

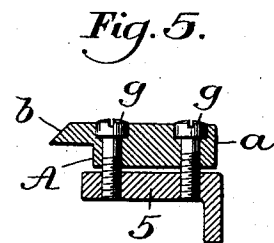
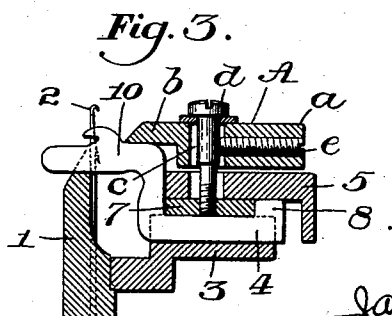
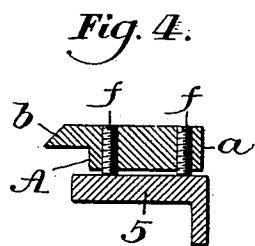
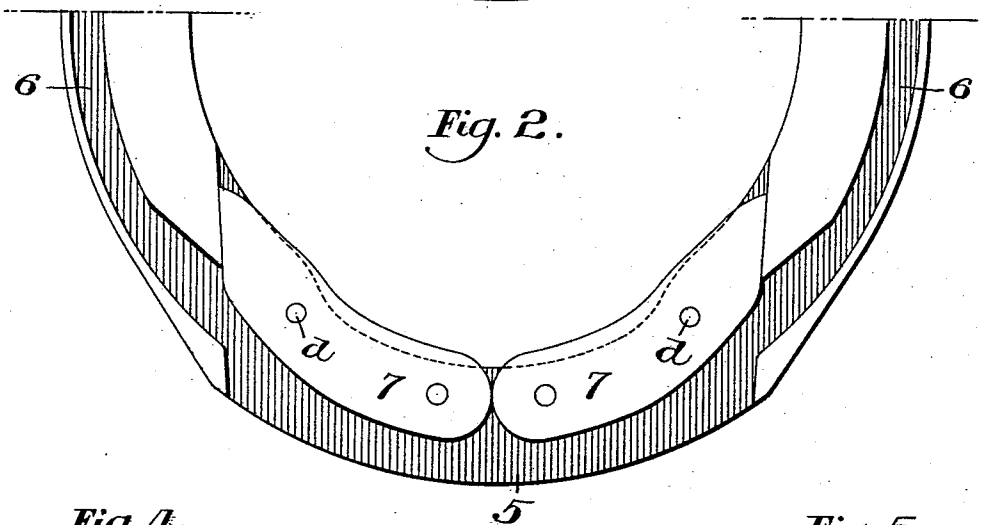
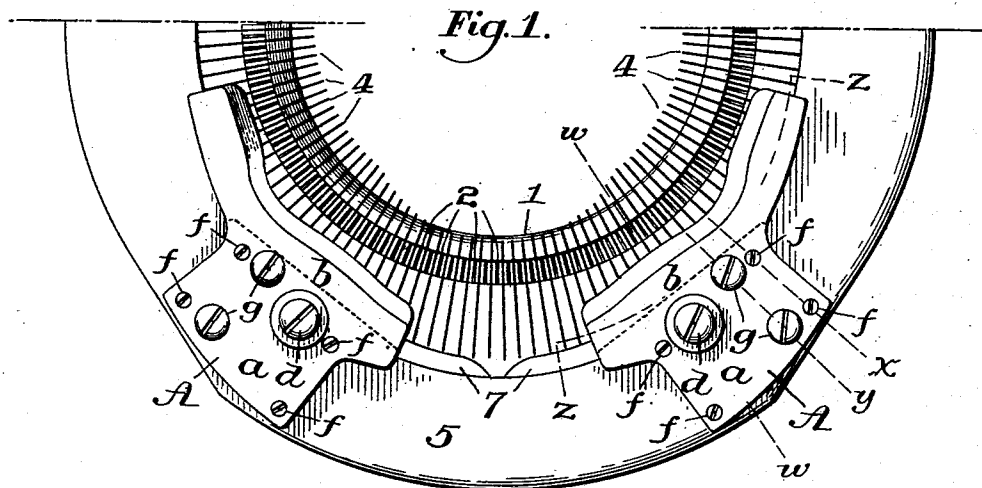
(No Model.)

