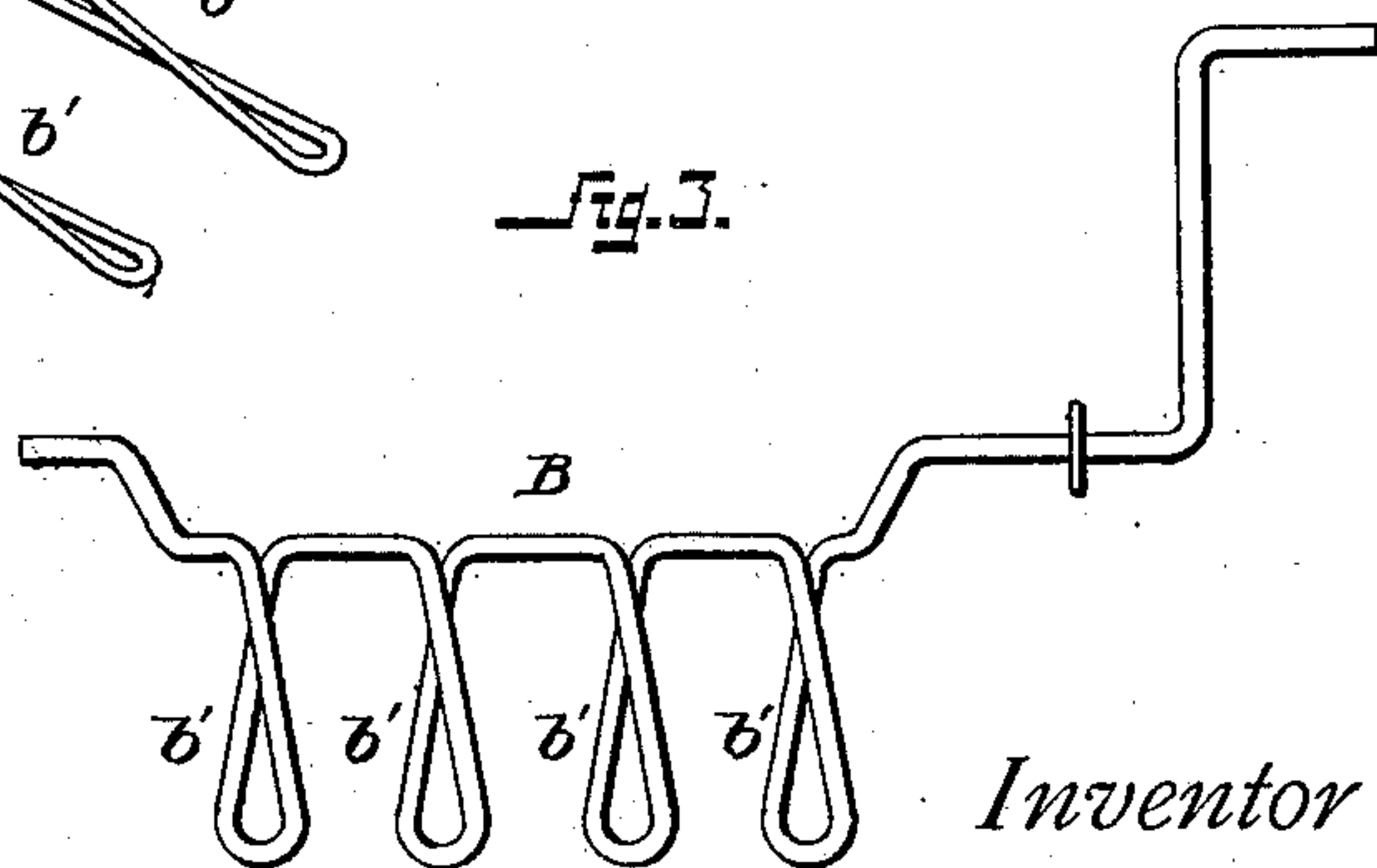
