M. B. BATES.

PEANUT THRESHING AND RECLEANING MACHINE.

APPLICATION FILED JULY 7, 1910.

1,002,116.

Patented Aug. 29, 1911.

3 SHEETS—SHEET 1.

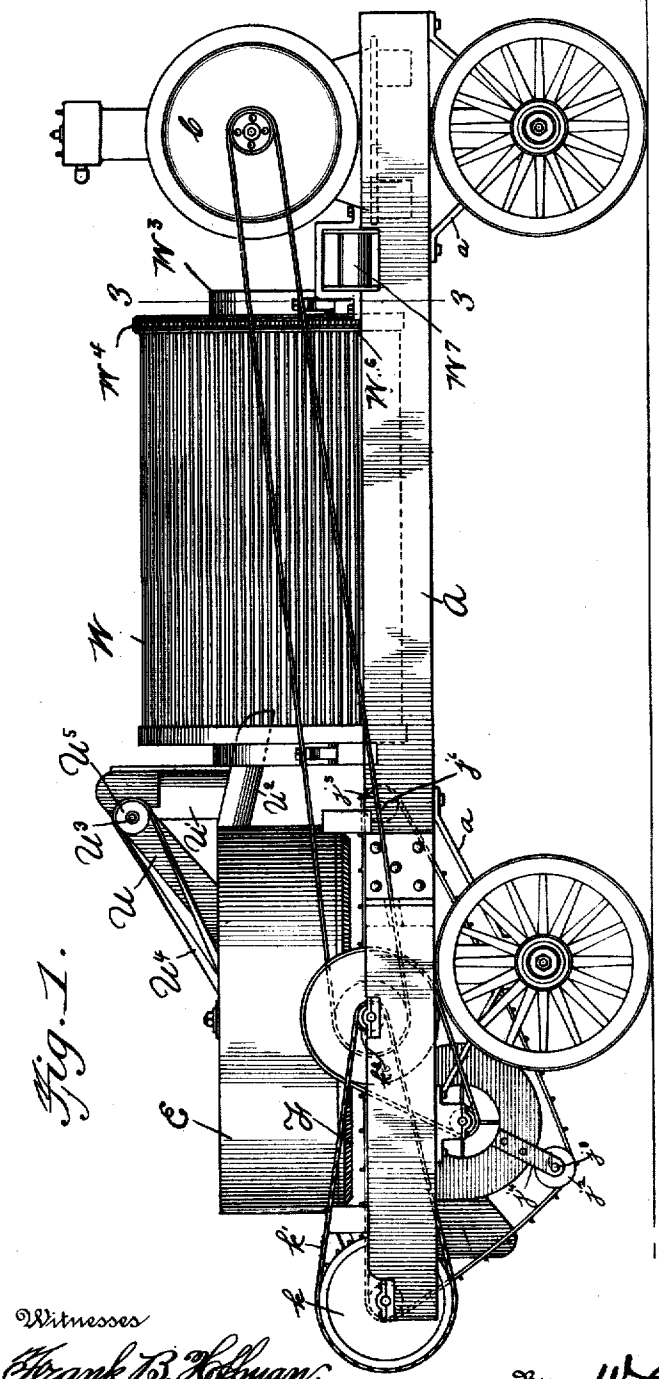

Fig. 1.

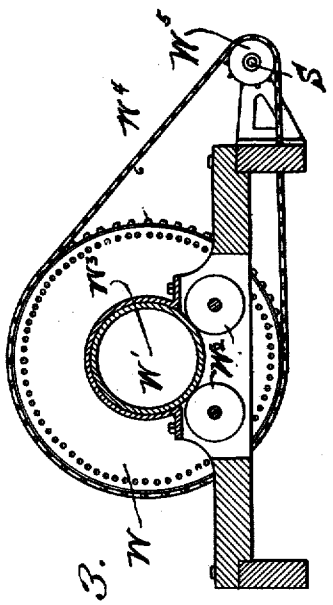

Fig. 3.

