

G. S. CRANSON.
Buckwheat-Hulling Apparatus.

No. 217,513.

Patented July 15, 1879.

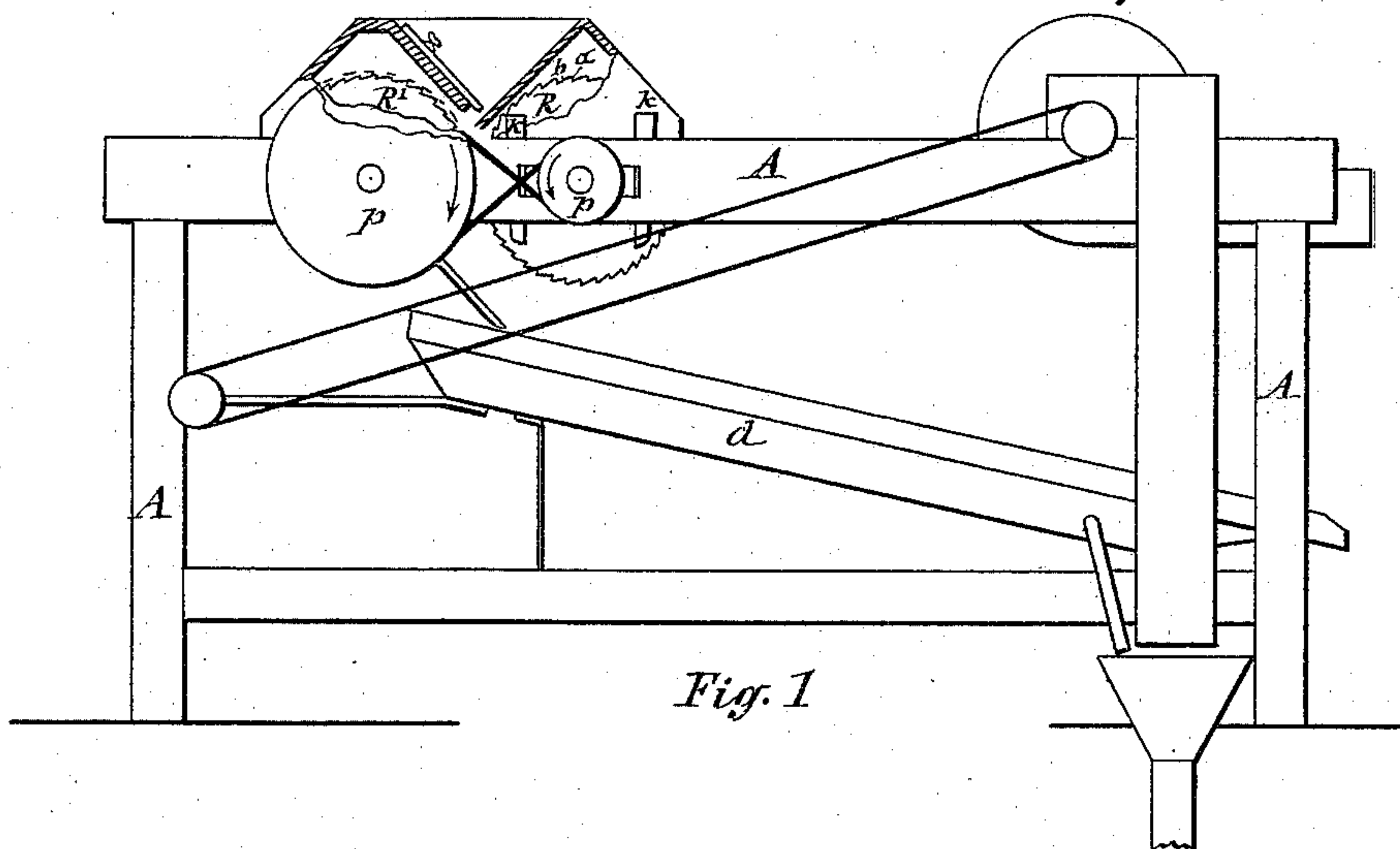


