

No. 677,587.

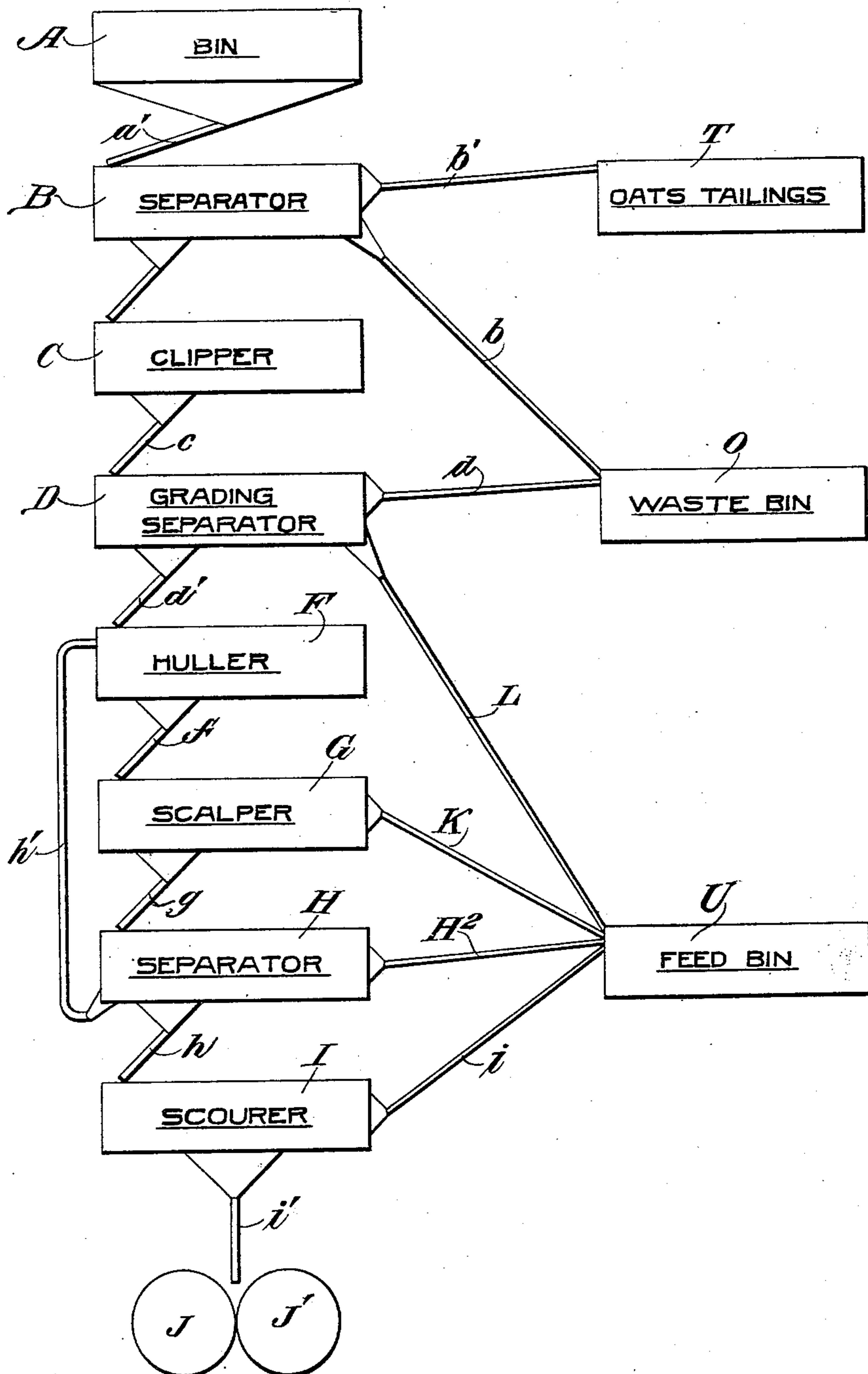
Patented July 2, 1901.

J. D. & H. R. NAGEL.

OAT STOCK FEED AND PROCESS OF PRODUCING SAME.

(Application filed Apr. 3, 1901.)

(No Model.)



WITNESSES

*M. C. Fowler*  
James R. Mansfield

INVENTORS:

*John D. Nagel*  
*and Henry R. Nagel*  
By *Alexander T. Towell*  
Attorneys.



# UNITED STATES PATENT OFFICE.

JOHN D. NAGEL AND HENRY R. NAGEL, OF BUSHNELL, ILLINOIS.

OAT STOCK-FEED AND PROCESS OF PRODUCING SAME.

SPECIFICATION forming part of Letters Patent No. 677,587, dated July 2, 1901.

Application filed April 3, 1901. Serial No. 54,195. (No specimens.)

