

E. A. REED.
SIFTING APPARATUS.
APPLICATION FILED JULY 13, 1908.

929,490.

Patented July 27, 1909.

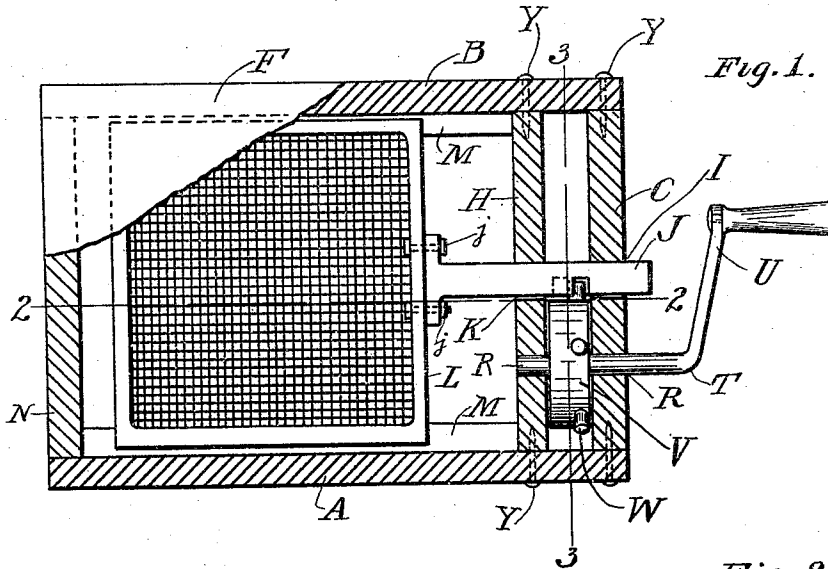


Fig. 2.

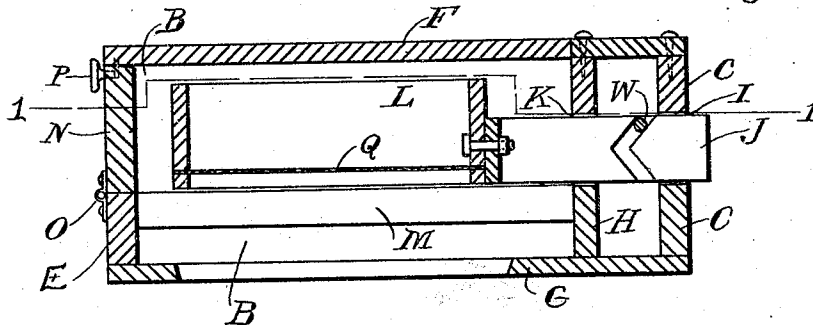


Fig. 4.

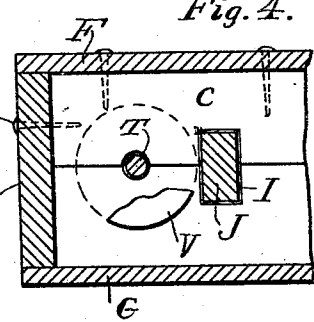
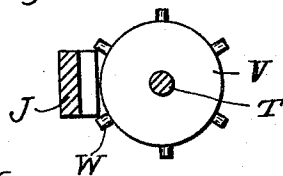


Fig. 5.

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UNITED STATES PATENT OFFICE.

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SIFTING APPARATUS.

No. 929,490.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, EDWARDS A. REED, a citizen of the United States, residing at Oliver Springs, in the county of Anderson and State of Tennessee, have invented a new and useful Improvement in Sifting Apparatus, of which the following is a specification, reference being had to the accompanying drawing.

My improvement relates particularly to sifting mechanism in which provision is made for the conversion of rotary motion obtained by the turning of a hand crank or wheel into reciprocatory motion for the operation of a sieve.

The object of the invention is to produce such a mechanism for the operation of a sieve with relatively small power, the construction and organization of the mechanism being in most simple and compact form, adapted for economical manufacture and for easy assembling and separation of parts.

In the accompanying drawings, Figure 1 is a partial section on the line 1—1 of Fig. 2; Fig. 2 is a section on the line 2—2 of Fig. 1; Fig. 3 is a section on the line 3—3 of Fig. 1, looking toward the right; Fig. 4 is a section on a portion of the same line, looking toward the left; Fig. 5 is a detail view.

Referring to said drawings, A is the front upright wall; B is the rear upright wall; C is the upright wall of the head end of the machine; E is the upright wall at the foot end of the machine; F is the top wall or cover of the machine, and G is the bottom wall.

