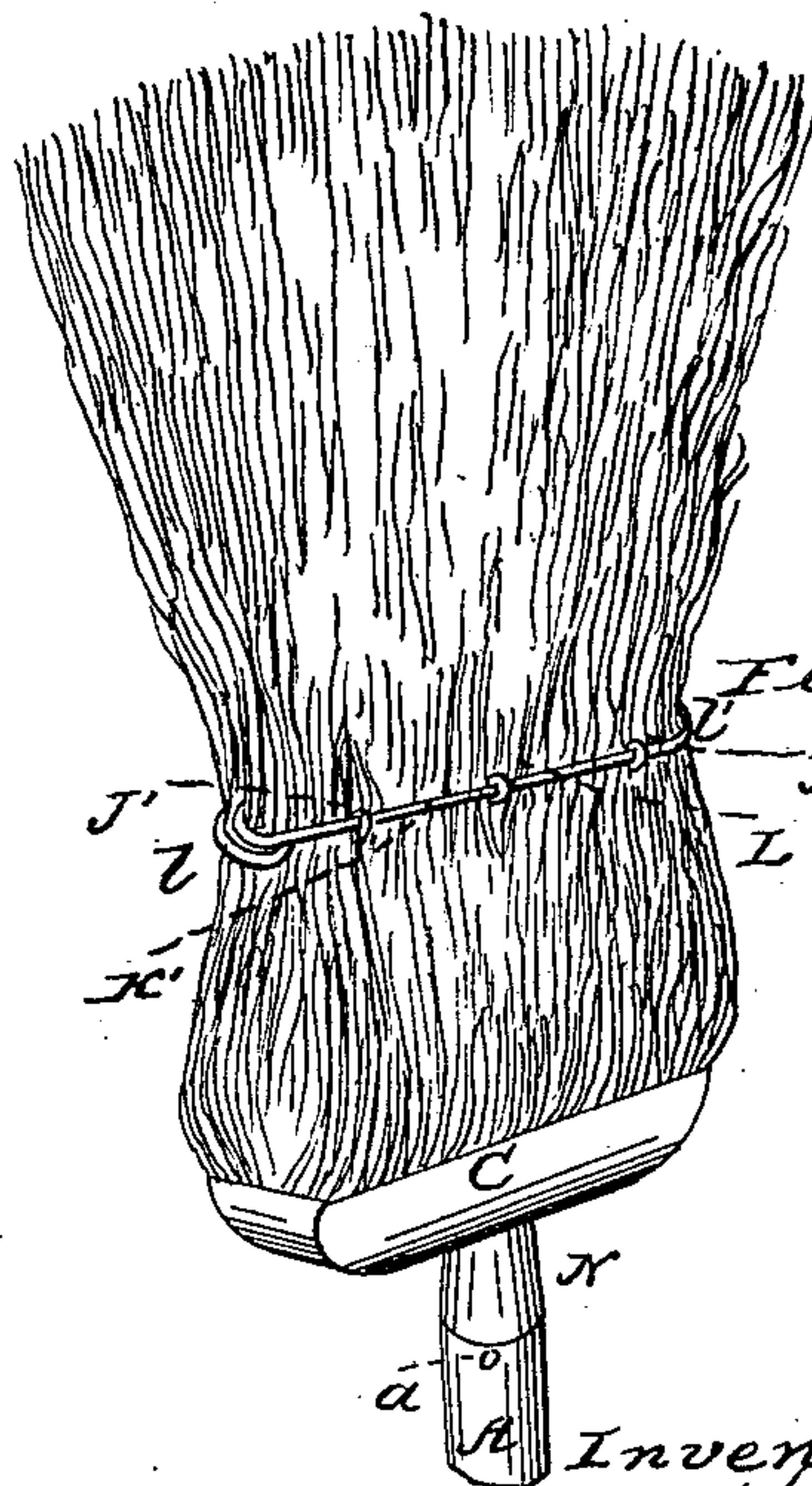
