(No Model.) 2 Sheets—Sheet 1.

N. H. TILDEN.

HURL STEMMING AND SORTING MACHINE.

No. 536,972. Patented Apr. 2, 1895.

Fig. 1.

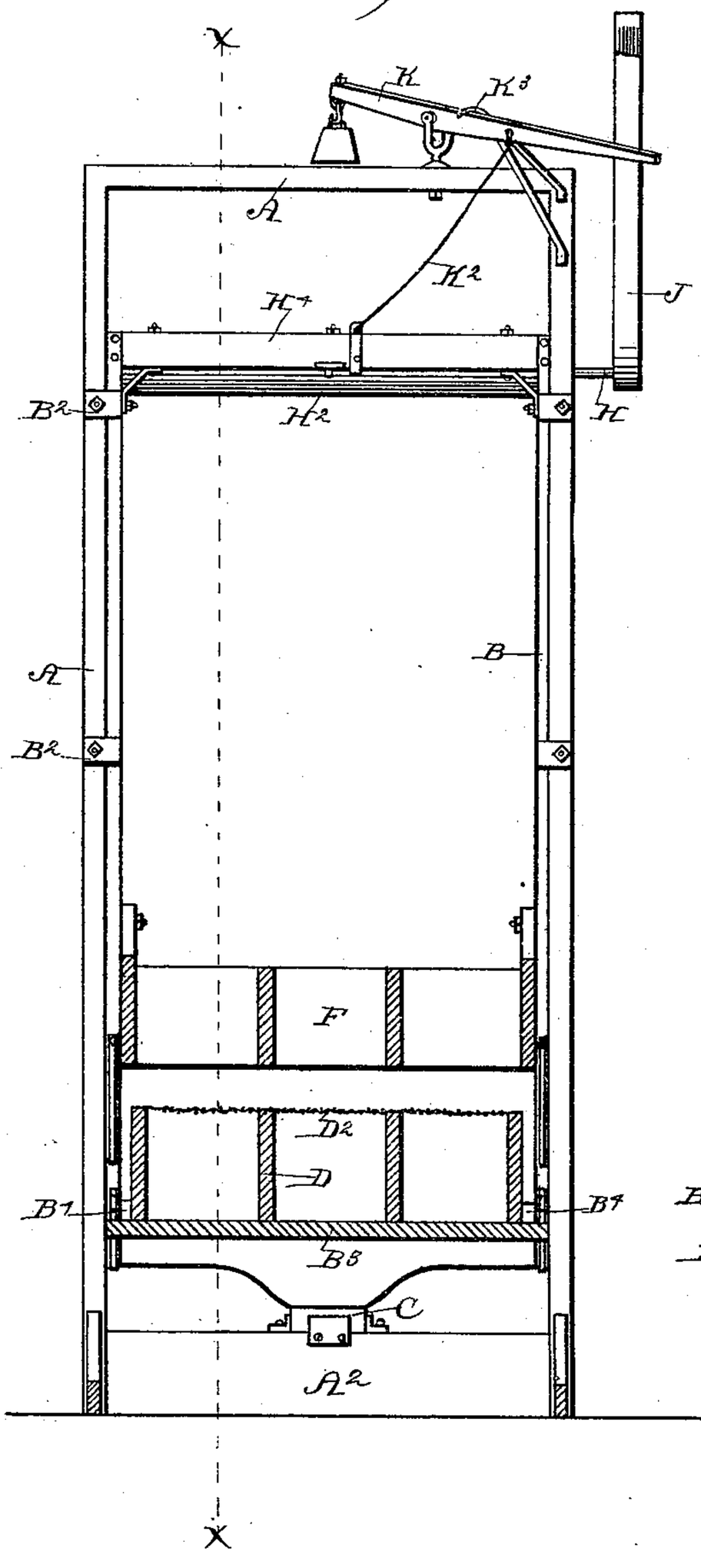
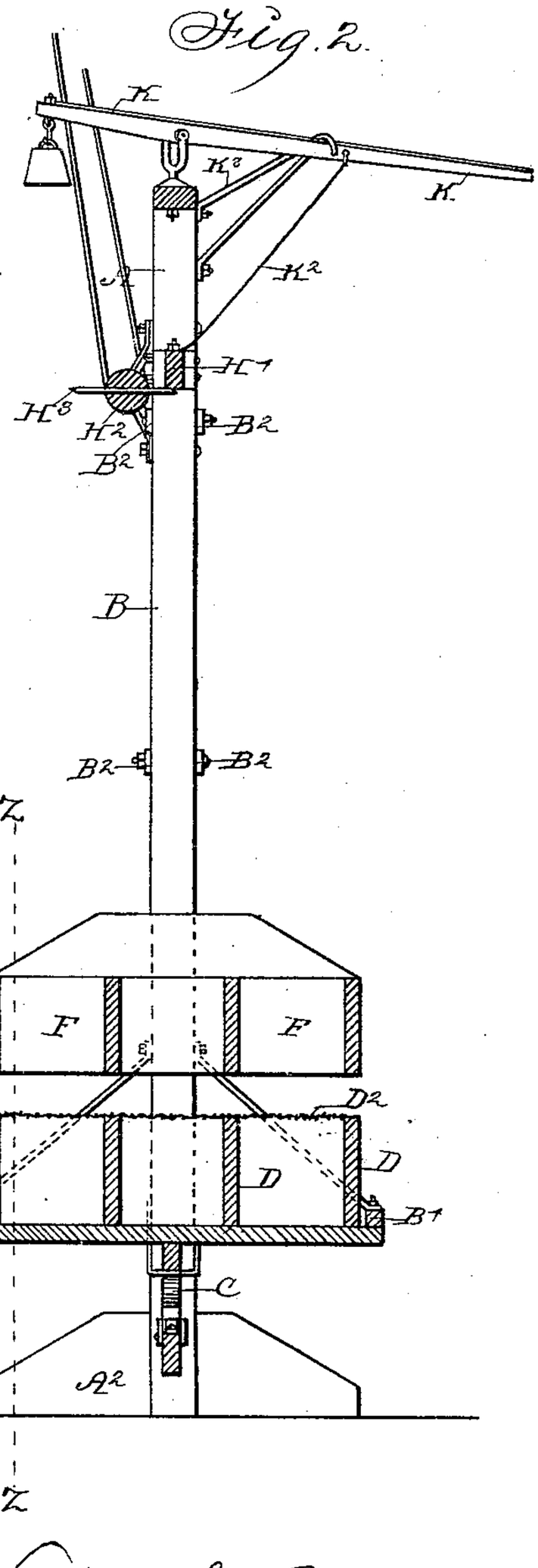


