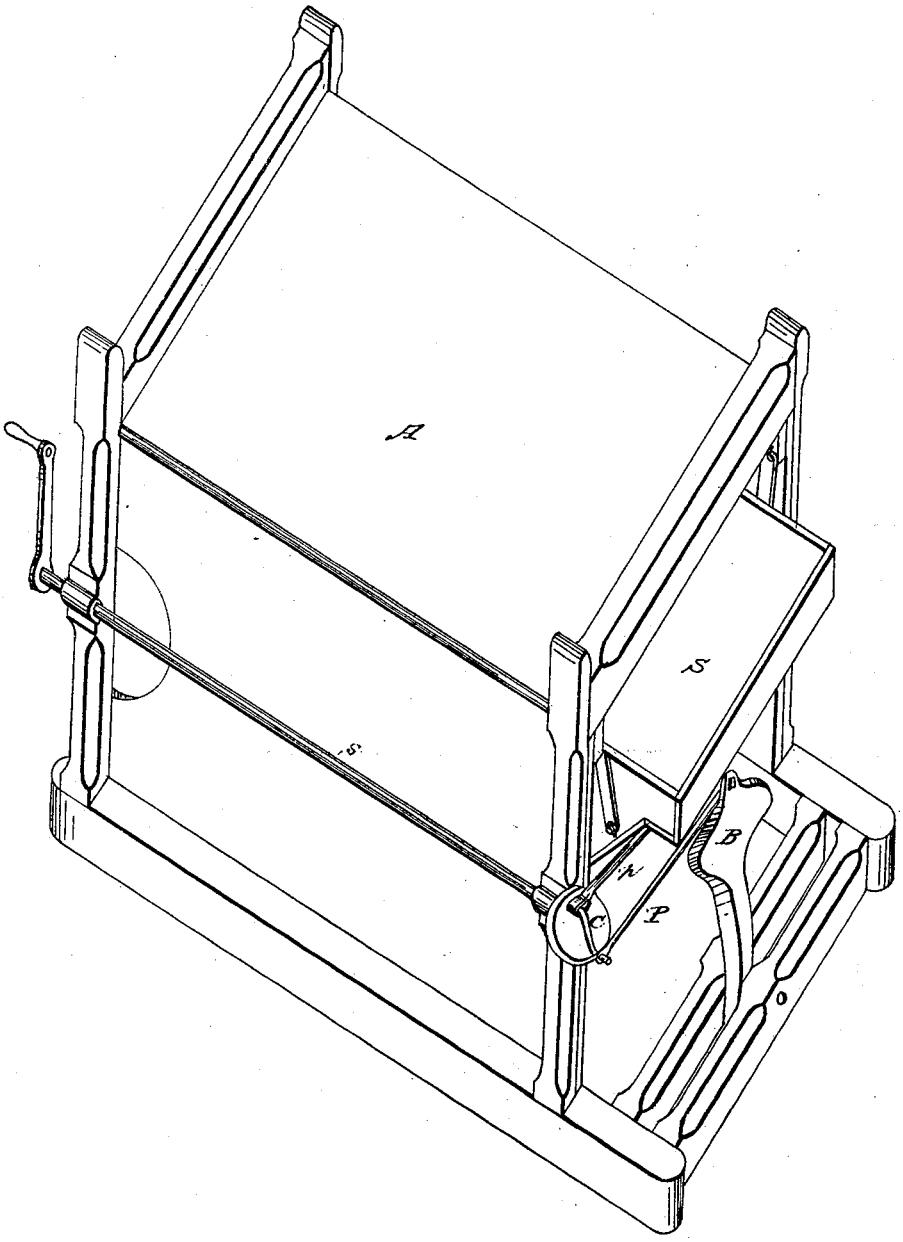
W. CRAIN.

Fanning-Mill Shoe-Balance.

No. 107,459. Patented Sept. 20, 1870.



WITNESSES:
Rudd Brown
H. M. Brown

INVENTOR:
William Crain

United States Patent Office.

WILLIAM CRAIN, OF MILLGROVE, INDIANA.

Letters Patent No. 107,459, *dated September* 20, 1870.

IMPROVEMENT IN DEVICES FOR BALANCING FANNING-MILL SHOES.

The Schedule referred to in these Letters Patent and making part of the same

Be it known that I, WILLIAM CRAIN, of Millgrove, in the county of Steuben and State of Indiana, have invented a new and useful Machine for Balancing Shoes in Separators, in Thrashing-Machines, Clover-Hullers, Fanning-Mills, Smut-Machines, &c.; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing making a part of this specification, in which—

A is a perspective view of a separator.

C, double crank on shaft *s*.

P, pitman from double crank C to balance B.

B, balance, with foot in cross-sills.

S, shoe of separator.

The nature of my invention consists in the construction and arrangement of a counterpoise or balancing device, and connecting the same, by means of a double crank and pitmen, with a vibrating shoe, to counteract the momentum of the latter, and thereby prevent the lateral or gyrating motion of the machinery.

To enable others to make and use my invention, I here describe its construction and operation.

I construct upright and shoe as usual. But, to prevent the whole from sliding on its foundation by the momentum force arising from the lateral or gyrating motion of the shoe, I construct a counterpoise, B, with its greatest weight at the upper end, and leg of sufficient length to bring the pitman P pivoting nearly horizontal to the center of the shaft S. This is to be constructed of iron, or other hard substance. I pivot its foot in a cross-sill of the upright body, so that it stands nearly vertical.

I connect said counterpoise, at its top, by pitman P, to outer wrist of double crank C. This, by the shoe and balance moving in contrary directions at the same time, and the return being the same time, causes the opposite forces of the shoe and balance to be exerted at the center of shaft S, thereby preventing force from affecting the body of the machinery. I construct crank C double, and of iron. I connect the outer wrist of crank C, by pitman P, to the top of balance B, the inner wrist being connected, by pitman *p*, to the shoe.

What I claim as my invention, and desire to secure by Letters Patent, is—

In combination with the vibrating shoe of a fanning-mill, or other machine for cleaning grain, the counterpoise B and its connecting and actuating mechanisms, when said parts are constructed substantially as shown, and arranged to operate in the manner and for the purpose described and set forth.

WILLIAM CRAIN.

Witnesses:

DANIEL E. PALMER,

LELAND H. STACKER.