Witnesses

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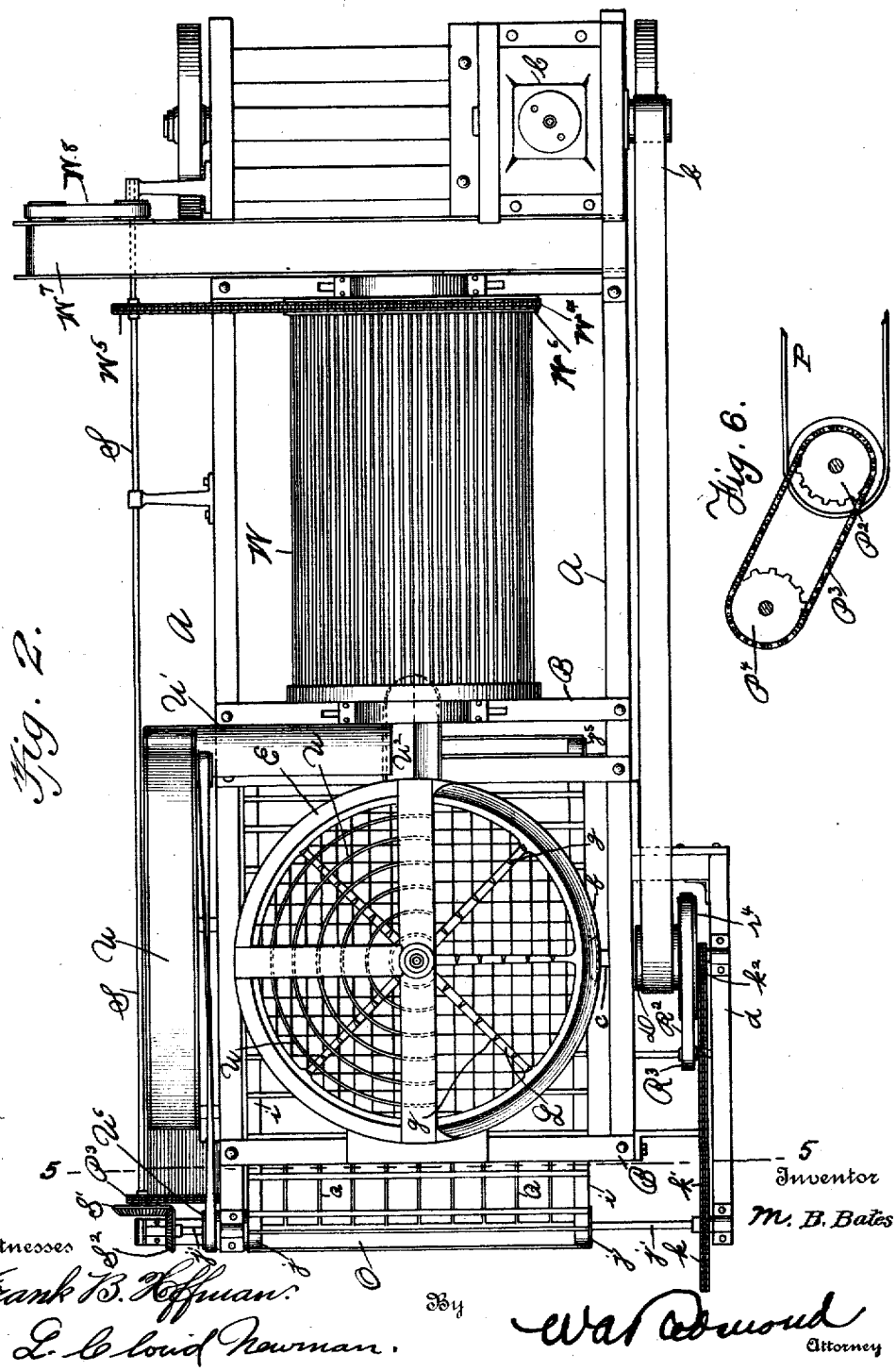

Fig. 2.

Fig. 6.

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3 SHEETS—SHEET 3.

Fig. 4.