Fig. 2.



Witnesses:
J. Ralph Orwig.
Charles F. Wilcox.

Inventor: Newton H. Tilden,
By Thomas G. Orwig, Attorney

(No Model.) 2 Sheets—Sheet 2.

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Fig. 4.

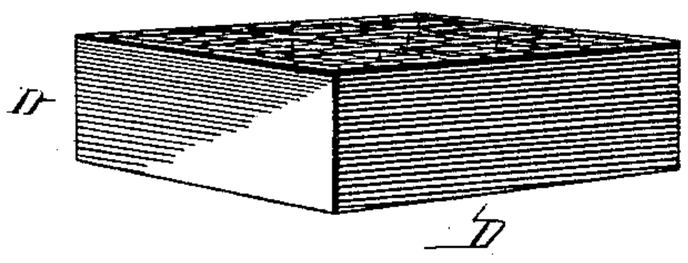


Fig. 3.

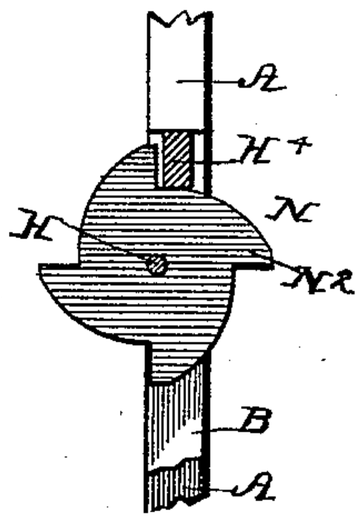


Fig. 5.

