elevation of the cleaning ring.

Figure 4 is a side elevation of the guide used at the front of the wheel.

Figure 5 is a front elevation of said guide.

Figure 6 is a side elevation of the rear scraper.

Figure 7 is a rear elevation thereof.

Figure 8 is a side elevation of a tractor having a modified form of cleaner applied thereto.

Figure 9 is a front elevation thereof.

Figure 10 is a side elevation of one of the rings forming a part of the cleaner.

Figure 11 is an enlarged section through a portion of one of the rings and the chain cooperating therewith.

Referring to the figures by characters of reference W designates a tractor wheel provided with spaced annular series of lugs L preferably staggered as shown in Figure 2. Arranged between the two series of lugs L are a pair of rings 1 each being formed preferably of two or more sections held together at their meeting ends by connecting plates 2 as shown particularly in Figure 3. These connecting plates may be provided with laterally extending fingers 3 adapted to project between the adjacent lugs L. The fingers on one ring will extend toward one side of the wheel while the fingers on the other ring extend toward the other side of the wheel. The internal diameter of each ring is greater than the external diameter of the wheel to which it is applied so that any point on each ring is thus free to shift radially relative to the wheel on which it is mounted. At no time, however, will any parts of either ring extend beyond the outer ends of any of the lugs L.

For the purpose of holding the rings spaced apart adjacent the front of the wheel, a spacing strip 4 is extended therebetween, one end of this strip being fastened to the fender F by bolts or the like while the other end is bent to form a tongue 5 adapted to rest on the periphery of the wheel between the series of lugs. Rings 1 are held spaced apart at the rear of the wheel by the tongue 6 of a scraping blade 7. This tongue is attached to the fender F while the blade engages the periphery of the wheel W between the rings 1. It will be obvious that in use the lower portions of the rings will be gripped between the periphery of the wheel and the surface on which the wheel is mounted. Thus the remaining portions of the rings will be held spaced from the periphery of the wheel as shown in Figure 1. As the wheel rotates the lugs L will tend to pick up clods of dirt, stones and the like which ordinarily would be carried around the wheel therewith. By providing the loose rings, however, these collected portions will be pushed outwardly by the thrust exerted thereagainst by the rings and, therefore, they will be loosened from the lugs and not clog them. Instead they will fall from the lugs before they again reach the ground during the rotation of the wheel.

By providing the fingers 3 the rings are...
prevented from rotating on the wheel except to a slight extent, and, therefore, there is no
danger of the rings becoming displaced. The
scraping blade \( \text{7} \) of course acts to forcibly re-
move from between the rings any material
adhering to the periphery of the wheel.

Instead of using the rings heretofore de-
scribed a modified arrangement such as il-
lustrated in Figures 8 to 11 can be employed.

This cleaner requires the use of spaced an-
ular series of lugs \( \text{17} \) provided with open-
ings \( \text{O} \). A pair of rings \( \text{8} \) is arranged on the
periphery of the wheel between the lugs, each
ring being provided with laterally extending
fingers \( \text{9} \) regularly spaced and extending be-
tween the adjacent lugs. These rings, like
those heretofore described, are of a diameter
greater than that of the wheel to which they
are applied so that any point on each thus
can shift radially relative to the wheel.

A chain \( \text{10} \) is extended through the open-
ings \( \text{O} \) in the lugs of each series and this
chain extends across the fingers \( \text{9} \), the outer
ends of the fingers being preferably out-
turned as shown. Thus when the rings are
shifted relative to the wheel by contact with
the supporting surface, the chains will also
be shifted within the slots \( \text{O} \) in which they
are mounted. Consequently the rings will
act not only to expel accumulations of ma-
terial on the wheel rim at points between
the lugs but also will strip materials adhering
to the lugs.

A scraper indicated generally at \( \text{11} \), simi-
lar to the scraper \( \text{7} \), and a guide indicated
generally at \( \text{12} \), which is similar to the guide
4, can be used in connection with this modi-
fied construction although such use is not al-
ways essential with this structure because the
out-turned ends of the fingers \( \text{9} \) cooperate
with the chain to prevent the rings \( \text{8} \) from
moving too closely together.

What is claimed is:

1. The combination with a tractor wheel
having spaced annular series of lugs, of a
ring mounted on the wheel between the lugs,
the internal diameter of the ring being
greater than the external diameter of the
wheel, any point on said ring being shiftable
radially relative to the wheel, and laterally
extending fingers on the ring extending be-
tween the lugs.

2. The combination with a tractor wheel or
the like having spaced annular series of lugs,
of rings of greater diameter than the wheel
and loosely mounted on the wheel between
the lugs, said rings being shiftable rela-
tive to the lugs by contact with a support-
ing surface, laterally extending means on the
rings and between the lugs for limiting the
rotation of the rings relative to the wheel, a
guide member engaging the periphery of the
wheel and extending between the rings, a
scraper engaging the periphery of the wheel
and extending between the rings, said scraper
and guide member being disposed adjacent
opposed portions of the wheel.

4. The combination with the wheel of a
tractor or the like having spaced annular se-
ries of slotted lugs, of rings interposed be-
tween the lugs shiftable radially relative to
the wheel, projecting portions on the rings
extending between the lugs, and endless flex-
ible devices extending through the slotted
lugs of the respective series for engagement
by said projecting means and shiftable ther-
ewith.

5. The combination with the wheel of a
tractor or the like having an annular series
of lugs, there being apertures within the lugs,
of a ring loosely mounted on the wheel, any
point on each ring being shiftable radially
relative to the wheel, laterally extending pro-
jecting portions on the ring between the lugs,
and an endless flexible member extending
through the apertures in the lugs and around
the wheel, said member contacting with the
projecting portions and being shiftable there-
with and with the ring relative to the wheel
and lugs.

In testimony that we claim the foregoing
as our own, we have hereto affixed our signa-
tures.

JOHN THIES.
FRANK THIES.