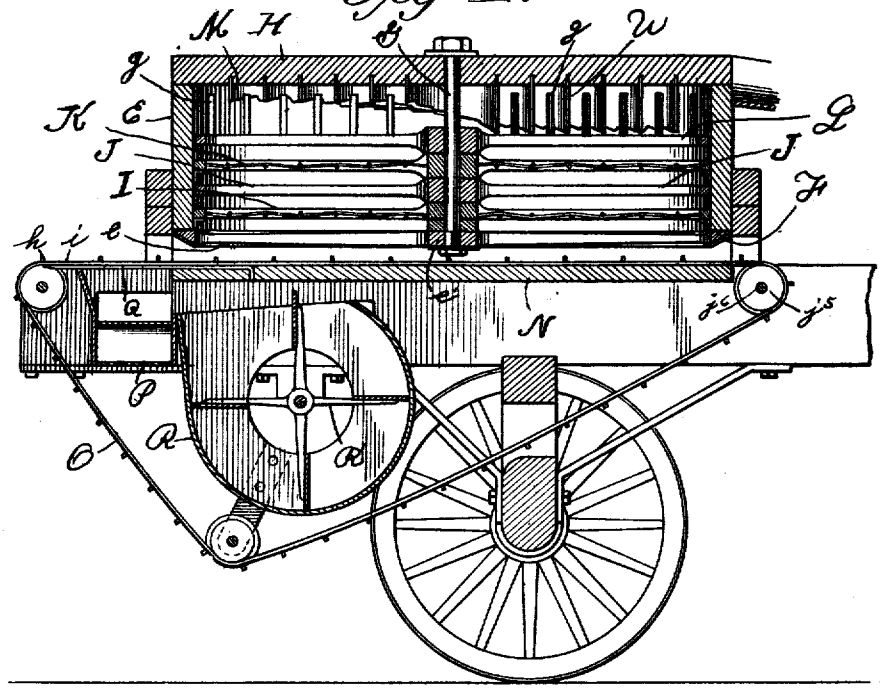
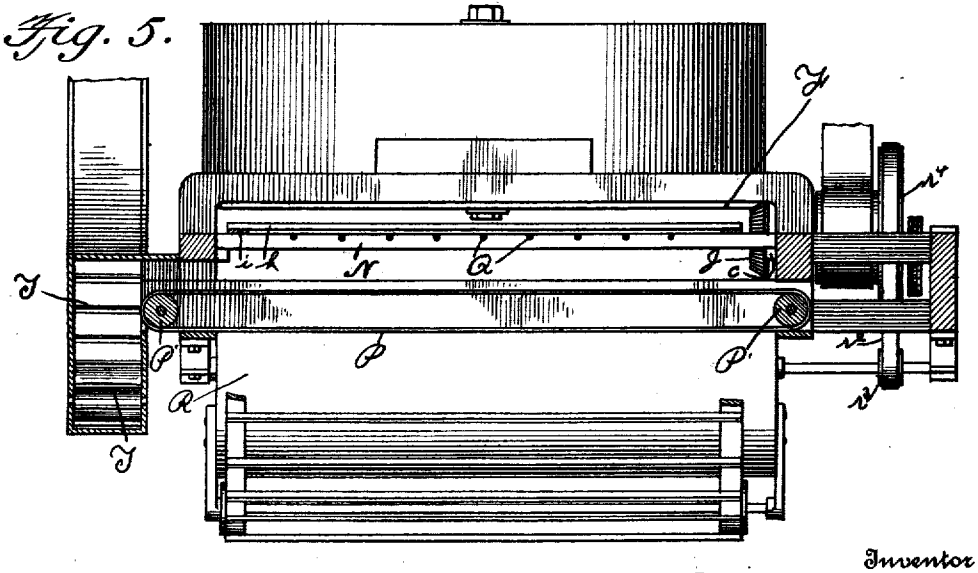


Fig. 5.



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UNITED STATES PATENT OFFICE.

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PEANUT THRESHING AND RECLEANING MACHINE.

1,002,116. Specification of Letters Patent. Patented Aug. 29, 1911.

Application filed July 7, 1910. Serial No. 570,900.

To all whom it may concern:

Be it known that I, MILTON B. BATES, a citizen of the United States, residing at Farmers Exchange, in the county of Hickman and State of Tennessee, have invented a certain new and useful Peanut Threshing and Recleaning Machine, of which the following is a specification.

This invention relates to machines for threshing and picking peanuts from the vines, and it has for its object to provide a simple and durable machine adapted to remove the nuts from the vines, cleanse the same, and discharge the same from the machine free of dirt, trash, and vines or hay, and it consists in the parts and combinations of parts hereinafter described and claimed.

In the accompanying drawings forming a part of this specification, Figure 1 is a side elevation of my improved machine; Fig. 2 is a plan view of the machine; Fig. 3 is a transverse vertical section on the line 3—3, Fig. 1; Fig. 4 is a longitudinal vertical section through the front part of the machine; Fig. 5 is a vertical transverse section on the line 5—5, Fig. 2; Fig. 6 is a detail view showing the connections for operating the apron P.