An upright partition, H, extends from the front wall to the rear wall parallel to the head wall and near the latter. The head wall is divided into two horizontal sections on a horizontal line a little way above the middle of said wall. On the meeting line of the two sections of said head wall is an upright opening or bearing, I, receiving the horizontal reciprocatory bar, J, which is perpendicular to the head wall and parallel to the front wall. Said bar extends through a similar opening or bearing, K, in the partition and is slidable into and out of said bearings. The inner end of said bar is secured by bolts to a sifting box or sieve, L, which rests on horizontal ways, M, located on the inner face of the front and rear walls. In the front wall is a door, N, hinged by its lower edge to the lower portion of said wall

by hinges, O, and having at its upper edge a latch or other securing mechanism, P. Said door is large enough to permit the withdrawal of the sifting box just as a drawer is ordinarily taken out of an ordinary piece of furniture, the bar, J, which is secured to said box, being withdrawn through the openings, K and I, when said bar has been freed from the wheel, V, as hereinafter described. The bottom, Q, of the sifting box or sieve is a screen made of wire netting or perforated sheet metal or any other suitable material. It will be observed that the sifting box and said bar, J, are together horizontally reciprocable toward and from the head wall of the casing. The manner of producing such reciprocation will be next described.

On the meeting line of the two sections of the head wall is a bearing, R, and horizontally opposite said bearing, the partition, H, has a similar bearing, R. A shaft, T, rests in said bearings, and on the outer end of said shaft is a hand crank, U. Surrounding said shaft between said head wall and said partition is a wheel, V, on the periphery of which are any desired number of lugs, W, arranged equi-distant from each other and adapted to enter an angle or cam groove, X, formed transversely across the face of the bar, J, which is directed toward said wheel.

By making the head wall, C, and the partition, H, in two horizontal sections as above described, the bearings, R, R, and I and K, are easily formed in said partitions by merely notching the lower edges of the upper sections and the upper edges of the lower sections. Furthermore, the placing and removal of the wheel, V, shaft, T, and bar, J, may be accomplished by removing the upper sections of said wall and partition. For this purpose, removable bolts or screws, Y, may be used for securing said sections to the front wall, A, and the rear wall, B.

In operation, the crank, U, is turned, whereby the wheel, V, is turned and the lugs, W, supported by said wheel are successively driven through the cam groove, X. Since said lugs move in an upright plane—a plane to which the bar, J, is perpendicular—said lugs bear against the lateral walls of said groove and force the bar first in one direction and then in the other, a complete reciprocation being given to said bar during the passage of every lug. When the wheel, V,

is provided with as many as six lugs, as shown in the drawings, a very rapid and vigorous reciprocation is imparted to the bar, J, and to the shifting box, L. The drawings show said bar long enough to project toward the right through the head wall, C. Said bar need only be long enough to keep it within the bearing, I, during the reciprocation of the bar. The head wall, C, and the partition, H, stand closely enough to the wheel, V, to confine the latter against endwise movement. Hence the bearings, R, R, and the shaft, T, need not be specially formed for the taking of endwise thrust. By turning the wheel so as to bring one lug, W, above and another below the bar, J, the latter is made free for endwise movement for the withdrawal of the sifting box and said bar through the door, N, without disturbing the wheel or the head wall, C, and partition, H.

It will be observed that the entire structure is in compact form; that the structure is substantially a rectangular box inclosing all the operating mechanism excepting the crank. And it will be observed that the sieve and the bar, J, together form a relatively long rigid structure which is guided horizontally by the ways, M, and the bearings, I, and K.

I claim as my invention:

1. In a structure of the nature described, ways for a sieve, a door opposite one end of said ways, a bearing opposite the other end of said ways, a sieve on said ways, a bar projecting from said sieve and slidable into and out of said bearing, a rotary shaft parallel to said bar, and a wheel supported by said shaft and detachably engaging said bar for the reciprocation of the latter, substantially as described.

2. In a structure of the nature described, ways for a sieve, a door opposite one end of said ways, a bearing opposite the other end of said ways, a sieve on said ways, a bar projecting from said sieve and slidable into and out of said bearing, a rotary shaft parallel to said bar and having a cam, and a wheel supported by said shaft and having lugs detachably engaging said bar for the reciprocation of the latter, substantially as described.

In testimony whereof I have signed my name, in presence of two witnesses, this 6th day of July, in the year one thousand nine hundred and eight.

EDWARDS A. REED.

Witnesses:

CYRUS KEHR,
C. A. MORSE.