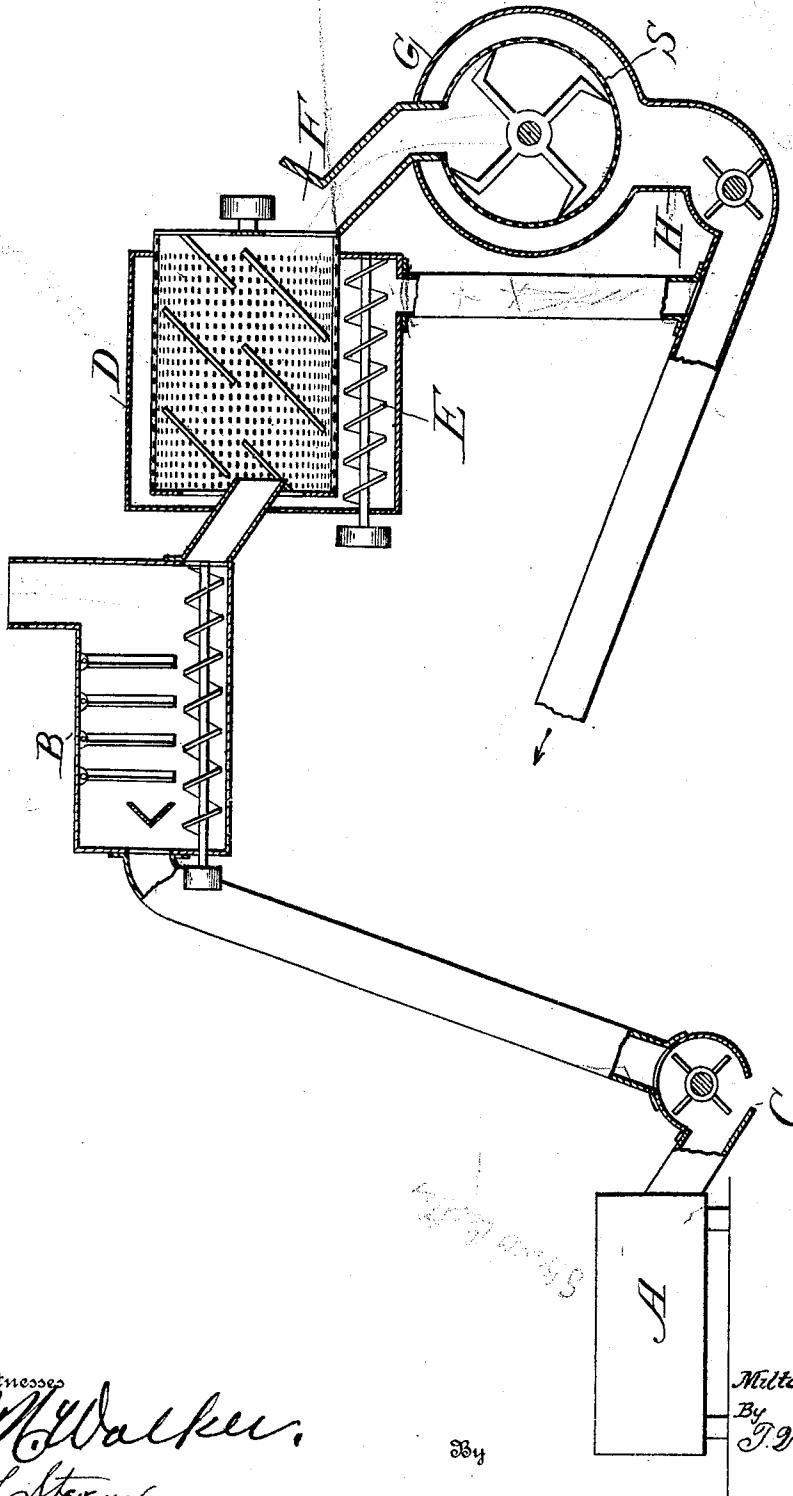


938,333.

Patented Oct. 26, 1909.



Witnesses
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By

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UNITED STATES PATENT OFFICE.

MILTON C. PETERS, OF OMAHA, NEBRASKA.

MILLING PROCESS.

938,333.

Specification of Letters Patent.

Patented Oct. 26, 1909.

Application filed March 23, 1909. Serial No. 485,168.

To all whom it may concern:

Be it known that I, MILTON C. PETERS, a citizen of the United States, residing at Omaha, in the county of Douglas and State of Nebraska, have invented certain new and useful Improvements in Milling Processes, of which the following is a specification.

My invention relates to a new and useful process of producing a stock food in the form of a ground product of alfalfa hay, or other forage, by a reduction of the same and the separation of worthless foreign matter, and the subsequent separation of the fine from the coarse material, the coarse material of said separation being further reduced within a screening chamber and the resulting uniform product being delivered by a pneumatic or other conveyer to a receiver or place of final deposit to be used as a whole product or for admixture with another product or with the fine material of the before mentioned separation.