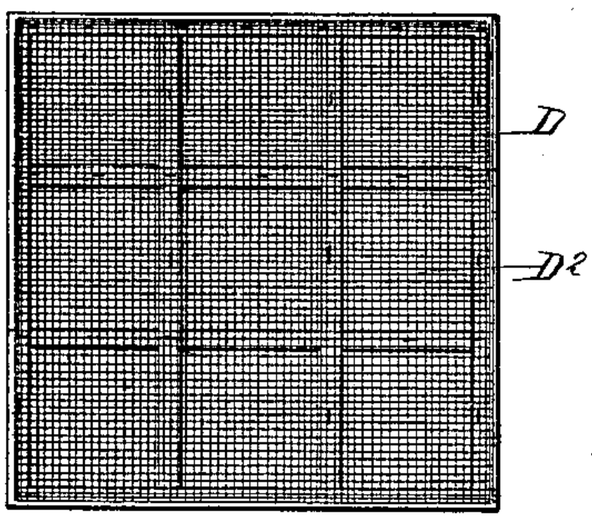
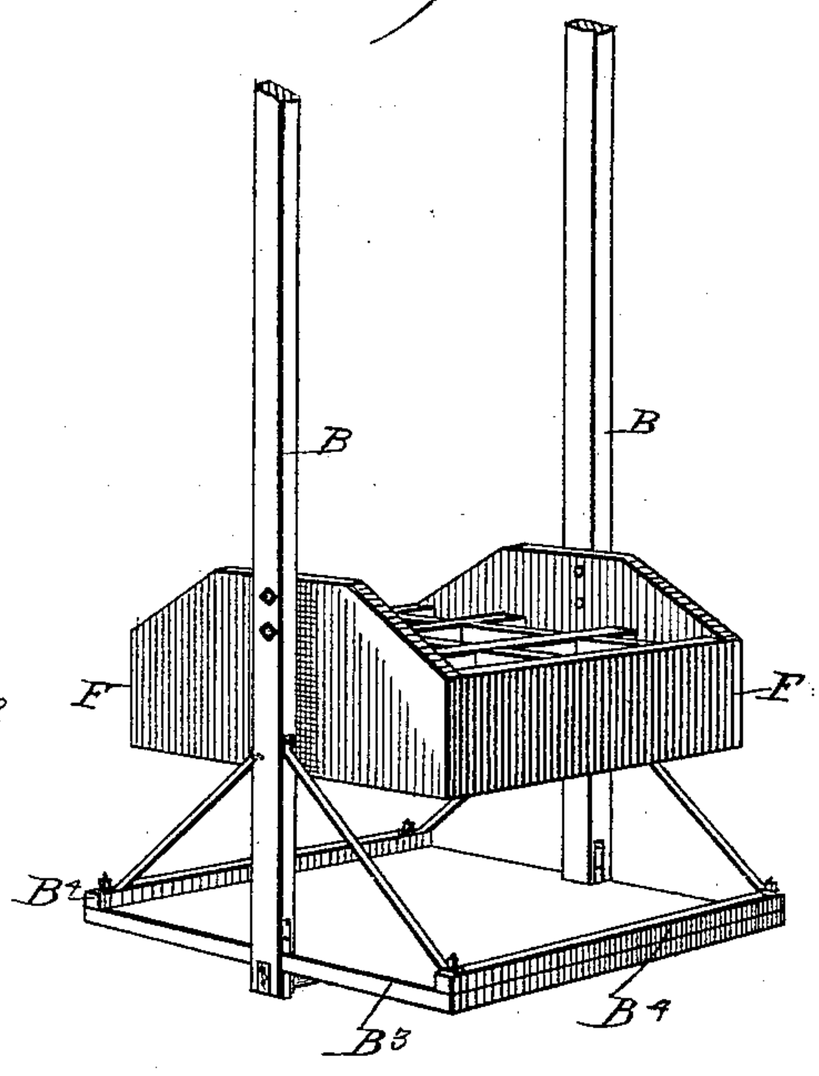


Fig. 6.



Witnesses:
J. Ralph Orwig.
Charles F. Wilcox.

Inventor: Newton H. Tilden,
By Thomas G. Orwig, Attorney.

UNITED STATES PATENT OFFICE.

NEWTON H. TILDEN, OF DES MOINES, IOWA, ASSIGNOR TO W. S. HANCOCK, OF CHICAGO, ILLINOIS, AND THE A. C. MOUNT BROOM COMPANY, OF DES MOINES, IOWA.

HURL STEMMING AND SORTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 536,972, dated April 2, 1895.

Application filed June 26, 1893. Serial No. 478,904. (No model.)

To all whom it may concern:

Be it known that I, NEWTON H. TILDEN, a citizen of the United States of America, residing at Des Moines, in the county of Polk and State of Iowa, have invented an Improved Hurl Stemming and Sorting Machine, of which the following is a specification.

My object is to produce a cheap, simple and durable machine, adapted to separate the hurl and stems of broom corn.

To this end my invention consists in certain details in the construction, arrangement and combination of the various parts of the device, as hereinafter set forth, pointed out in my claims and illustrated in the accompanying drawings, in which—

Figure 1 is a vertical sectional view through the line Z, Z, of Fig. 2. Fig. 2 is a vertical sectional view through the line X, X, of Fig. 1. Fig. 3 is an enlarged detail view, of a modified form of device for vibrating the frame. Fig. 4 is a perspective view of the separator and receptacle for holding the hurl. Fig. 5 is a top view of the same. Fig. 6 is a perspective view of the lower portion of the machine frame with the separator removed.

Referring to the accompanying drawings, the reference letter A is used to designate a supporting frame, composed of two uprights with a cross piece at their tops, mounted on the base A^2.