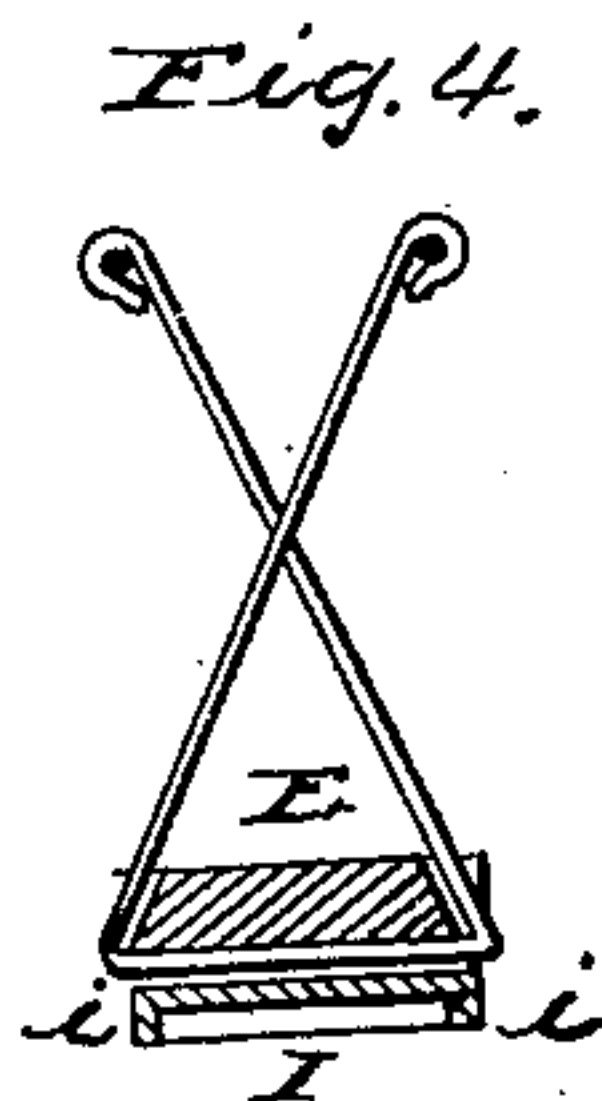
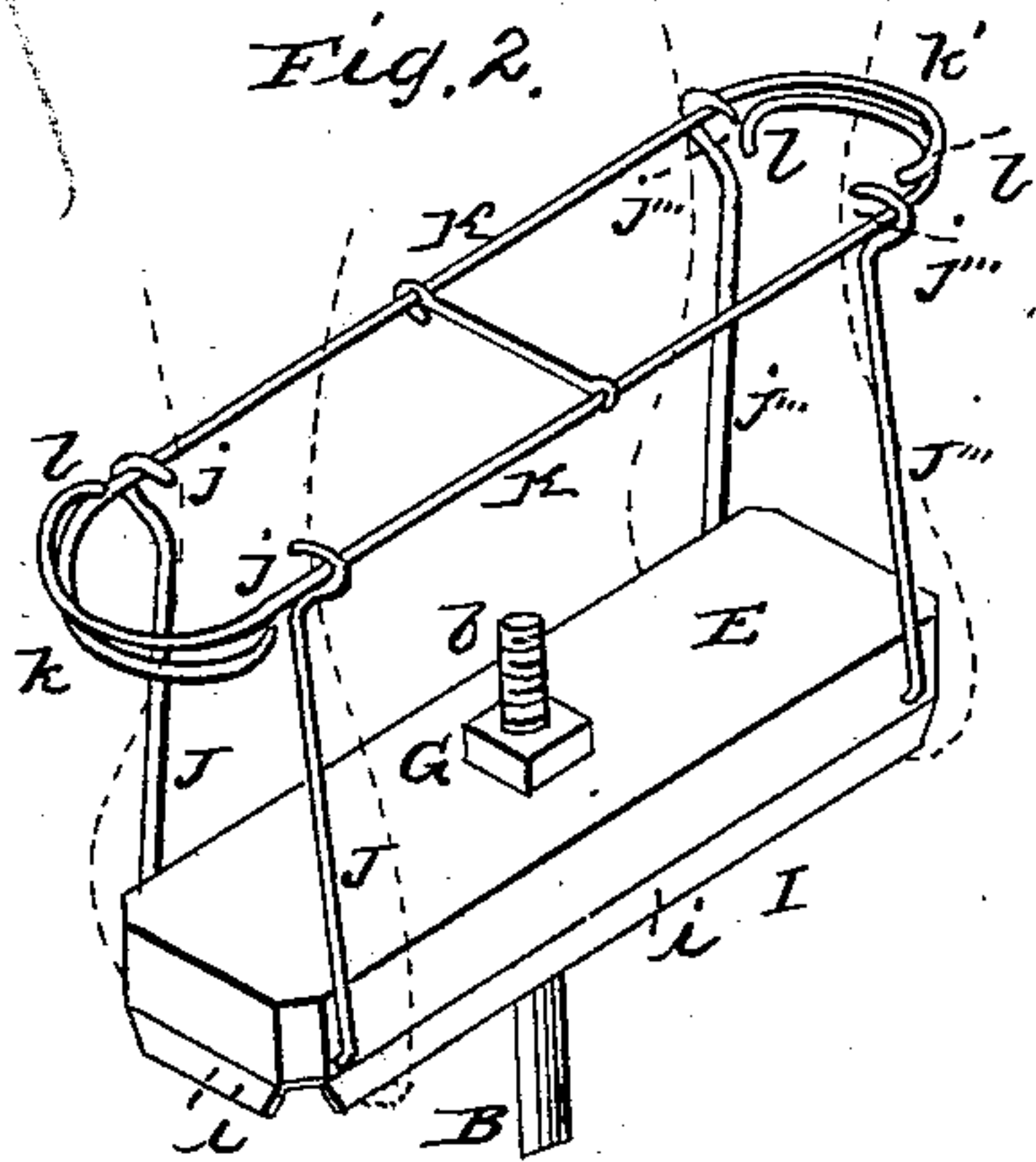
