(No Model.)

J. N. WILSON.

SIEVE.

No. 516,673. Patented Mar. 20, 1894.

Fig. 1

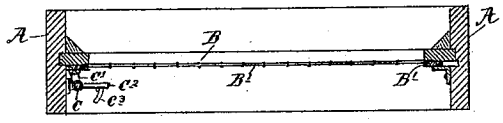


Fig. 2

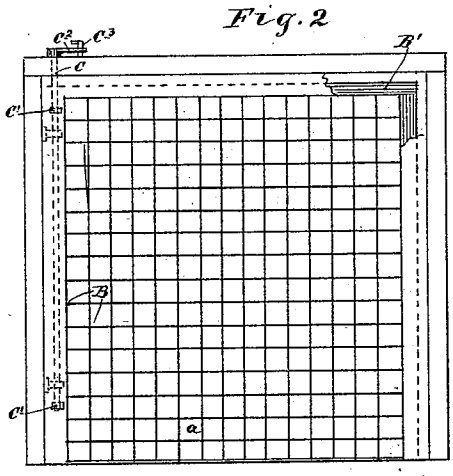


Fig. 3.

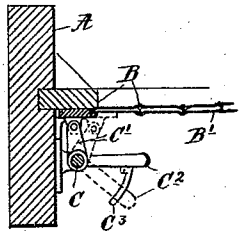


Fig. 4

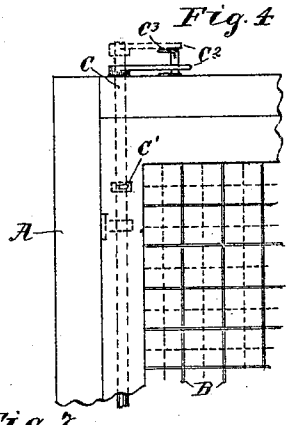


Fig. 5.

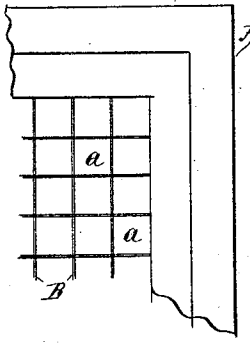


Fig. 6.

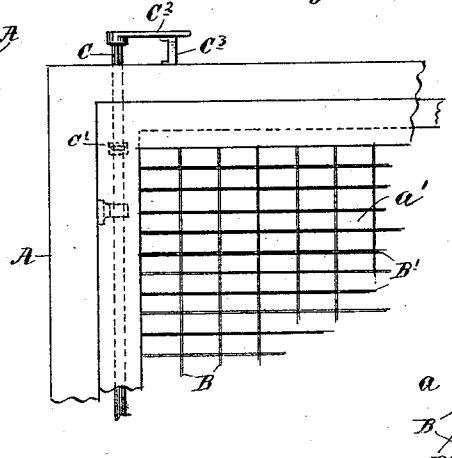
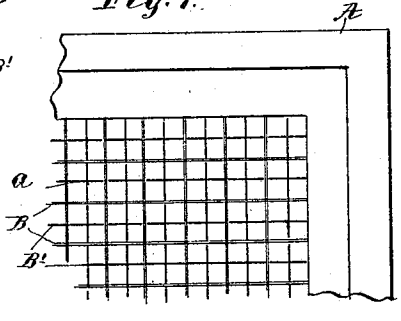


Fig. 7.



Witnesses.
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By his Attorney.
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SIEVE.

SPECIFICATION forming part of Letters Patent No. 516,673, dated March 20, 1894.

Application filed June 25, 1892. Renewed January 23, 1894. Serial No. 497,816. (No model.)

To all whom it may concern:

Be it known that I, JAMES N. WILSON, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Sieves; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to sieves for use on grain-separators; and has for its object to provide a construction whereby the size of the mesh or grain passages through the sieve may be changed at will, for adapting the sieve to the different kinds of grain, without removing the sieve and while the machine is in motion, if so desired.

