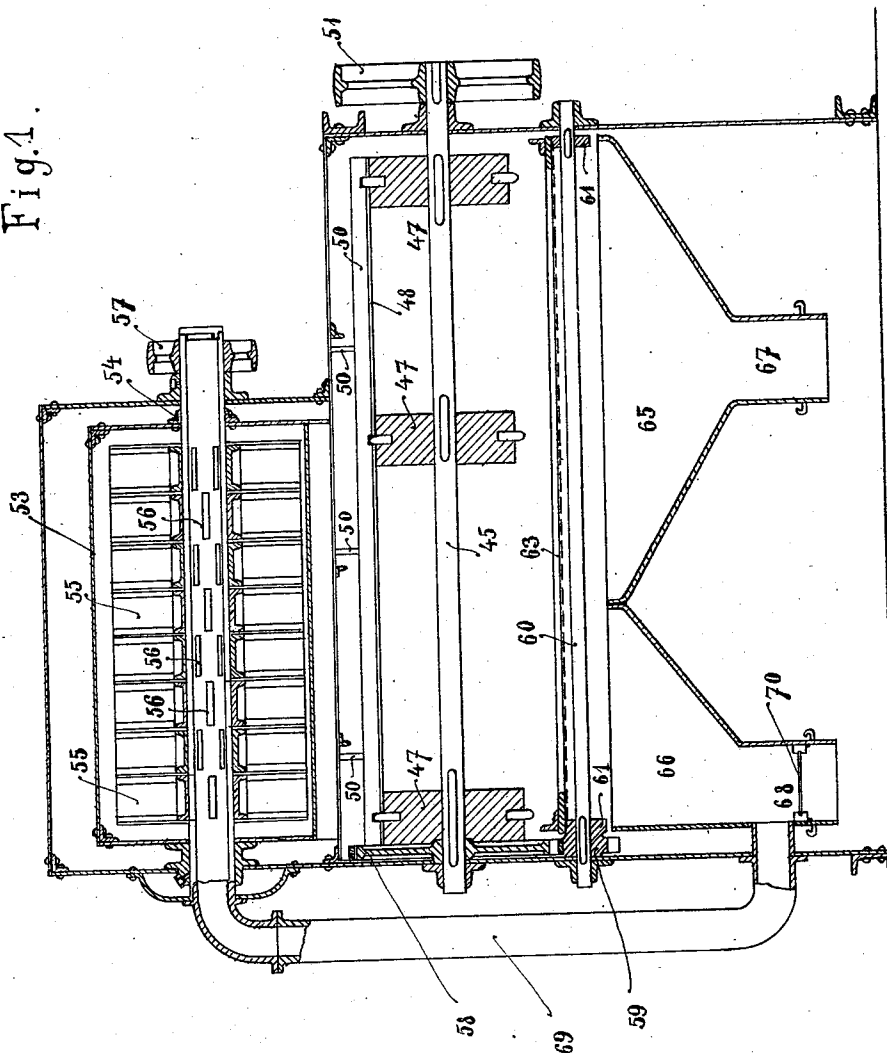


L. WEINFELD.
THRESHING MACHINE.
APPLICATION FILED OCT. 19, 1911.

Patented Jan. 23, 1912.
2 SHEETS—SHEET 1.

1,015,749.

Fig. 1.



WITNESSES

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M. Reimer.

INVENTOR.