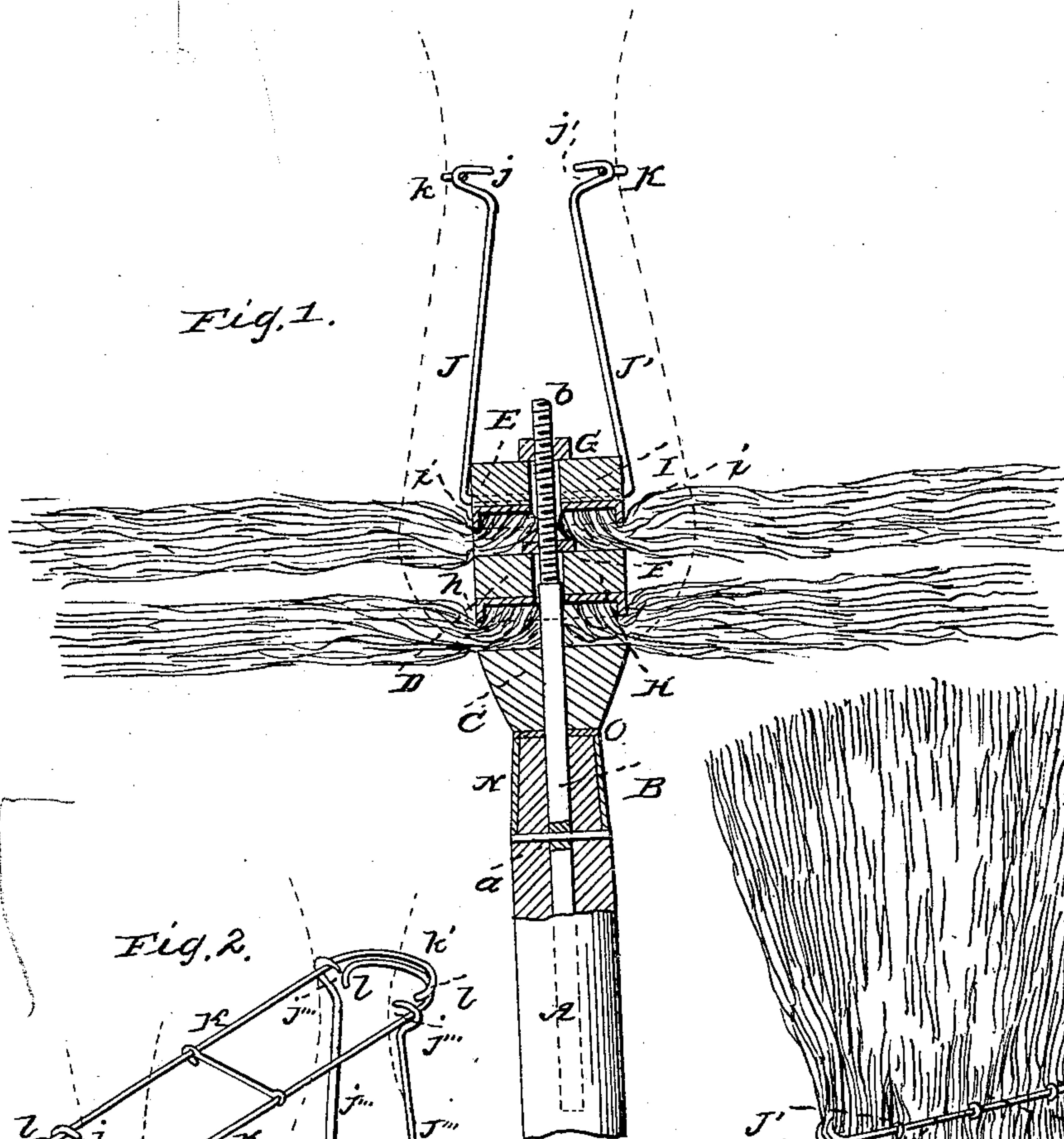


