No. 609,069. Patented Aug. 16, 1898.

A. ZIMMER & B. ROENISCH.

COMBINED CLOD CRUSHER AND LAND ROLLER.

(Application filed Feb. 21, 1898.)

(No Model.)

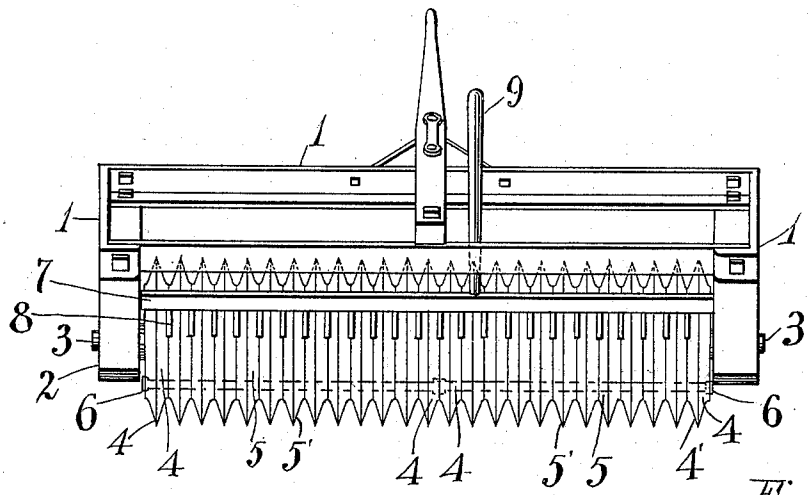


Fig. 1

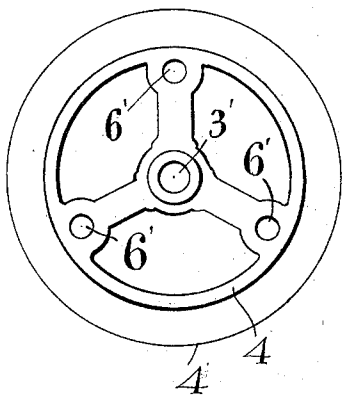


Fig. 2

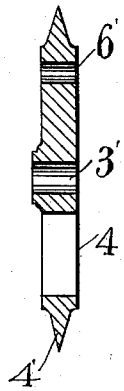


Fig. 3

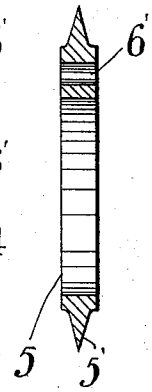


Fig. 4

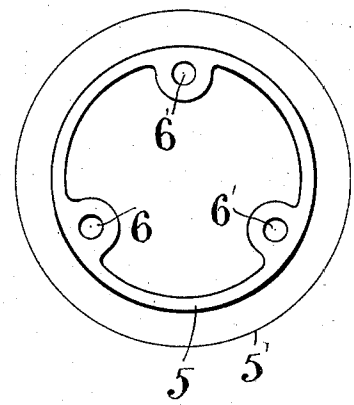


Fig. 5

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UNITED STATES PATENT OFFICE.

ADAM ZIMMER AND BRUNO ROENISCH, OF SEBEWAING, MICHIGAN.

COMBINED CLOD-CRUSHER AND LAND-ROLLER.

SPECIFICATION forming part of Letters Patent No. 609,069, dated August 16, 1898.

Application filed February 21, 1898. Serial No. 671,020. (No model.)

To all whom it may concern:

Be it known that we, ADAM ZIMMER and BRUNO ROENISCH, citizens of the United States, residing at Sebewaing, in the county of Huron and State of Michigan, have invented certain new and useful Improvements in a Combined Clod-Crusher and Land-Roller; and we do declare the following to be a full, clear, and exact description of the invention.

Our invention, which is a clod-crusher and land-roller combined, contemplates certain novel features of construction, combination, and arrangement whereby certain important advantages are attained and the machine made more simple, durable, and better adapted for use.

In the drawings, Figure 1 is a rear elevation; Fig. 2, a detail of the end ring of the crusher; Fig. 3, a section of same; Fig. 4, a section of the middle rings, and Fig. 5 a detail of same.

1 is the frame of the crusher, and is provided with suitable means for attaching a team thereto. In the frame is journaled the shaft 3, which carries the crushing device. This crusher or roller is composed of a series of rings arranged side by side on the shaft and bolted together by the bolts 6. It is the peculiar formation of these rings in which a part of our invention rests. There are two differently-constructed rings 4 and 5. The outer surfaces of these rings are the same—viz., sloping inward from each side of the middle of the surface thereof, making the rim of the ring triangular in cross-section, as shown in Figs. 3 and 4. When these rings are placed side by side, as mentioned, they form a cylinder having its outer surface annularly corrugated or ribbed, there being as many corrugations as there are rings in the cylinder. These rings are not solid. The outer ring 4 has a bearing on the shaft 3 at 3′, but is loose on the shaft. The rings 5 have no bearing on the shaft 3, but, as stated, are bolted to the outer ring 4 4 by the bolts 6 passing through sockets 6′ in both sets of rings. In order that in turning the crusher around there may be no binding or friction, we form the crusher-cylinder in two parts by placing in the center thereof two of the rings 4 4 and secure each independently by the rods 6 to the rings 5 and ring 4 on its side of the cylinder, thus forming two independent cylinders on the same shaft, and each may therefore revolve independently on the same shaft, and being firmly secured within the frame make a continuous cylinder. It will be observed that a cylinder thus formed will not only cut and crush clods, but will pack the earth over which it passes, leaving it in small ridges corresponding to the ribs on the cylinder.

In order that the crusher may not clog up, we provide a cleaning device, consisting of the pivoted rod 7, having the depending teeth 8 and adapted to be turned by the handle 9 between the ribs or corrugations of the cylinder and rake out the earth adhering thereto.

We are aware that other crushers have been made having the same purpose, but we are not aware that a crusher has been made of two independent cylinders bearing on the same shaft, the cylinders formed of rings having their outer surface triangular in cross-section, the outer rings only of the cylinder bearing on the shaft, the inner rings being bolted to the outer rings and free from the shaft.

Therefore what we claim as new, and desire to secure by Letters Patent, is—

1. A clod-crusher and roller, comprising a cylinder in two parts each on the same shaft but independent of the other, the cylinders formed of rings having their outer surface triangular in cross-section, the rings bolted together, the outer rings only of each cylinder bearing on the shaft, whereby the parts revolve independently, the shaft journaled in a suitable frame, as and for the purpose set forth.

2. In a clod-crusher, the combination with a suitable frame and a shaft journaled in the frame, of two independent cylinders on the said shaft with ends abutting, the cylinders formed of a series of rings each ring having its outer surface triangular in cross-section, the end rings bearing on the shaft, the middle rings free from the shaft but bolted to the end rings whereby the rings form when bolted together a cylinder having an annular corrugated surface, as and for the purpose set forth.

Signed at Sebewaing, Michigan, this 17th day of February, 1898.

ADAM ZIMMER.
BRUNO ROENISCH.

Witnesses:
JACOB SPRIESS,
H. MUELLERWEISS.