

(No Model.)

J. DENIS.
SIEVE FOR FLOUR MILLS.

No. 571,219.

Fig. 2. Patented Nov. 10, 1896.

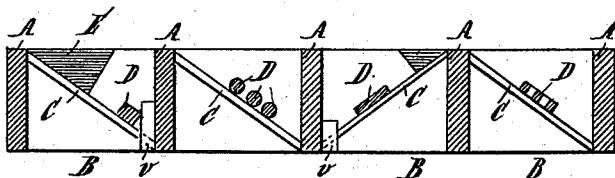


Fig. 1.

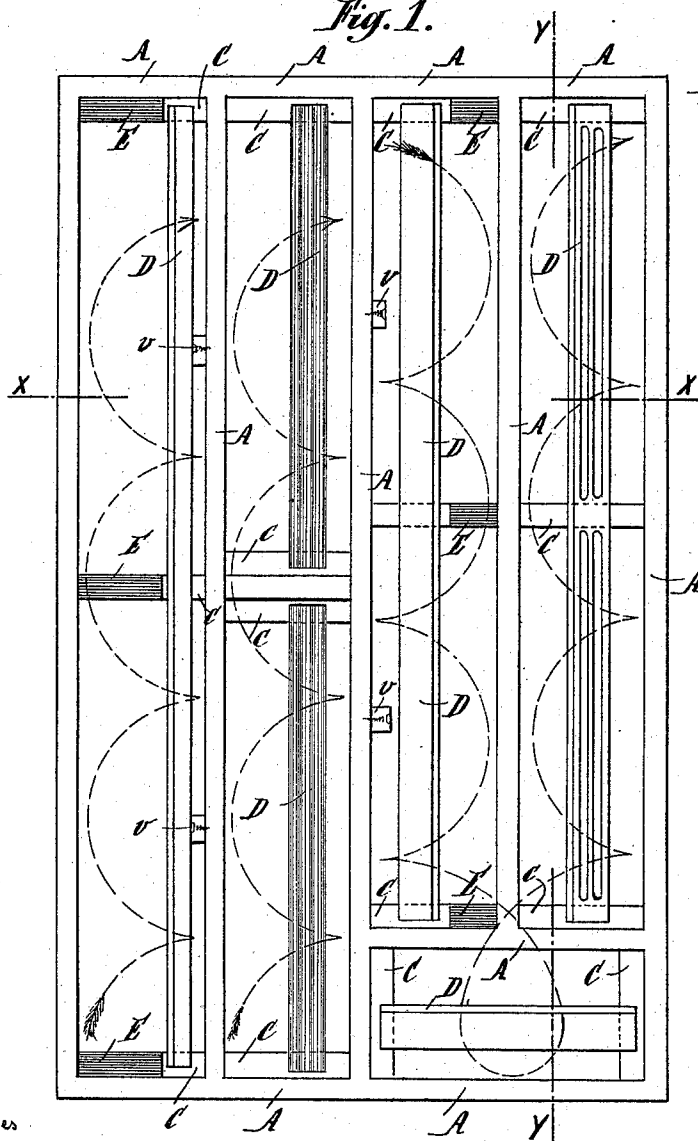
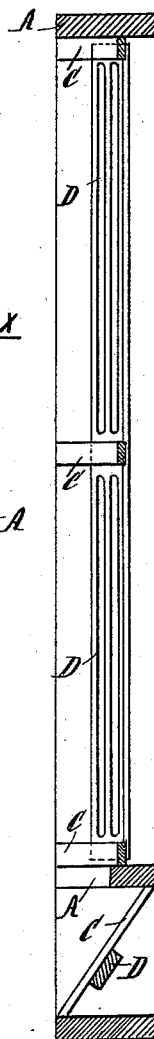


Fig. 3.



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UNITED STATES PATENT OFFICE.

JULES DENIS, OF WYGMAEL, BELGIUM.

SIEVE FOR FLOUR-MILLS.

SPECIFICATION forming part of Letters Patent No. 571,219, dated November 10, 1896.

Application filed August 12, 1895. Serial No. 559,025. (No model.) Patented in Belgium November 12, 1894, No. 112,681, and December 4, 1894, No. 113,002; in England December 14, 1894, No. 24,384; in France May 2, 1895, No. 247,084; in Luxemburg June 1, 1895, No. 2,314; in Italy June 4, 1895, XXX, 38,935, and LXXVI, 224; in Switzerland June 5, 1895, No. 10,457; in Spain June 12, 1895, No. 17,559, and in Portugal July 10, 1895, No. 2,034.

To all whom it may concern:

Be it known that I, JULES DENIS, residing at Wygmael, Province of Brabant, in the Kingdom of Belgium, have invented certain new and useful Improvements in Sieves for Flour-Mills, of which the following is a specification.

The invention has been patented in Belgium November 12, 1894, No. 112,681, and December 4, 1894, No. 113,002; in Great Britain December 14, 1894, No. 24,384; in Switzerland June 5, 1895, No. 10,457; in France May 2, 1895, No. 247,084; in Spain June 12, 1895, No. 17,559; in Luxemburg June 1, 1895, No. 2,314; in Italy June 4, 1895, No. XXX, 38,935, LXXVI, 224, and in Portugal July 10, 1895, No. 2,034.