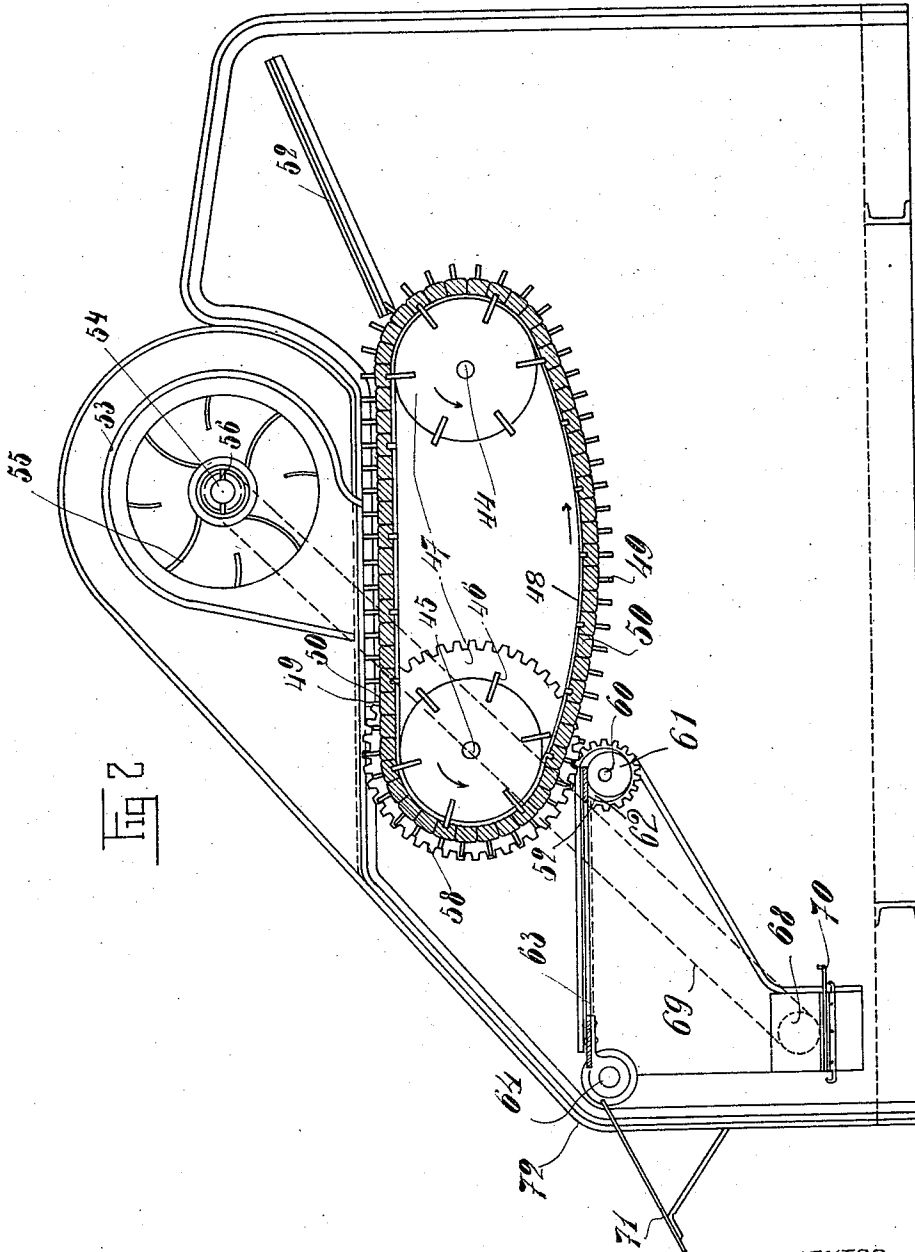
Ludwig Weinfeld
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UNITED STATES PATENT OFFICE.

LUDWIG WEINFELD, OF BUDAPEST, AUSTRIA-HUNGARY.

THRESHING-MACHINE.

1,015,749.

Specification of Letters Patent.

Patented Jan. 23, 1912.

Original application filed October 27, 1910, Serial No. 589,410. Divided and this application filed October 19, 1911. Serial No. 655,581.

To all whom it may concern:

Be it known that I, LUDWIG WEINFELD, engineer, subject of the Emperor of Austria-Hungary, residing at Budapest, Austria-Hungary, have invented certain new and useful Improvements in Threshing-Machines, of which the following is a specification.

This invention relates to a machine for threshing cereals, in which machine hard granular materials, preferably cereal-grains, are thrown with suitable power against the ears, whereby the grains on the ears are removed therefrom. The projectile grains may be flung against the ears by means of rapidly rotating ballistic or hurling devices.

In the drawings Figure 1 shows my new machine in longitudinal elevation and Fig. 2 is a vertical cross-section of the same.

The projectile or missile grains are thrown against the ears by speedily rotating ballistic or hurling devices. The two shafts 44 and 45 carrying pulleys 47 provided with pins 46 are journaled in the chamber of the machine constructed in a similar manner to that constituting the first mode of execution, described in my pending application, Serial No. 589,410 filed October 27, 1910. Endless steel-ribbons 48 pass over the pulleys 47 and carry straps 50 provided with pins 49. The steel-ribbons 48 as well as some of the straps 50 have recesses corresponding to the pins 46 of the pulleys 47 whereby the ribbons with the straps are driven by the rotation of the pulleys 47. The pulley 51 keyed on shaft 45 is driven by any suitable motor and actuates the ribbons 48 with the straps 50 in the direction of the arrow (Fig. 2).