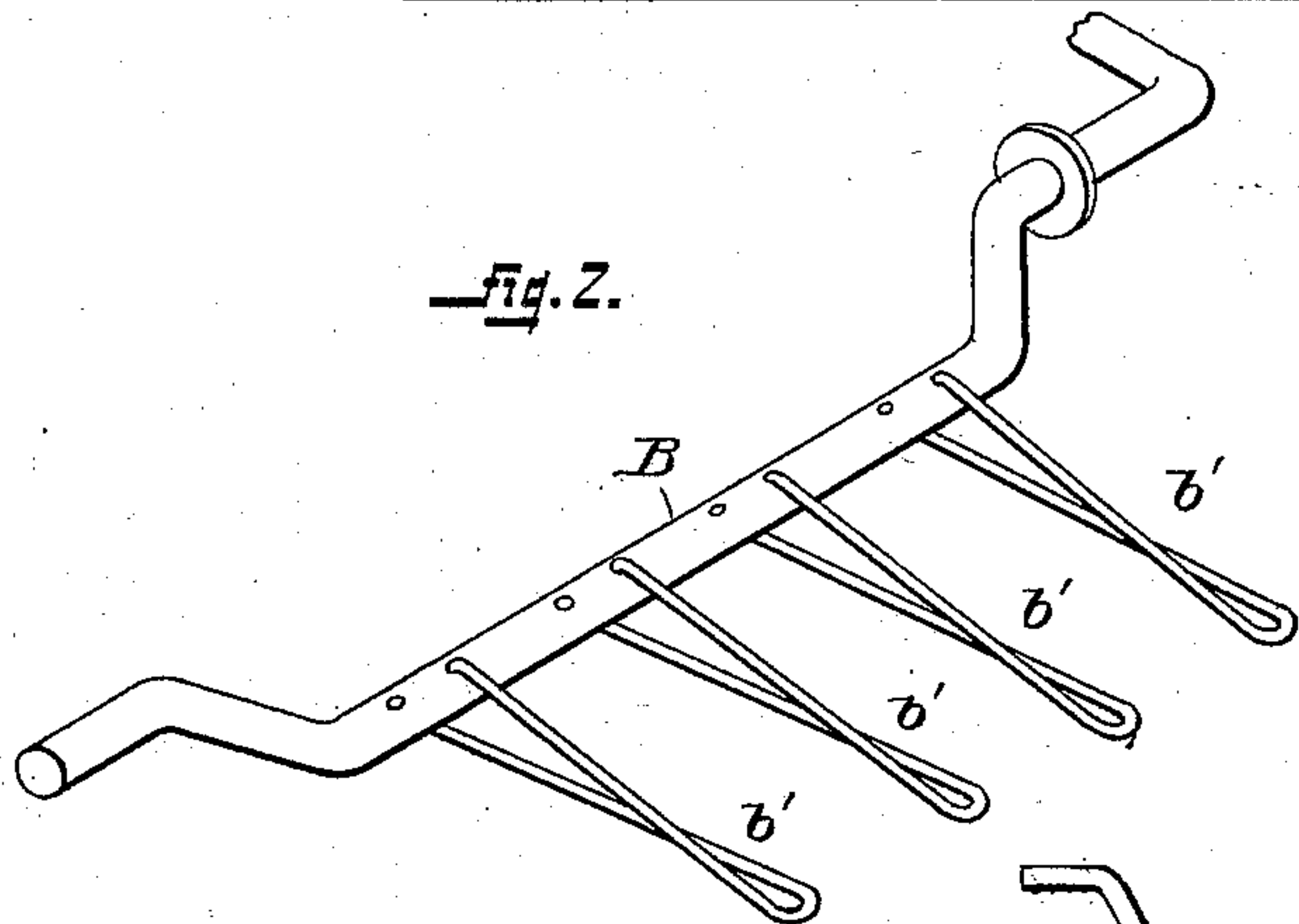