It is a well-known fact that in the case of plane sieves or so-called "plansichters" receiving a rotatory motion in a horizontal plane the material which is to be sifted, in order to move ahead in the different channels of the sieve, has to be checked, or, as it were, have a skid put on whenever the sieve is moving through the backward part of its course and has to be freed again when the sieve enters the forward part of its course. Without this precaution the material to be sifted would keep turning round and round without advancing. Besides this, with the sieves in question, as well as with all other sieves, care must be taken to keep the meshes of the sifting-gauze free from obstructions, which is accomplished to a great extent by frequent knocks either against the sifting-surface itself or against the frame of the sieve, the result of which knocks is to continually shake the sifting-surface. However, in many cases, and principally when sticky material has to be sifted, these knocks against the frame or against the sifting-surface are not sufficient to keep the meshes quite clear, and in such cases cleaning and rebounding material or "putzgut," as it is commonly called, has to be used.

The object of the present invention is to realize both the checking and knocking effects at the same time by means of a single device and to provide the necessary appara-

tus for carrying the putzgut back into the upper sieve when it has completed its course. The first device is shown in its simplest form in the annexed drawings.

Figure 1 is a horizontal projection of a plane sieve provided with such device, Fig. 2 being a transverse vertical section through line *xx* of Fig. 1 and Fig. 3 a longitudinal section through line *yy* of Fig. 1.

In the several figures of the drawings the same letters refer to the same parts.

The substance of the invention is embodied in battens, acting brake-fashion and disposed in the different channels in such a way that they are obliged, under the influence of centrifugal force, to move along oblique guides alternately down toward the material to be sifted and upward away from the same. These battens impart to the sifting-gauze the necessary vibrations to keep its meshes free from obstructions, the battens continually knocking against the frame of the sieve.

In Figs. 1 to 3, A is the frame of a plane sieve; B, the sifting-gauze.

C are the oblique guides, and D the battens for checking the material to be sifted and for keeping the sifting-gauze free from obstructions. These battens D may be made of wood, iron, or any other suitable material. They may consist of one single piece, occupying the whole length of the channel, as shown in the first compartment to the left of Figs. 1 and 2, or there may be more than one, square or round, arranged in sets, as shown in the second compartment of Figs. 1 and 2, (reckoning from left to right,) or in case of a heavier batten being required it may be made wider, as if two or three narrower ones had been joined into a single one, as shown in the third compartment of Figs. 1 and 2, or this wide batten may be hollowed out in order to have a large batten without too much weight, as shown in the fourth compartment of Figs. 1 and 2. The battens may also be roughened on their under side in order to better accomplish their checking or braking effect upon the material to be sifted.

The guides C stretch from a point near the upper edge of one of the long sides of the

channel to the vicinity of the lower edge of the opposite long side, but there is no necessity for the battens D coursing all this way across the whole width of the channel. The guides C, as shown in the first and third compartments of Fig. 2, may be provided with cleats E, which will limit the upward course of the battens, while blocks *v*, fixed against the opposite long side of the channel, will transfer to the frame, and consequently to the gauze, the vibrations which they receive through the battens beating against them. It is evident that the obliquity of the guides C must be directed in such a way that the battens will be below and acting upon the material which is to be sifted, when the corresponding part of the sieve is in that part of the circular course where the material has to be acted upon, and that these same battens will be jerked upward when the material has to be freed from its impediments.

In case of the material being required to pass from one channel into the next one a batten or a set of battens may be disposed in the cross-channel connecting the two main channels, but of course in the direction of this cross-channel, as shown in the right-side half of Fig. 1 and at the lower end of Fig. 3.

As will be seen by reference to the drawings, the sieve, which has a gyratory motion, will cause the material, by means of the batten, to move in the direction of the arrows, Fig. 1.

The battens occupy only a small portion of the width of the channel and have but slight movement on the incline guide C. The movement of the batten is sufficient to jar the sieve slightly by striking against the side of

the channel, and, as shown in Fig. 2, the inclined guides extending transversely of the channel will hold the battens, so that they will present under surfaces inclined transversely of the channel. The effect of this arrangement will be to deflect the material as the sieve gyrates and cause it to be transported, as shown by the arrows in Fig. 1.

Although I prefer to use oblique guides C, I might instead use horizontal guides, obtaining a similar but less perfect result.

I claim—

1. In plane sieves with horizontal gauze, and having a gyrating motion, narrow battens D arranged singly or in sets on guides C, against one of the long sides of each channel and occupying only a part of the width of the channel, and capable of a little play in a direction perpendicular to the long side of the channel, for the purposes set forth.

2. The combination with a plane sieve adapted to have a gyratory motion, of a longitudinally-arranged batten or battens adapted to have a slight movement in inclined guides, transversely to the length of the channel or channels, to jar the sieve-frame, and presenting an under surface inclined substantially transversely to the channel to transport the material by deflecting the same, substantially as described.

In witness whereof I have hereunto set my hand in presence of two witnesses.

JULES DENIS.

Witnesses:

AUGUSTE DE CEUSTER,
GREGORY PHELAN.