Broom Head.

Patented March 27, 1866.



Witnesses:
James H. Layman
F. E. Allen and

Inventor:
A. B. King
By Knight Bros
attys.

UNITED STATES PATENT OFFICE.

ABRAHAM B. KING, OF SEVEN MILE, OHIO.

IMPROVED BROOM-HEAD.

Specification forming part of Letters Patent No. 53,452, dated March 27, 1866.

To all whom it may concern:

Be it known that I, ABRAHAM B. KING, of Seven Mile, Butler county, Ohio, have invented a new and useful Elastic Broom-Head; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification.

My invention relates to a cheap, light, and simple elastic broom-head, which may be attached to an ordinary wooden handle, and having suitable clamps, between which the broom-corn or other material can be secured in a few minutes, and is designed principally for the use of farmers, who, having the raw material constantly on hand, are thus enabled to manufacture their own brooms at a mere nominal cost.

In the accompanying drawings, Figure 1 is a transverse vertical section of an elastic broom-head embodying my improvements, and exhibits the method of securing the corn in the clamps. Fig. 2 is a perspective view of the exterior or lower clamp and its accessories. Fig. 3 is a perspective view of my broom-head when filled with corn and ready for service. Fig. 4 exhibits a modification of my elastic spring-rods.

A represents an ordinary wooden handle provided with a screw-threaded shank, B, and said shank may be firmly secured to the handle, so as to revolve with it, by a small pin or rod, *a*, which passes through the handle, and also through a suitable aperture in the shank B.

My broom-head proper is composed of three principal parts, C, D, and E, of which the member C acts as an abutment, which receives the strain from the other parts of the device. The shank B passes through the center of the abutment, although said abutment is not adjustable as are the clamps D and E. The inner wooden clamp, D, is provided with a flexible nut, F, of leather, cork, india-rubber, or other suitable substance, and said nut performs a double office—serving in the first place to bring the necessary pressure to bear upon the clamp D, and afterward to act as a washer, thus preventing the clamp E from cutting off the heads of the corn contained between it and the clamp D. The exterior clamp, E, has attached to its outer face a metallic nut, G, which engages with the screw-threaded portion *b* of

the shank B. The clamps D and E have attached to their inner faces metallic plates H and I, which are provided with inwardly-projecting flanges *h h'* and *i i'*, said flanges being located both at the sides and ends of the plates H and I, as shown in Fig. 2. The clamps D and E and flange-plates H I have central apertures sufficiently large in diameter to admit the screw-threaded portion *b* of the shank without engaging with it.