My invention consists of the steps and the combination or succession of steps constituting the process which I will hereinafter describe and claim.

In the accompanying drawing, the figure illustrates diagrammatically one type of apparatus by which the hereinafter described steps of my process may be carried out.

The apparatus A shown may represent any well known form of straw cutter or other machine or combination of machines or mechanical contrivances by which my process may be facilitated, therefore I wish it understood that I do not limit my invention to any special form or type of apparatus, or to any special means for effecting the grinding or reducing of the original product, the subsequent separations of worthless foreign matter and fine and coarse material, and the further grinding or reduction of the separated coarse material in a screen chamber to insure a uniform final product.

As it is not unusual in the handling of material of the character described for pieces of iron, horse-shoes, stones and other foreign substances to be gathered with the hay and as these substances must be separated from the hay, I prefer to construct the delivery chute of the cutting machine so that the aforesaid foreign substances and which have a greater specific gravity than the hay particles, will be separated by gravity and be collected at the point C, leaving the hay particles to be conveyed to the ac-

cumulator or dust collector substantially free of heavy incompressible foreign substances.

In the accumulator, or collector, B, the dust and more or less worthless fine particles which are present in the hay, are caused to separate from the more desirable parts of the material being treated, while the chopped material and which has been more or less cleaned by the foregoing operations, is delivered directly from the discharge chute of the accumulator into a closed casing, D, containing a screen. The screen may be of the rotary-bolt type with internal conveying means for agitating the material and advancing it to the delivery end of the casing.

The fine material passes through the meshes of the bolt or screen and which meshes may be of a size appropriate to the grade or use of the final product desired, and is delivered by a screw or other conveyer, E, into a spout or chute and may be collected for use as a special product designed for feeding to cattle, horses, fowls, etc. The coarse material coming from the rotary bolt or screen is directed into a spout or chute, F, which leads into the casing G, of a grinding mill or other appropriate disintegrating machine where it is further reduced to a uniform condition. This grinding mill may take the type of the one shown in a companion application filed by me of even date herewith, but any other combined grinding and separating machine of suitable construction may be used without affecting the scope of my invention.

If a grinding mill of the type shown in my aforesaid other application is employed, the material will be caused to enter a screen chamber which incloses and is concentric with the axis of a rotary cutting or grinding member whose blades or cutters operate in conjunction with a stationary cutter-bar to further cut and reduce the material. The inclosing screen S, will have its meshes of appropriate and desired size, and as the material is cut or reduced fine enough it passes through the screen and into a chamber from which it is drawn by a pneumatic or other means and thence conducted by a trunk or chute H, into any suitably placed receiver.

The product just described may be used by itself as a whole product or it may be used in combination with other material as a food for stock, fowls, etc. Sometimes it is desirable to combine the separated fine prod-

uct of the rotary bolt or screen S, with the
chopped material resulting from the grind-
ing mill A, and this is done by connecting
the discharge spout or chute of the casing
5 of the rotary bolt, or other screen, with the
trunk or delivery chute of the final conveyer
before described.

As a result of the foregoing continuous
treatment and succession of operations, the
10 coarse material is successively separated
from material already of sufficient fineness
to serve my purpose, thus relieving the
grinding or cutting devices of excessive
strains and greatly economizing in the horse-
15 power required for the complete reduction
of such material as alfalfa-hay. At the
same time, I obtain a much cleaner and more
wholesome final product and a chopped food
of alfalfa leaves and stems whose particles
20 are of nearly uniform size, and a superior
stock-food of so-called alfalfa-meal, or
milled alfalfa.

Having thus described my invention what
I claim as new and desire to secure by Let-
25 ters Patent is:

1. The process herein described of pro-
ducing a stock food, said process consisting
in reducing alfalfa-hay into a chopped prod-
uct of disintegrated alfalfa leaves and stems/
30 then screening out of the mass the fine ma-
terial; then further disintegrating the re-

maining coarse material and substantially
contemporaneously and progressively screen-
ing out the fine particles, while the material
is undergoing reduction in the same cham- 35
ber in which the screening of said material
occurs, and then combining the whole
screened product of the previous separation
with the whole screened product of the final
reduction. 40

2. The process herein described of pro-
ducing a stock food, said process consisting
in reducing alfalfa-hay into a chopped prod-
uct of disintegrated alfalfa leaves and stems;
then screening out of the mass the finer ma- 45
terial; then further disintegrating the re-
maining coarse material and substantially
contemporaneously and progressively screen-
ing out the finer particles, while the material
is undergoing reduction in the same cham- 50
ber in which the screening of said material
occurs, and then imparting a flight to the
separated material of the final reduction
and adding to said material during its flight
the screened product of the former separa- 55
tion.

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

MILTON C. PETERS.

Witnesses:

T. W. FOWLER,
C. W. FOWLER.