

W. J. ENGLISH.

SCREENS FOR CARDING-MACHINES.

No. 173,165.

Patented Feb. 8, 1876.

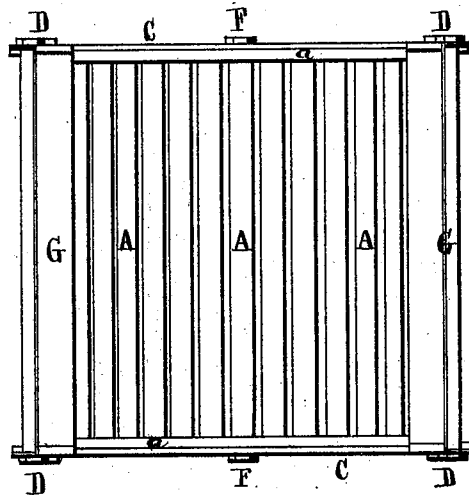


FIG. 1.

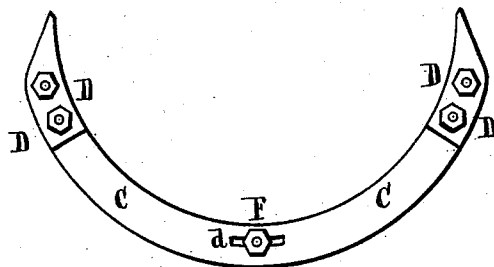


FIG. 2.

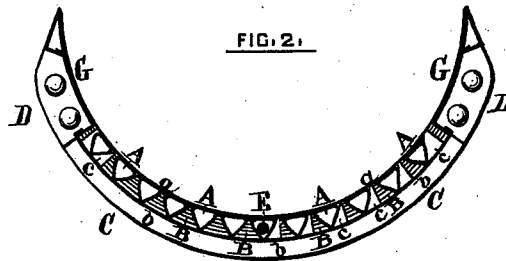


FIG. 3.

WITNESSES,

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UNITED STATES PATENT OFFICE.

WILLIAM J. ENGLISH, OF PROVIDENCE, RHODE ISLAND, ASSIGNOR TO
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IMPROVEMENT IN SCREENS FOR CARDING-MACHINES.

Specification forming part of Letters Patent No. **173,165**, dated February 8, 1876; application filed
July 30, 1875.

To all whom it may concern:

Be it known that I, WILLIAM J. ENGLISH, of the city and county of Providence, in the State of Rhode Island, have invented a new Improvement in Screens for Carding-Machines; and I do declare the following to be a specification thereof.

In the accompanying drawings, like letters indicate like parts.

Figure 1 is a top view of my invention. Fig. 2 is a side view of the same. Fig. 3 is a transverse section, showing the manner of securing the bars.

My invention is an improvement of the card-screen particularly described in Letters Patent of the United States No. 153,429, issued to me July 28, 1874, and to the specification therein reference is hereby made for an explanation of the general construction and purpose of the invention.

My improvement consists in furnishing the screen with bars placed at unequal distances from each other, and capable of variation in this respect, as the necessities of the work may require.

My improved screen consists of a series of bars, A A, of sheet metal, bent into an angular shape, and made variable in position by means of blocks, B B, of wood or other suitable material, cut in the form of a trapezoid. These are made wide or narrow, as may be required, and are inserted between the bars within the channel formed by the ridges *a b*, which project from the inner side of the rims C. The bars A are arranged in this way in parallel rows, from side to side, leaving open spaces between them, which vary in width from the doffer end of the screen to the central bar, the variation being effected by the differing sizes of the interposed blocks B B. To prevent the blocks from being displaced, I hold them in position by small triangular pieces of sheet metal, as shown at *c*, which are laid upon the block and soldered to the adjacent bar A. The whole screen is held together by the bolts D and a rod, E, which passes within and throughout the central bar of the series from rim to rim, and is fastened by the nut

F. The series of bars terminate at each end with a broader bar or metallic tip, as shown at G.

The purpose of varying the distance apart of the bars on the doffer side of the screen is, that, when the main cylinder of the carding-machine leaves its contact with the doffer, a larger amount and the coarser part of the dirt and foreign matter falls at that point than at the opposite side, and therefore larger spaces are required to allow the refuse stuff to drop through; while on the other side, next to the feed-rolls, the bars should be closer together, not only because less and finer refuse falls there, but also because the upward motion and centrifugal force of the main cylinder throw out tangentially long and valuable fibers, which the doffer has not taken off, and the strong current of air produced by the rapid revolution of the cylinder is apt to drive these fibers through the openings between the bars, if these spaces are wide, thereby causing a considerable and needless loss of material.

If it is desired to change the width of these spaces, the screen can be taken apart by unfastening the bolts D E. The bars are then easily removed, and new blocks, B, cut to the size required, are substituted for the old, and the whole put together again. Inasmuch as, in this change of spacing, it may be difficult to adjust the bars precisely within the given arc of the rim, or it may be desirable to obtain additional room to insert another bar, I cut a slot, *d*, through the rim C, allowing a limited lateral movement of the central bar to obtain the proper adjustment. It may be desirable to vary the spacing of the bars throughout, but in general the variation will be most useful on the side nearest the doffer.

This variation may be effected in other ways—as, for instance, the rims C may be made with as many slots, *d*, cut through them as there are bars A, so that each bar is separately variable through its slots, and, when adjusted, may be held firmly in place by rods E passing from side to side within them and fastened by nuts F.

I therefore claim as a novel and useful invention, and desire to secure by Letters Patent—

The improved card-screen, substantially as described, consisting of a series of hollow bars, A, of sheet metal, bent angularly, and fitted at variable distances apart within the ridges *a b* of the rims C by means of interposed

blocks B and stays *c*, the whole structure being held together by the bolts and nuts D E F, as and for the purpose specified.

WILLIAM J. ENGLISH.

Witnesses:

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