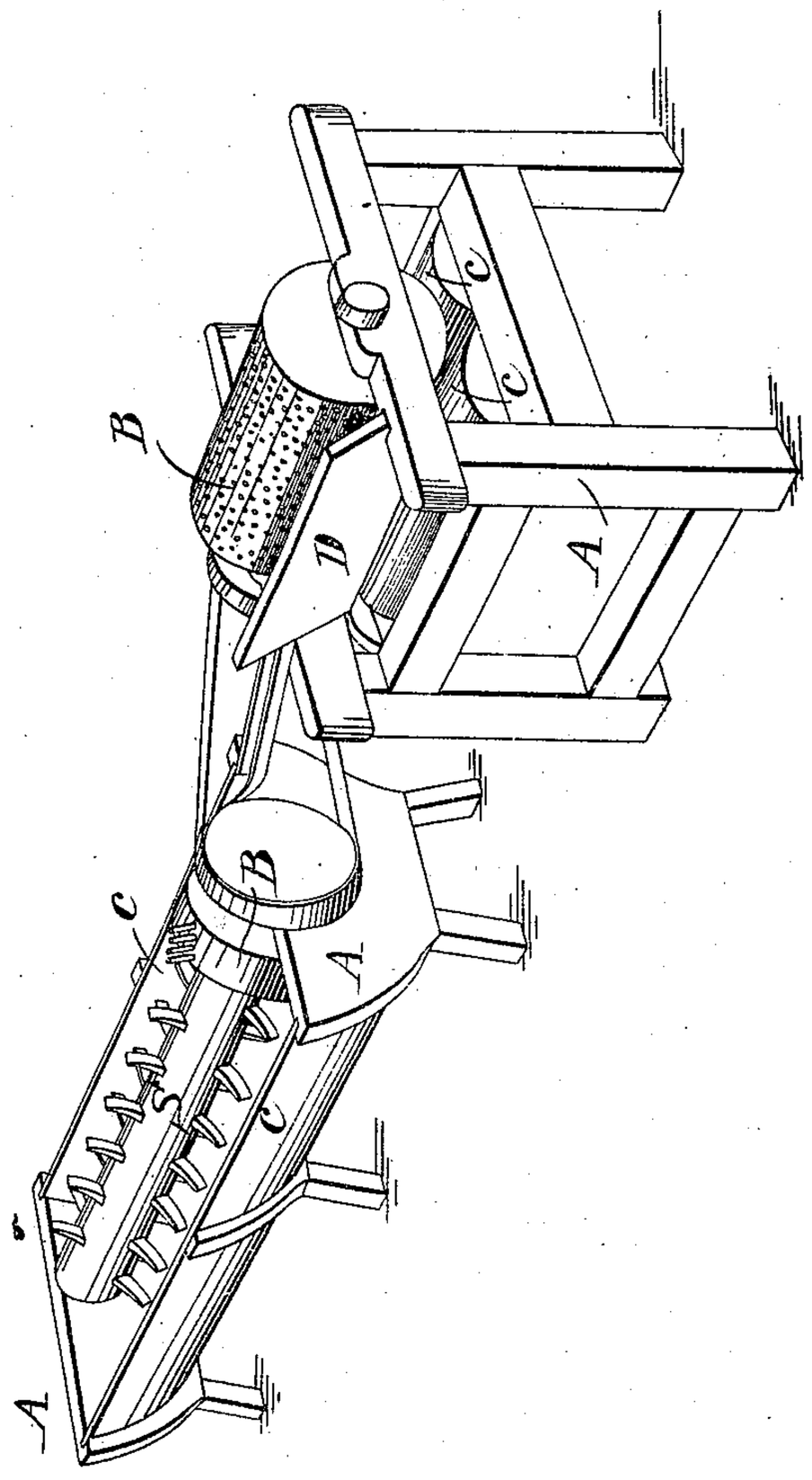
SYLVANUS RICHARDSON.

MACHINE FOR WASHING AND PULVERIZING POTATOES IN THE MANUFACTURE OF STARCH.

Patent No. 563,

Patented January 9, 1838.

Fig. 3.



Only part of Drawing Accessible 1914.