Similar letters refer to similar parts throughout all the views.

The frame of my machine, in this instance, is arranged and adapted to be mounted on a wheeled truck, as shown, so as to provide for its ready transportation from place to place, but it may be supported on a stationary bed and be permanently located in any suitable or convenient shed or building.

Referring to the drawings, the framework is shown as consisting of the side beams A which are suitably connected together by transverse bars B at points to insure strength and stability to the same and where desired to provide supports for the upper parts or works of the machine, the side beams being supported, in this instance, from the axles of the truck by brace irons *a* at each end. Also, at one end of the frame is supported a suitable motor C from which power is derived to operate the machine, said power being transmitted by a belt *b* to a pulley D mounted on a main shaft *c* which has its bearing at one end in one of the side beams A at the feed end of the machine and the other bearing in a sub-frame *d* extending laterally from said side beam, and from which shaft power is transmitted, in a manner to be described hereinafter, to put in motion the various operative parts of the machine.

The thresher is arranged above and supported from the feed end of the machine and it consists of a cylindrical housing or casing E secured to and supported by cross-bars extending from one side beam to the other and positioned above the level of the side beams so as to provide space for the operation of a spider consisting of a toothed or crown wheel F, the spokes *e* of which are connected to a hub *e'* which is securely fastened to a vertical shaft G having its bearing in a cross-bar H, extending across the top of the cylindrical housing E. The crown wheel F meshes with a pinion *f* secured on the main shaft *c*. At a suitable distance above the wheel F a round or circular shaped riddle or screen I is arranged loosely on the shaft G, the mesh of said screen or riddle being about two and one-half ($2\frac{1}{2}$) inches. The riddle is made to accurately fit within the cylindrical housing and is secured thereto to fix it against revolution with the shaft G which passes freely through the hub of the screen. Arranged above the riddle or screen I is a spider wheel J, which is made fast to the shaft G and rotates therewith. A second riddle or screen K, similar in all respects to the riddle I excepting that it is of larger mesh, is arranged over the spider J and there secured to the housing, and above this last named screen a spider wheel L is mounted on the shaft. Each of the spokes of the spider wheel L is provided with a series of vertically arranged wedge-shaped metal teeth *g*, arranged at regular distances apart on the spokes. By wedge-shaped is meant that the teeth are thicker at one edge, the back edge when the spider is revolving in the proper direction in operation, than the other. Thus it will be understood that the rotation of the crown wheel will cause the spiders to revolve with the shaft G, and that the screens or riddles remain stationary.

The cross-bar H at the top of the housing is provided with a series of semi-circular toothed or notched metal plates M, arranged at regular intervals apart and depending from the cross-bar, said plates increasing in diameter outwardly from the shaft G and being arranged concentric to

said shaft. The free edges of the plates M are tapered from one end to the other, or in other words, said plates gradually decrease in width from one end to the other, this being accomplished by tapering or inclining the same along its toothed or notched edge from one end, (the front end,) to the other. The plates M are set edgewise in the underside of the bar H and are concentric with each other and the shaft G, and the teeth of the spider L are so positioned on the spokes as to enter and travel around through the spaces between the concentric plates during the rotation of the spiders.

The top of the cylindrical housing is uncovered save for the bar H and a short brace bar at right angles to said bar H, thus leaving one-half of the cylindrical housing open whereby the peanuts may be fed into the housing on top of the spider L, the teeth of which carry the same around and under and in between the metal plates, beating or threshing the hay against the metal plates and dislodging or threshing out the nuts. The nuts and trash drop onto and are sifted through the riddle K and from the latter pass to the spider J, being again threshed by the spokes of the latter as they pass between the same to the riddle I through which they are sifted onto the spider F, the latter further agitating and loosening up the nuts and trash before the same drops onto the table N located below the cylindrical housing and suitably supported from the side beams A. Over the table an endless carrier O travels, which consists of a series of slats h arranged at suitable like distances apart and fastened at each end to belts i which run over flanged pulleys j mounted on a shaft j' at the end of the machine, idler pulleys j^2 on a shaft j^3 supported in bracket arms j^4 from the frame, and idler pulleys j^5 on a shaft j^6 supported from the side beams A. The shaft j' carries a sprocket wheel k which is connected by a chain k' to a smaller sprocket wheel k^2 mounted on the main shaft c, whereby the apron or carrier O may be operated to remove or carry the nuts etc. along the table to its end where the nuts drop off and onto an endless apron or belt P, running across the end of the machine and at right angles to the carrier O, and are carried by said belt P to an elevator for further treatment, as will be explained. A fan casing R is arranged below the table N with its discharge opening above the apron P so that the current created by the fan R′ is directed over the said apron, whereby all small particles of trash and vines which may escape between the guard rods Q with the peanuts are blown off and prevented dropping onto the apron P. The guard rods are secured to the end of the table N and extend therefrom between the carrier O and the endless apron P so as to intercept the hay and larger trash and prevent it falling onto the said apron P. The fan is of comparatively small size and the current therefrom is not sufficiently strong to overcome the gravity of the peanuts and the course of the latter is not disturbed thereby.