*To all whom it may concern:*

Be it known that we, JOHN D. NAGEL and HENRY R. NAGEL, citizens of the United States, residing at Bushnell, McDonough county, Illinois, have invented certain new and useful Improvements in Oat Stock-Feed and Processes of Producing Same; and we hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form part of this specification.

This invention relates to stock-feed; and it is intimately associated with our improved process for obtaining flaked oats described and claimed in our application for Letters Patent filed September 13, 1900, Serial No. 29,936. As therein stated, the processes by which flaked oats have hitherto been produced—i. e., by first heating or kiln-drying the grain—deprives the groats more or less of their nutritive properties. This treatment acts in the same manner upon the by-products, such as the hulls, scourings, &c. We have ascertained that when the oats are treated in their natural state by our method the by-products therefrom also preserve a much larger amount of nutritive matter and that when mixed will make a valuable and inexpensive stock-feed.

The accompanying drawing illustrates an apparatus for carrying out the process of producing rolled oats such as are referred to in our aforesaid application and whereby the stock-feed forming the subject-matter of the present invention may also be obtained.

A designates a bin containing oats in their natural condition, which are conducted from the bin through a spout *a'* into a separator B, whereby the sound grains are separated from defective grains and impurities, and the defective grains are conducted through the spout *b'* to the oats-tailings bin T, while the dust and light impurities are carried off to the waste through the spout *b* to bin O. The clean oat-grains pass from separator B to the clipper C, and from the clipper the polished grains, with the clippings and scourings, pass through the pipe *c* into the grading-separator D, which is constructed to thoroughly grade the oats, preferably by means of sheet-metal sieves having perforations which will allow all except the desired and best oats to pass

through. The clippings and other impurities from the separator D may be conducted to the bin O through the pipe *d* or sent to feed-bin U, as desired, by pipe L. The clean and clipped oats are conducted from the separator D by pipe *d'* to a huller F, preferably a centrifugal machine, by which the hulls are loosened and detached from the kernels. The groats, hulls, and kernels are discharged from huller F through pipe *f* into a bolting or scalping reel G, which is preferably clothed with wire-cloth of suitable mesh to extract the fine dust and particles from the groats and hulls, and this dust is drawn off through the pipe K into the feed-bin U, while the groats and hulls are discharged through a pipe *g* into a separator H, which is of such construction that it will first separate the hulls from the groats in any suitable manner and then separate the hulled kernels from the unhulled ones. The hulls are conducted from the separator H by pipe *H*<sup>2</sup> into the feed-bin U, and unhulled oats are returned from the separator H to the huller F by means of the pipe *h'*, while the separated oat-kernels are discharged through pipe *h* into a scourer I, which thoroughly polishes the kernels and removes all dust and fuzz which might possibly adhere thereto, this dust, &c., being conducted from the scourer through the pipe *i* into the feed-bin U, while the thoroughly-cleaned oat-kernels are conducted from the scourer I through pipe *i'* between the rolls J J', by which they are flattened into flakes or wafers ready for the market. These oat-kernels after being thoroughly hulled and purified may be dried by kiln or any suitable device before flaking, if deemed preferable, and not affect the quality of the feed.

It will be observed that the oats are treated throughout in their natural condition, not being at any time subjected to steaming or heating, and the hulls and waste products contain all the nutriment and flavor of the natural grain.

The hulls, scourings, and dust, all of which contain a large percentage of nutritious value, are collected in the feed-bin U and are there mixed and may be sold as stock-food. As this stock-feed has not been subjected to any heat during the process, the full nutritious properties thereof are retained, and it is read-



ily eaten by stock and is a highly-valuable nutritious stock-food.

We believe ourselves to be the first to have ever produced the stock-feed from oats by treating the grain entirely in its natural condition without heating, and therefore preserving all the nutriment in the hulls and scourings, which is almost wholly lost or destroyed in the prior manufacture of rolled-oat foods.

Having thus described our invention, what we therefore claim as new, and desire to secure by Letters Patent thereon, is—

1. The herein-described process of producing a stock-feed from oats, consisting in cleaning, hulling and dusting uncooked and unheated natural oats, separating the dirt and clippings therefrom, and collecting the hulls,

screenings and fine nutritious dust obtained therefrom and mixing them to form a stock-feed, all substantially as and for the purpose described.

2. The herein-described compound for stock-feed, comprising the uncooked and unheated hulls, clippings, screenings, and fine dustings obtained as by-products incident to the milling of oats.

In testimony that we claim the foregoing as our own we affix our signatures in presence of two witnesses.

JOHN D. NAGEL.  
HENRY R. NAGEL.

In presence of—

ROBERT S. RANDALL,  
JOHN U. ZOOK.