B designates a second frame composed of two uprights and a cross piece at their tops, adapted to be placed on the inside of the frame A.

B^2 are clips secured to the frame and extending inwardly beyond the edges of the uprights thereof to allow the frame B to slide vertically relative to the frame A. Fixed to the lower end of this sliding frame, is a platform B^3 having the raised side pieces B^4 thereon, for purposes hereinafter set forth.

C designates a cushion, preferably made of rubber fixed to the base A^2 and adapted to be engaged by a cross piece attached to the bottom of the platform B^3, to prevent noise and the wearing away of the contacting surfaces.

D designates a rectangular frame, having a number of partitions therein dividing it into compartments open at their tops and bottoms, and D^2 is a screen stretched over the top of this frame and having its meshes of such a size as to allow the hurl to pass therethrough and retain the stems and coarser parts. This frame is adapted to be placed upon the platform B^3 and is of a size slightly smaller than said platform, so that it may freely slide thereupon, in a horizontal plane in any direction.

F designates a frame similar to the frame D, and permanently fixed between the uprights of the frame B, a slight distance above the screen D^2, for the purpose of receiving the hurl and holding it in a vertical position upon the screen. I have provided the following mechanism for vertically reciprocating the said sliding frame as required to cause the hurl to be passed through the screen:

H designates a shaft rotatably mounted in the frame A near its top. H^2 is a roller on said shaft and provided with the projections H^3, on its opposite sides adapted to be brought into engagement with the cross piece H^4 of the frame B, and when rotated to elevate the said frame B.

J designates a belt on a pulley fixed to the outer end of this shaft, whereby the shaft may be operated.

K designates a weighted lever, swiveled to the top of the frame A and connected with the frame B by means of a rope K^2 so that the frame B is normally held elevated and its cross piece H^4 out of engagement with the projections on the roller H^2. K^3 is a hook secured to the frame A to engage the said lever and hold it downwardly and thereby release the frame B, so that the projections on the roller will engage the cross piece of the frame and elevate it.

In the modification shown in Fig. 3 a cam N is shown, fixed to the shaft H and having four projections N^2 to engage the cross piece of the frame B and operate the said frame at a greater rate of speed with the same rate of rotation of said shaft.

In practical use, the cut broom-corn or hurl is placed in the upper frame in a vertical position with their ends resting upon the screen. The cross pieces or partitions in said upper frame aid in keeping the hurl in a vertical position while it is being filled or when the frame

is not full. The lower frame, by being loosely placed upon the bottom of the vibrating frame, is moved laterally upon the said bottom relative to the upper frame by the vibration of the frame so that the hurl is shaken through the screen and not caught upon the meshes of the screen or by the cross pieces. Power may be applied to the shaft H either by a mechanical motor or manually, and as the frames are vibrated the parts that are small enough will pass through the screen into the lower frame and the larger parts be retained in the upper frame.

Having thus described my invention, what I claim as new therein, and desire to secure by Letters Patent of the United States therefor, is—

1. In a device for grading broom-corn stems, the combination of a vessel, the upper portion divided into compartments, such upper and lower compartments separated by a suitable sieve such device adapted to be elevated to a desired height and then dropped, so that the under portion of the vessel by such fall is brought in contact with a fixed body for the purposes stated and substantially as described.

2. A hurl stemming and sorting machine, comprising an upright frame a second frame within the first, capable of a vertical movement relative thereto, a horizontal frame having a number of vertical cross pieces or partitions therein for the purposes stated, fixed to the lower end portion of the sliding frame, a screen below said horizontal frame and means for vibrating the sliding frame, substantially as and for the purposes stated.

3. A hurl stemming and sorting machine, comprising an upright frame, a second frame capable of a vertical movement relative to the first, a bottom to said sliding frame, a horizontal frame having vertical partitions, fixed to said sliding frame near its bottom, a second horizontal frame loosely placed upon said bottom, to move horizontally thereon, a screen at the top of said movable frame, and means for vertically reciprocating said sliding frame, substantially as, and for the purposes, stated.

4. A hurl stemming and sorting machine, comprising an upright frame, a second frame capable of a vertical movement relative to the first, a bottom to said sliding frame, a horizontal frame having vertical partitions fixed to said sliding frame near its bottom, a second horizontal frame loosely placed upon said bottom to move horizontally thereon, a screen at the top of said movable frame, and the mechanism shown and described for imparting a vertically reciprocating motion to said sliding frame, and the device shown for holding said frame out of engagement with the vibrating mechanism, all arranged and combined, substantially in the manner set forth, for the purposes stated.

NEWTON H. TILDEN.

Witnesses:
G. E. BLACK,
THOMAS G. ORWIG.