The invention was especially designed for use on thrashing machines, where it is desirable to keep the machine in constant action. It is of course capable of use on all kinds of grain-separators and may be also applied on separators designed to separate other kinds of stock.

The invention is illustrated in the accompanying drawings, wherein, like letters referring to like parts throughout—

Figure 1 is a vertical cross section taken from right to left through the central portion of Fig. 2. Fig. 2 is a plan view of the riddle-box containing one of my improved riddles or sieves. Fig. 3 is a view, in sectional elevation, showing the left side portion of Fig. 1 broken away; but enlarged to more clearly show the detail construction of the manual adjusting device for the sieves. Figs. 4, 5, 6 and 7 are views in plan, with some parts broken away, and on an enlarged scale as compared with Figs. 1 and 2, for showing the adjustments of the sieve bearing surfaces, and the three different sizes of mesh or grain passage obtainable thereby.

A represents a riddle or sieve-box. B represents the upper member, and B′ the lower member of the mesh bearing-surfaces, which together constitute my variable mesh sieve. The mesh bearing surfaces are composed of wire interwoven to form rectangular meshes. Both surfaces have meshes of exactly the same size. To insure this result and coincidence in the spacing of the wires, both of the mesh bearing surfaces should be woven or formed on the same templet. The upper member B, when in the frame or riddle-box A, is secured against movement therein in any suitable way. The lower member B′ is movable in two directions. For effecting this movement, a shaft C is mounted in suitable bearings on the riddle-box and is connected to the frame of the mesh bearing surface B′, by a crank-arm C′. This shaft is mounted to slide and to rock in its bearings. One end of the shaft is extended outward beyond the riddle-box, and is provided with a hand-lever C^2, for operating the same. When the largest size mesh a is desired, the parts will be in the position shown in Figs. 1 and 2, and on a larger scale in the full lines of Figs. 4 and 5. In this position of the parts, the wires of the mesh bearing surfaces B and B′ will coincide or lie one directly over the other in the vertical plane. This will give the proper size mesh for oats. By sliding the shaft C outward into the position shown in full lines in Fig. 6, the oblong mesh a' will be formed, which is the proper sized mesh for barley and rye. By then rocking the shaft C, the parts will take the position shown in dotted lines in Fig. 4, and in full lines in Fig. 7, and will give the rectangular mesh a^2, which is the proper sized mesh for wheat. In other words, by sliding the lower member of the sieve outward, the largest sized mesh is divided; and by then moving the lower member sidewise, the original or largest sized mesh will be quartered. A stop C^3 may be provided on the frame A, with which the lever C^2 may be made to engage in its outermost position, for holding the lower member wherever it is set. The friction between the hand-lever C^2 and the end of the stop C^3 will prevent the shaft from rocking downward by gravity, when the parts are in the position shown in Fig. 6; and the gravity of the shaft and its hand-lever and crank will hold it in the position shown in dotted lines in Fig. 4. When the parts are in the position shown in Figs. 1, 2, and 5, the hand-lever C^2 rests on top of the stop C^3.

The great advantage of this form of sieve is that the meshes may be changed in size without removing the sieve or without stopping the machine, if so desired.

The mesh bearing surfaces are shown as composed of wire; but of course it will be understood that the same might be equally well made, by stamping out the same from a sheet metal body. In other words, the principle applies equally well to wire-sieves and to sheet-metal sieves.

What I claim, and desire to secure by Letters Patent of the United States, is as follows:

The combination with the compound sieve, consisting of the upper mesh bearing surface B, and the lower mesh bearing surface B′ in contact with each other, of the shaft C mounted to slide in its bearings and also to rock in its bearings, provided with the crank-arm C′ connected to the frame of the mesh bearing surface B′, and having the hand-lever C^2, for operating the same, and a stop C^3 on the frame or box A, for securing the lever wherever set, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES N. WILSON.

Witnesses:
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EMMA F. ELMORE.