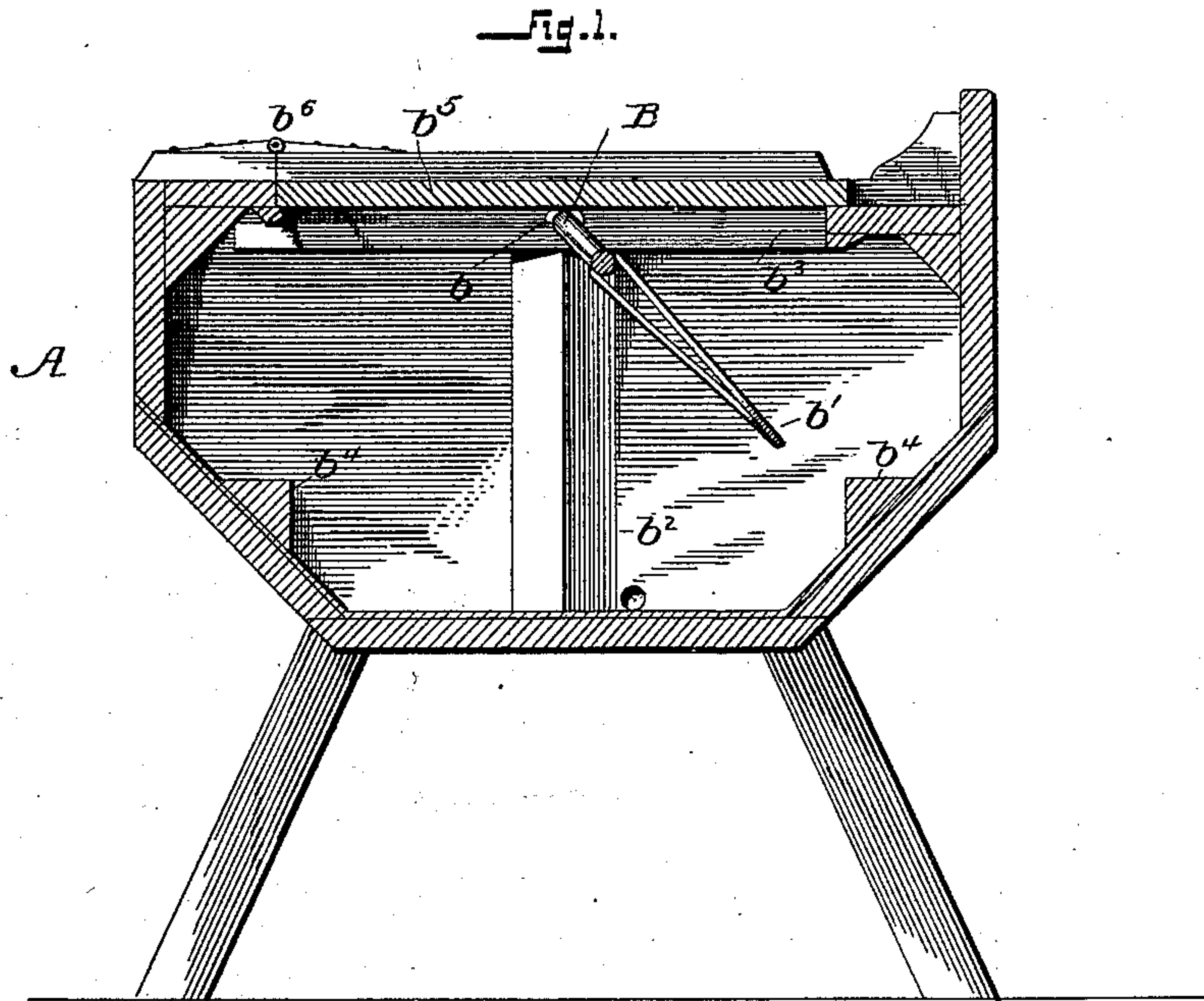