The wheat to be threshed is placed on an inclined plane or chute 52 and fed to the series of straps 50, the pins 49 of which serve to pick up and carry away the halms, which then lie parallel to the straps. A casing 53 above the series of straps 50 is provided with suitable bearings for a hollow shaft 54 carrying a series of ballistic or hurling devices 55 arranged side by side. The spaces between the pinions of the ballistic or hurling devices 55 communicate by apertures 56 with the space within the hollow shaft 54. A pulley 57 driven by any suitable motive power is keyed on the shaft 54 outside the casing 53 and rapidly rotates

the shaft together with the ballistic or hurling devices. The casing 53 opens downwardly toward the series of straps 50. A gear wheel 58 on shaft 45 meshes with the gear wheel 59 fixed on shaft 60. The shaft 60 carries in addition two cam-disks 61 supporting one edge of frame 62 of the screen 63, the opposite edge of the frame 62 resting on shaft 64. The screen 63 is rapidly rocked by rotating the cam-disks 61. Underneath the screen 63 two hoppers 65 and 66 are disposed which lead into short tubes 67, 68, respectively, on which bags may be attached. The short tube 68 communicates with the space within the hollow shaft 54 through a tube 69. The slide-valve 70 serves for closing at will the short tube 68. To the back edge of the screen frame 62 is added an apron 71 which projects outside the machine through an opening 72.

The operation of the described machine is as follows: Firstly a small quantity of grain is thrown into the hopper 66 and the shaft 54 of the ballistic or hurling devices 55 is rapidly rotated. The blast of air produced thereby blows the grains through the tube 69 into the hollow space of the shaft 54 and in consequence of the centrifugal force, the loose grains are fed through the openings 56 to the ballistic members which hurl the same outward. The ballistic or hurling devices being tightly surrounded by the casing 53, only those grains which move in the direction of the lower opening of the casing 53 will leave the same. All the other grains being hurled against the interior wall of casing 53, they are again thrown back between the ballistic members 55. When the loose grains reach the space within the hollow shaft 54, the ribbons 48 carrying the straps 50 are put into movement so that the halms sliding down the chute or inclined plane 52 are carried in layers in the direction of the arrow. The loose missile or projectile grains thrown outwardly by the ballistic or hurling devices 55 hit the ears underneath the opening of the casing 53 and thresh the grain thereon. The threshed grain with that hurled downwardly by the ballistic members 55 remains mixed with the threshed out halms between the straps 50 until it is fed by the latter to the rocking screen 63. There the grain falls through the screen 63 partly into the hopper 65,

partly into the hopper 66 whereupon, by the rocking movement, the straw is gradually discharged upon the inclined apron 71 and slides down the same to the outside of the machine. Part of the grain falling into the hopper 66 is constantly fed by the air blast to the space within the hollow shaft 54. In case too much grain is in the hopper 66, the slide-valve 70 is opened and the wheat collected in a bag.

It is to be understood that I do not confine myself to the described details of construction of the machine, as the same may be constructed in some different manner for attaining the object sought. The feeding devices as well as the carrying devices may be constructed in some other way than shown in the drawings and instead of leading back part of the threshed out grain to the ballistic or hurling device by means of a blast of air blowing through the machine, the grain may be fed back by means of any other suitable feeding device.

This application is filed as a divisional application under my pending application Serial No. 589,410, filed October 27, 1910.

What I claim as my invention and desire to secure by Letters Patent is:

1. Threshing machine comprising the combination of ballistic or hurling devices with means for introducing hard granular materials between the said devices and means for leading the ears of cereals trans-

versely to the jets of the said granular materials, for the purpose described.

2. Threshing machine comprising the combination of ballistic or hurling devices with means for introducing hard granular materials between the said devices, a series of straps arranged on endless ribbons movable transversely to the jets of the said granular materials, a rocking screen for receiving the threshed out ears and hoppers beneath the said rocking screen, for the purpose described.

3. Threshing machine comprising the combination of ballistic or hurling devices with means for introducing hard granular materials between the said devices, a series of straps arranged on endless ribbons movable transversely to the jets of the said granular materials, a rocking screen for receiving the threshed out ears, hoppers beneath the said rocking screen and means connecting the said hoppers with the means for introducing the granular materials for conducting a portion of the threshed out cereal grains to the ballistic or hurling devices, for the purpose described:

In testimony whereof I affix my signature in presence of two witnesses.

LUDWIG WEINFELD.

Witnesses:

AUG. ROBLITZ,
HUGO STEIN.