Fig. 1

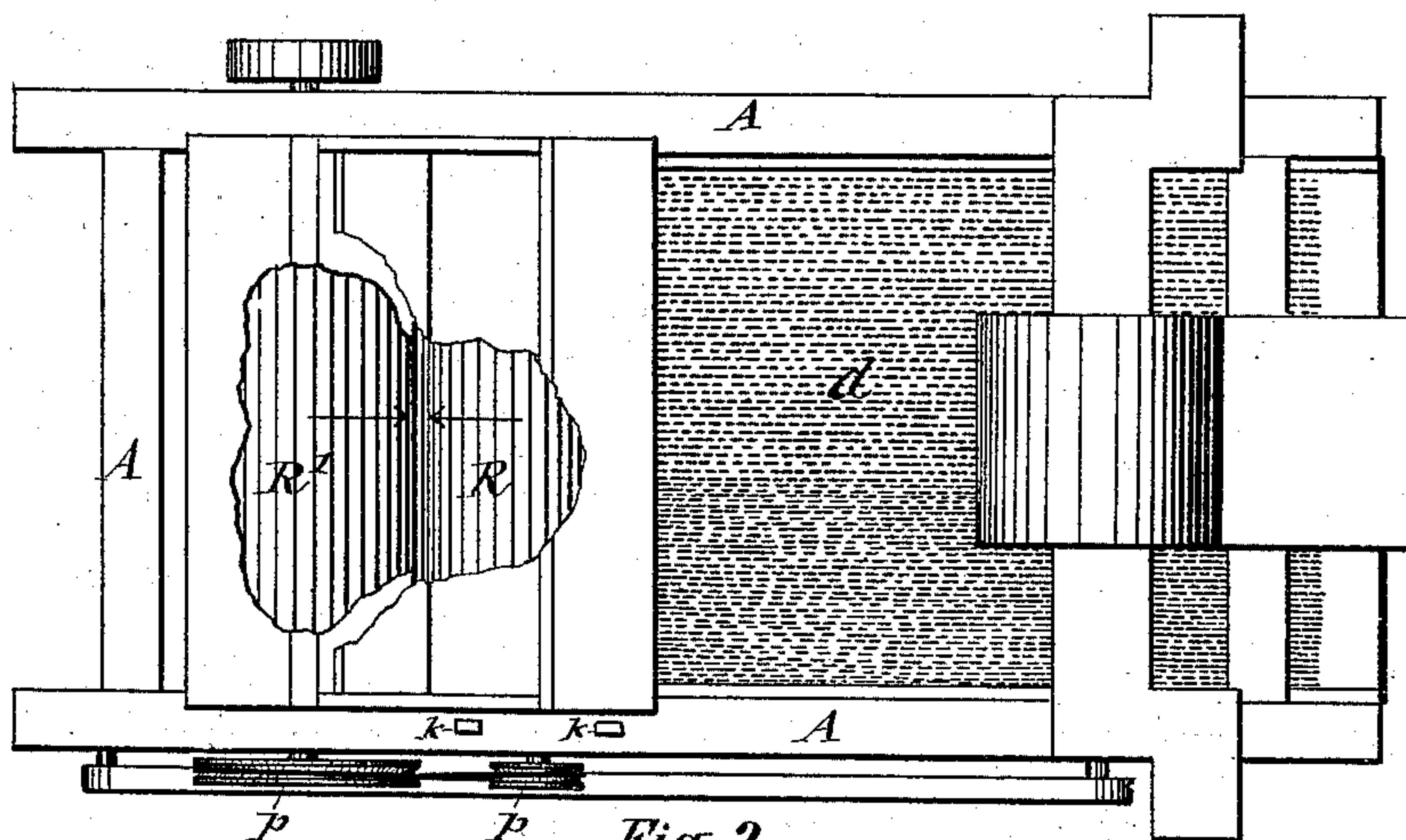


Fig. 2

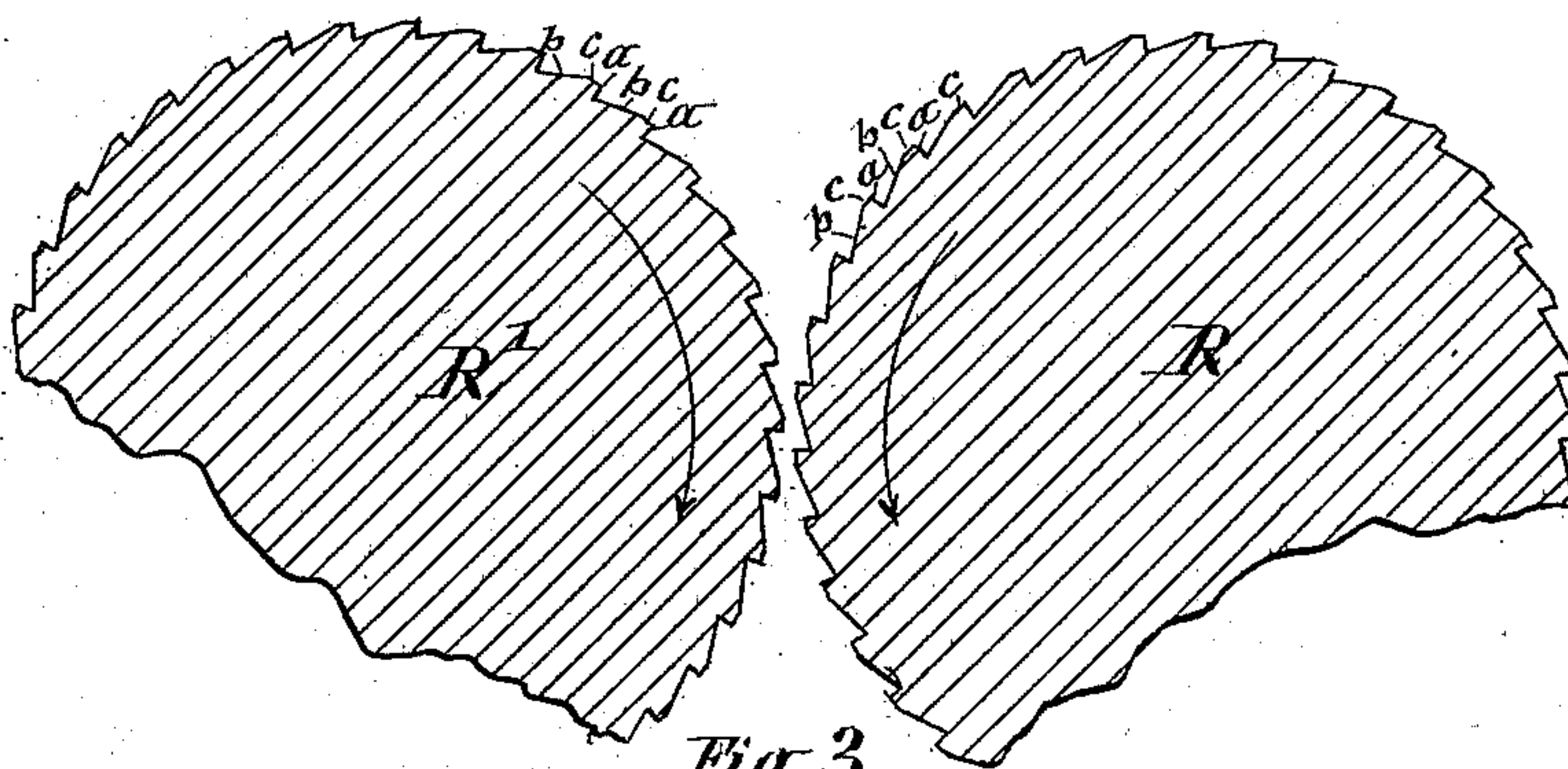


Fig. 3

WITNESSES:

C. Bendixen.
A. Wood.

INVENTOR:

Giles S. Cranson
per C. Laess, Atty.

UNITED STATES PATENT OFFICE.