The apron P leads over pulleys P′ mounted on shafts having bearings in extensions from the frame, one of said shafts carrying a sprocket wheel P^2 which is connected by a chain P^3 to a sprocket wheel P^4 on a shaft S extending lengthwise of and supported from the frame of the machine at one side and which is rotated by a bevel gear S′ thereon meshing with a similar gear S^2 mounted on the end of shaft j'. The fan is operated by a belt R^2 connecting a pulley R^3 on the fan shaft to a pulley R^4 on the main shaft c.

The peanuts are delivered from the apron P to an elevating or bucket apron T (see Fig. 5), arranged in an inclined housing U at one side of the machine and which discharges the peanuts into a chute U′ which discharges into an inclined trough U^2 and the latter delivers the peanuts into a rotating cylindrical screen W. The bucket apron T runs over an idler pulley at the lower end of the casing or housing and over a pulley fast on a shaft U^3 at the upper end of the casing, said shaft being operated by a belt U^4 connecting a pulley U^5 thereon with a pulley U^6 on the shaft j'.

The drum or cylindrical screen W is provided with the cylindrical extensions W′ at each end by which it is supported so that it may be revolved on the antifriction rollers W^2, a removable housing W^3 being provided to hold the extensions in contact with the rollers, and a sprocket chain W^4 connecting with a sprocket wheel W^5 on the shaft S and engaging a toothed ring W^6 secured on the screen operating to revolve the screen. The revolution of the cylindrical or drum screen W loosens and sifts out any adhering dirt and discharges the peanuts onto a belt or apron W^7 extending transverse the discharge end of the machine and operated by a belt W^8 from the shaft S as clearly shown in Fig. 2.

The operation of the machine is simple and it effects a thorough cleaning of the nuts and the removal of all trash and hay therefrom before they are discharged from the machine.

Having described my invention what I claim as new and desire to secure by Letters-Patent is:

1. In a machine of the type described, a threshing device comprising a cylindrical casing, a shaft, a series of circular screens or riddles spaced apart and secured within said casing and concentric with said shaft, a series of spiders secured to said shaft and

alternating with said screens or riddles, one of said spiders carrying beater teeth, and toothed plates arranged to coöperate with said beater teeth in the separation of the nuts and vines.

2. In a machine of the type described, a threshing device comprising a cylindrical casing, a shaft, a series of circular screens or riddles spaced apart and secured in said casing, a series of spiders secured in said shaft and alternating with said screens or riddles, one of said spiders carrying beater teeth, a series of plates arranged to receive said beater teeth between them, and means for imparting motion to said shaft.

3. In a machine of the class described, a threshing device comprising a cylindrical casing, a vertical shaft, a series of arc-shaped toothed plates concentric with said shaft, a series of spiders secured to said shaft, the spokes of one of which being provided with teeth arranged to enter between the toothed plates, riddles arranged between said spiders and fixed in said casing, and means for operating said shaft to revolve the spiders.

4. A machine of the type described, comprising a cylindrical casing, a series of circular riddles secured in said casing, a shaft, spiders secured to said shaft and alternating with said riddles, semi-circular plates at right angles to said spiders, teeth secured to one of said spiders and projecting between said plates, a conveyer for receiving the nuts and vines from said threshing device, and a fan for separating the nuts and vines.

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

MILTON B. BATES.

Witnesses:
J. C. COTHAM,
S. T. BATES.