J. L. BRANSON.

SINKER MECHANISM FOR KNITTING MACHINES.

No. 570,695.

Patented Nov. 3, 1896.



Witnesses.

A. V. Group
H. V. Blackwood.

Inventor.

James L. Branson,
per John B. Nolan
Attorney.

UNITED STATES PATENT OFFICE.

JAMES L. BRANSON, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO THE
BRANSON MACHINE COMPANY, OF SAME PLACE.

SINKER MECHANISM FOR KNITTING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 570,695, dated November 3, 1896.

Application filed May 14, 1896. Serial No. 591,489. (No model.)

To all whom it may concern:

Be it known that I, JAMES L. BRANSON, a citizen of the United States, residing at the city and county of Philadelphia, State of Pennsylvania, have invented certain new and useful Improvements in Sinker Mechanism for Knitting-Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

This invention relates to sinker or web-holding mechanism for knitting-machines having especial reference to that class wherein the sinkers or web-holders are constructed and arranged to slide in a plane at right angles to the path of movement of the needles in a manner to hold down the successive stitches during the upward strokes of the reciprocating needles and to feed forward the fabric as rapidly as it is produced.

The invention is particularly, though not exclusively, designed for use in connection with the devices set out in Letters Patent of the United States Nos. 445,494 and 464,313, dated January 27, 1891, and December 1, 1891, respectively, which devices, as will be seen by reference to the patents, comprise a circular series of thin angular metallic blades working radially between and alternating with the needles, the vertical member of each plate being provided with a forwardly-extending notched tail or finger that is guided in a slot or kerf in the upper edge of the needle-cylinder, and the lower horizontal member of each plate being fitted to and guided in a radially-slotted annular bed surrounding said cylinder, and being provided with an appropriate cam-engaging portion.

The sinker-actuating cams are supported in a ring rotatably mounted on the sinker-bed, which ring moves with reference to and in concert with the knitting-cams to effect the requisite movements of the sinkers in respect to the needles during the formation of the stitches.

The object of the invention is to provide simple and efficient means whereby the sinkers shall be guided and steadied in their movements and whereby the forward or stitch-engaging portions thereof shall be held uniformly down to their work irrespective of the

irregularities of the bearing-surfaces incident to wear, &c., as will hereinafter appear.

In the drawings, Figure 1 is a partial plan of the head of a knitting-machine embodying the invention. Fig. 2 is a plan of the sinker-cam and a part of the supporting-ring therefor. Fig. 3 is a transverse section, as on the line *ww* of Fig. 1. Figs. 4 and 5 are sections on the lines *x* and *y* of Fig. 1, respectively. Fig. 6 is a section as on the line *zz* of Fig. 1.

The numeral 1 designates the needle-cylinder; 2, the vertically-reciprocable needles therein; 3, the radially-grooved sinker-supporting bed affixed to the needle-cylinder; 4, the radially-reciprocable sinkers which alternate with the needles, and 5 the rotatable sinker-cam ring which is superimposed on the bed 3 in a manner to coact with the sinkers, all being substantially the same in construction and operation as the corresponding parts set out in the aforementioned patent, No. 464,313.

As will be observed, the cam-ring is provided on its under side with a concentric groove 6 and with a pair of oppositely-disposed pivoted cams 7, that extend into the groove, which groove and cams are designed to coact with butts 8 on the sinkers to effect the requisite movements of the latter.

Heretofore when the sinkers were moved inward to engage the web the forward ends of the sinkers have tended to move or rise upwardly, thereby impairing their positive action. This was particularly the case after the bearing-surfaces of the sinkers and other parts had become worn and uneven through continued use. To overcome this objection, I mount, preferably detachably, upon the sinker-bed directly above the cams, plates *A*, which overhang the upper members of the sinkers and afford bearing-surfaces therefor during their horizontal movements, the inner edges of the plates being properly formed in respect to the cams to permit such movements of the sinkers, and also the opening of the needle-latches. In the present instance the plates each comprise a base portion *a*, recessed and laterally extended on its forward edge to provide the overhanging bearing-surface *b* for the sinkers, which surface is beveled at its ends to insure its uninterrupted

passage upon and over the sinkers. (See Fig. 6.)