J J' J'' J''' are spring-rods which rise vertically from the exterior clamp, D, having an inward inclination, and being provided at their upper ends with hooks *j j' j'' j'''*, which support the binding-wires K K'. The rods J J' are formed of one piece of spring-steel, and are maintained in their proper position by means of their horizontal portion, which enters a transverse groove near the end of the clamp E, and the flange-plate I, being attached to the clamp, prevents the rod from being displaced. The rods J J' are connected to the opposite end of the clamp in the same manner. I prefer to form these rods of spring-steel; but as a matter of economy ordinary iron or brass wire may be employed, and where this is done the rods should cross to opposite sides of the clamp, as shown in Fig. 4.

The binding-wires K K' terminate in semi-circular portions *k k'*, having hooked ends *l*, which enter the material of which the broom is composed, as shown in Fig. 3. A small link, L, connects the binding-wires K K' at their mid-lengths and prevents them from being sprung too far by the pressure of the broom-corn.

The end of the handle A is shod with a ferrule, N, and a metallic washer, O, is interposed between said ferrule and the abutment C, so as to prevent the latter from being worn by the rotation of the handle.

Operation: The broom-head is filled with corn in the following manner, the members C, D, and E being supposed to be separated some distance from one another: The wisps are first inserted between the abutment C and interior clamp, D, their heads being laid uniformly under the flange-plate H, and when a sufficient quantity of material has been thus arranged the flexible nut F is screwed down, so as to cause the flanges *h h'* to nip the heads of the corn and hold them in position. The

space between the interior clamp, D, and exterior clamp, E, is then filled with corn in the same manner, and the material is secured by screwing down the metallic nut G, when the flanges *i i'* hold the wisps in position, the same as the flanges *h h'*, the nut G being still farther screwed down to act to force together both sets of jaws, the temporary threads formed in the washer or flexible nut F giving way under the pressure thus generated. The wisps which have been protruding in a horizontal position are now gathered together, and their free ends are forced up between the binding-wires K K', as shown by dotted lines in Figs. 1 and 2, the hooked ends *l* of these wires being inserted in the substance of the broom, (see Fig 3,) and the binding-wires being connected by the link L, the operation of filling the head is completed. After the clamps have been filled with corn in the manner described, the handle A, and with it the screw-threaded shank B, is turned, which act brings a powerful pressure to bear upon the clamps, and secures the corn so firmly in position that it is impossible to remove it without slackening the screw, which is done by rotating the handle in a reverse direction.

Numerous attempts have been made to produce a popular broom-head; but as they are constructed entirely of metal their weight and rigidity have been serious objections against their use, besides which their angles and projecting parts are constantly scratching and defacing the furniture and catching in the dress

and crinoline of the operator, provided the same is a female.

The three principal members, C, D, and E, of my broom-head being made of light wood, the flange-plates H I of thin sheet metal, and the remaining parts of small wires, the weight is thus reduced to its minimum, while it will be seen by referring to Fig. 3, that there are no angles or projecting parts to obstruct the action of the broom when used for sweeping.

The spring-rods J J' J'' J''' and binding-wires K K' yield at each and every movement of the broom, by which arrangement a broom constructed on my improved plan is more elastic than any now before the public.

In making small brooms the interior clamp, D, may be omitted and the exterior one, E, used alone.

I claim herein as new and of my invention—

1. A broom-head composed of a wooden abutment, C, and one or more wooden clamps, D and E, all arranged and operating substantially as described.

2. The flange-plates H *h h'* and I *i i'*, or their equivalents, in combination with the clamps D and E, as set forth.

In testimony of which invention I hereunto set my hand.

A. B. KING.

Witnesses:

GEO. H. KNIGHT,
JAMES H. LAYMAN.