UNITED STATES PATENT OFFICE.

SYLVANUS RICHARDSON, OF JERICHO, VERMONT.

MACHINE FOR WASHING AND PULVERIZING POTATOES IN THE MANUFACTURE OF STARCH.

Specification of Letters Patent No. 563, dated January 9, 1838.

To all whom it may concern:

Be it known that I, SYLVANUS RICHARDSON, of Jericho, in the county of Chittenden and State of Vermont, have invented a new and useful machine for washing and pulverizing potatoes for the purpose of making them into starch, called and denominated "The Improved Starch-Mill," a full and complete description of which is as follows, to wit.

Figure 1, is a top view of the washer, which consists of a circular trough about 7 feet long and 28 inches diameter inside forming about two thirds of a circle, and being left open at the top. The shaft may be about 7 inches diameter with 4 rows of "arms" set in an oblique direction as seen by the form and direction of the mortises on the top of the shaft. The abovesaid "arms" are set in the shaft following each other in a spiral direction, whereby they operate as a conveyer to convey the potatoes from P where they enter, to the "block wheel" at the other end. The "division" as marked in the drawing, is a board permanently fixed in the trough, rising to the center, and cut out so as not to come in contact with the shaft. The "block wheel" is 16 inches in diameter and 6 inches thick, and has one, or more, rows of iron pins set in an oblique form or direction, as seen by the dots at B on the top; the same are seen at length at B′ on the side. C, C, on Figs. 2 and 3 are grooves to receive the staves that form the trough. At D, in the end Fig. 3 is a place cut down to the center, where the potatoes are thrown over by the revolving of the pins in the "block wheel." Fig. 2 exhibits the end of the shaft with the arms and the whole inside view of the end of the trough.

Fig. 4, A A is the frame to contain the machinery, as seen by the drawing. B in the same figure is a cylinder 2 feet diameter and 26 inches long, covered with sheet iron punched from the inside to form a grater. C, C, are cylinders 26 inches long and 17 inches diameter, which are in contact and revolve toward each other. D, Fig. 4, is the bottom of a hopper, or slide, on which the potatoes fall from the washer and thence pass under the grating cylinder. E, E, E, are pulleys or band wheels over which a band is to pass to put the whole in motion; or the same may be put in motion by spur gears, having a coupling wheel to connect No. 1 and 2, and have No. 2 and 3 connect with each other. The shaft of the washer may be put in motion by the pulley or band wheel, or by spur or bevel gears, and must revolve toward P. The proportions as hereinbefore suggested may be varied as experience or the amount of business may require. To put the "starch bill" in operation a sufficient quantity of water must be conveyed into the washing trough to keep it all times moderately running over. The machinery must then be put in motion, and the potatoes for washing must be fed in at P, and by the revolving of the oblique arms, will be washed and conveyed onto the division board, and will thence be thrown over to the block wheel, and from thence by the revolving of the block wheel, will be thrown by the pins through the opening at D Fig. 3, and will fall from thence into the hopper D Fig. 4 and thence pass under the grating cylinder B, Fig. 4 and after being grated it will drop between the rolling cylinders where the small pieces taken off by the grater will be completely crushed to a perfect pulp ready to be made into starch. The arms in the shaft of the washer being less in length than the inside diameter of the trough, leaves room for the small stones and other earthy matter to settle to the bottom, and the division board prevents the said earthy matter from getting under the block wheel, whereby the potatoes are fully separated from the earthy matter. Fig. 5 is a perspective view of the machine.

Your petitioner is aware that the various kinds of gearing required to put this machinery in motion has been used in various combinations and that grates and rollers have also been used, but your petitioner is not aware, nor does he believe that the trough for washing with its appendages, and the grater and rollers in their present arrangement, and for the uses and purposes hereinbefore set forth, have ever been so used.

He therefore claims as his invention—

The washing trough and its appendages in combination with the grater and rollers in their arrangement and combination as above described, for the uses and purposes hereinbefore described.

Witness my hand this 6th day of April A. D. 1837.

SYLVANUS RICHARDSON.

Witnesses:

ALMIRA S. JOHNSON,

JOHN JOHNSON.