(No Model.)

E. W. ALLEN.
WASHING MACHINE.

No. 393,957.

Patented Dec. 4, 1888.



Witnesses:

W. W. Northrup
J. F. Riley

Inventor :

by *Erasmus W. Allen,*
A. S. Dyrenforth,
his Attorney.

UNITED STATES PATENT OFFICE.

ERASMUS W. ALLEN, OF SENECA, KANSAS, ASSIGNOR OF ONE-HALF TO
OBADIAH G. NEWTON, OF TRENTON, MISSOURI.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 393,957, dated December 4, 1888.

Application filed August 19, 1887. Serial No. 247,376. (No model.)

To all whom it may concern:

Be it known that I, ERASMUS W. ALLEN, a citizen of the United States, residing at Seneca, in the county of Nemaha and State of Kansas, have invented certain new and useful Improvements in Washing-Machines; 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.

This invention relates to washing-machines.

The objects are to construct a washing-machine for the purpose of cleansing and rinsing clothing and other fabrics in a most thorough and speedy manner by the aid of water or other suitable liquid heated to a suitable temperature.

Furthermore, the object is to produce a washing-machine of such simple and cheap construction that the same may be operated by any one, and thus not require the assistance of a skilled operative.

With these objects in view the invention may be stated, briefly, to consist in a washing-machine composed of a suds-box of preferably semi-octagonal configuration having ridges or projections on the inside thereof.

Furthermore, the invention consists of a shaft suitably mounted in bearings in the suds-box and twisted loops or fingers mounted upon said shaft and arranged in the same horizontal plane; and, finally, the invention consists in the novel construction, combination, and adaptation of parts comprising the washing-machine, as hereinafter fully described and claimed.

In the accompanying drawings, forming part of this specification, and in which like letters of reference indicate corresponding parts, Figure 1 is a vertical section of my invention, showing the semi-octagonal suds-box. Figs. 2 and 3 are detail views showing, respectively, the shaft with the wire loops or fingers mounted thereon, the loops being separately attached to the shaft, also showing a modification of my invention with the fingers, shaft, and handle being constructed of one piece of wire metal.

Referring to the drawings, A designates the suds-box, which is preferably of semi-octag-

onal shape, in order that when the shaft is oscillated the loops or fingers will be about equidistant from every portion of its interior, thereby allowing the fabric or articles being cleansed sufficient space to move or circulate.

B is the shaft, which is integral with the handle and is mounted in bearings at *b*, the part of the shaft that forms the journal nearest the handle being provided with an annulus, as clearly shown in Figs. 2 and 3 of the drawings, turning in a suitable groove or recess in one of the bearings in the side of the suds-box to prevent the shaft being accidentally disengaged therefrom. This shaft is preferably constructed of galvanized iron, not to be susceptible of or subject to corrosion.

The fingers or loops *b'* are secured to the shaft by being inserted into apertures running transversely through it, and their ends, which protrude through the opposite side of the shaft, having been highly heated, are hammered and flattened against the shaft.

The respective ends of this form of loop or finger take into opposite sides of the shaft in order more efficiently to resist any strain incidental to its position on the shaft. The loops proper, as employed in this invention, are made flat on a line with the shaft, and are not bent transversely thereto, as described and claimed in a previous patent granted to me February 2, 1886, and numbered 335,413.

In order more thoroughly to cleanse the fabric projections are provided on the interior of the box in such position as to come in contact with the material being cleansed, the sharp edges of the projections being nearest the shaft.

*b*² are two pieces of wood or metal placed vertically against the side of the interior of the box and assuming the double function of a projection, for the purpose specified, and a support for the horizontal strip *b*³, upon which the bearing is formed. Similar projections, *b*⁴ *b*⁴, are placed horizontally near the bottom of the suds-box, as shown.

The interior of the suds-box is preferably lined with tin to withstand the wear and tear caused by constant use, and also to prevent the wood becoming soaked and injured.

In Fig. 3 I have illustrated a modification of my invention, in which the shaft, fingers,

and handle are constructed of one piece of metal. This device produces substantially the same result, and, as will be apparent, greatly decreases the cost of manufacture.

5 The suds-box is provided with a suitable top or lid, b^5 , for the purpose of excluding extraneous matter from the interior of the machine. To the lid is attached a knob or handle of suitable shape and size; more
10 easily to raise and lower the lid. This lid or top is suitably mounted upon hinges b^6 , secured upon either side to pieces of wood, which, in turn, are secured, respectively, to the lid and box proper. Thus when the lid
15 is thrown back it assumes a horizontal position about two inches above the box proper, in which position it serves as a platform for the articles being washed.

The side of the suds-box is pierced near the
20 bottom by a suitable opening or port for the discharge of refuse-water from the interior. After such discharge the stopper or bung which fits into this port is replaced and pure water is then poured in from the top for the
25 purpose of rinsing the articles.

The different sections of the structure are preferably secured by wooden pins or fasteners suitably glued, thereby avoiding corrosion, as where nails are employed.

Having thus fully described my invention, 30 what I claim as new, and desire to secure by Letters Patent, is—

In a washing-machine, the combination, with the suds-box having the vertical and horizontal projections on the interior thereof, 35 of the shaft journaled in the suds-box, having the fingers or loops thereon bent flat in the direction of the shaft, whereby, when the said shaft is oscillated, the fabrics are thrown into contact or rubbed against the projections of 40 the suds-box, thereby effectually cleansing the same, substantially as described.

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

ERASMUS W. ALLEN.

Witnesses:

C. C. K. SCOVILLE,

C. H. STEWART.