The portion *a* is provided with a slot *c*, through which extends the set-screw *d* from the underlying sinker-actuating cam, whereby said cam may be properly adjusted in respect to the ring 5. Fitted horizontally to the portion *a* is a screw *e*, which may be screwed up against the screw *d* so as to insure the minute adjustment of the cam. Extending vertically through the body of the plate near the respective corners thereof are set-screws *f*, that bear upon the top of the ring 5. By manipulating these latter screws, when the screw *d* is loosened, the plate may be nicely adjusted vertically in proper relation to the engaging edges of the sinkers, not only when the parts are first assembled, but when they have become worn and irregular by continued service.

In order to prevent displacement of the adjusted plate, vertical screws *g* are provided, which extend through perforations in the plate into the underlying ring.

I claim—

1. The combination, of the needle-cylinder, the sinker-bed, the radially-reciprocable sinkers therein, the cam-ring provided with a groove and cam to actuate said sinkers, and a plate projecting inwardly beyond the cam and cam-ring and providing a guiding and steadying surface for the forward portions of the upper edges of the sinkers during their reciprocation by said cam, substantially as described.

2. The combination, with the sinkers and their supporting parts, of means provided with a cam to actuate said sinkers, and a detachable inwardly-extending plate on said means adjacent to the cam and providing a guiding and steadying surface for the forward portions of the upper edges of the sinkers during their reciprocation by said cam, substantially as described.

3. The combination, with the sinkers and their supporting parts, of means provided with a cam adapted to actuate said sinkers, and a vertically-adjustable inwardly-extending plate on said means adjacent to the cam and providing a guiding and steadying surface for the upper edges of the sinkers during their reciprocation by said cam, and means for adjusting said plate, substantially as described.

4. The combination, with the needle-cylinder, the sinker-bed, the angular sinkers therein, a cam-support, and a cam thereon for actuating said sinkers, of an inwardly-extending plate overhanging the upper members of said sinkers and serving as a guiding

and steadying surface therefor during their reciprocation by said cam, substantially as described.

5. The combination, with the needle-cylinder, the sinker-bed, the angular sinkers therein, a cam-support, and cams thereon for actuating said sinkers, of an inwardly-extending plate overhanging the upper members of said sinkers and serving as a guiding and steadying surface therefor during their reciprocation by the cam, and means for vertically adjusting said plate, substantially as described.

6. The combination, with the sinkers and their supporting parts, of a cam-support, a cam thereon adapted to actuate said sinkers, a vertically-adjustable plate on said support providing a guiding and steadying surface for the upper edges of the sinkers, vertically-disposed screws extending through said plate and bearing upon the said support, and means for fixing said plate in positions of vertical adjustment, substantially as described.

7. The combination, with the sinkers and their supporting parts, of a cam-support, an adjustable cam thereon for actuating said sinkers, a set-screw rising therefrom, a sinker-steadying plate on said support, through which plate the said screw extends, and a horizontal screw in said plate bearing against the said set-screw, substantially as described.

8. The combination, with the sinkers and their supporting parts, of a cam-support, oppositely-disposed cams thereon for actuating said sinkers, and plates mounted on said support above the cams, and provided with overhanging inner edges that afford guiding and steadying surfaces for the forward or stitch-engaging portions of the sinkers during their reciprocation by said cams, substantially as described.

9. The combination, with the needle-cylinder, the sinker-bed, the angular sinkers therein, a cam-support, and cams thereon for actuating said sinkers, of plates mounted on said support above the cams, each of said plates comprising a base portion recessed and laterally extended on its forward edge to provide an overhanging bearing-surface for the forward upper edges of the sinkers during their reciprocation by said cams, substantially as described.

In testimony whereof I have hereunto affixed my signature in the presence of two subscribing witnesses.

JAMES L. BRANSON.

Witnesses:

WALTER S. SUTHERLAND,
JOHN R. NOLAN.