GILES S. CRANSON, OF SYRACUSE, NEW YORK.

IMPROVEMENT IN BUCKWHEAT-HULLING APPARATUS.

Specification forming part of Letters Patent No. 217,513, dated July 15, 1879; application filed March 29, 1879.

To all whom it may concern:

Be it known that I, GILES S. CRANSON, of the city of Syracuse, in the State of New York, have invented new and useful Improvements in Machinery for Hulling or Shucking Buckwheat, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

The purpose of this invention is to expeditiously and effectually remove from the grains of buckwheat their hulls or external shells with the least possible loss of the meats or kernels preparatory to the converting of same into flour.

The invention consists in the peculiar construction, combination, and arrangement of a set or pair of revolving cylinders, hereinafter fully described, and specifically designated by the claim.

In the accompanying drawings, Figure 1 is a side view of my invention, provided with appliances for separating the clean meats from the removed hulls or shucks. Fig. 2 is a plan view of same; and Fig. 3, an enlarged transverse section of the cylinders, which constitute the principal elements of my invention.

Similar letters of reference indicate corresponding parts.

R R' represent two cylinders, designed to accomplish the object sought in this invention. They are arranged horizontal and parallel side by side, and are journaled at their ends in suitable bearings on a frame, A. The convex surface of the said cylinders is provided with grooves formed of an abrupt side, *a*, and a beveled side, *b*, the latter terminating at the face of the cylinder with what in a millstone-dress is termed a "trailing" or "feather" edge. These grooves are arranged parallel to the axis of the cylinder, and with a narrow strip, *c*, of the face of the cylinder between them.

The cylinders are revolved oppositely, with the upper halves of their peripheries toward each other, and at unequal velocities, by differential gears or pulleys *p p*, or other means of transmitting motion, which impart an accelerated velocity of revolution to that cylinder which has the back or deepest part of its upper grooves nearest its fellow cylinder.

The cylinders are arranged near, but not

in contact with, each other, the distance between the cylinders being made adjustable by securing the journal-boxes of one or both cylinders laterally between set-screws or keys *k*, as illustrated in Fig. 1 of the drawings.

Numerous and various experiments have developed the fact that the peculiar shape of the grain of buckwheat and the fragility of its hull or shuck debar the use of a concave opposing surface in connection with the convex surface of a horizontal revolving grooved or serrated cylinder, inasmuch as such arrangement does not impart to the grain the requisite rolling motion in the feed of the machine, and forms a wedging feed, which subjects the shucks to excessive abrasion and crushing. Hence such devices are not contemplated in this invention.

By my invention, already fully described, the grain of buckwheat is caused to roll to the feed of the machine and subjected to only one quick pinch, with a slight abrasion, and is then immediately released, which is the only action that will successfully accomplish the object sought in this invention. The shucks or hulls, being preserved as aforesaid, are readily separated from the meats by screens, fans, or other common appliances, a simple and effective arrangement of which is represented in the accompanying drawings, in the form of a double vibratory screen, *d*, located beneath the cylinders, which screen carries the coarse shucks out at its end, and allows the meats to pass through its meshes onto a finer screen directly beneath and integral with it. The substances separated by the latter screen are conveyed, respectively, to separate spouts, where, by the suction of an exhaust-fan, all light impurities are carried off, leaving all the flour-yielding portion in a pure and granulated state.

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

The machine for hulling buckwheat, consisting of a set or pair of cylinders having their respective convex surfaces provided with grooves formed of an abrupt side, *a*, and a beveled side, *b*, and with plain faces *c* between said grooves, all arranged parallel to

the axis of the cylinders and disposed alike in both cylinders, and geared to revolve in opposite directions toward each other, and with an accelerated speed of that cylinder which has the back or deepest part of the grooves of the upper half of the periphery nearest the opposing cylinder, all constructed and combined to operate substantially as described and shown, for the purpose set forth.

In testimony whereof I have hereunto set my hand this 26th day of March, 1879.

GILES S. CRANSON.

Witnesses:

C. BENDIXEN,
A. WOOD.