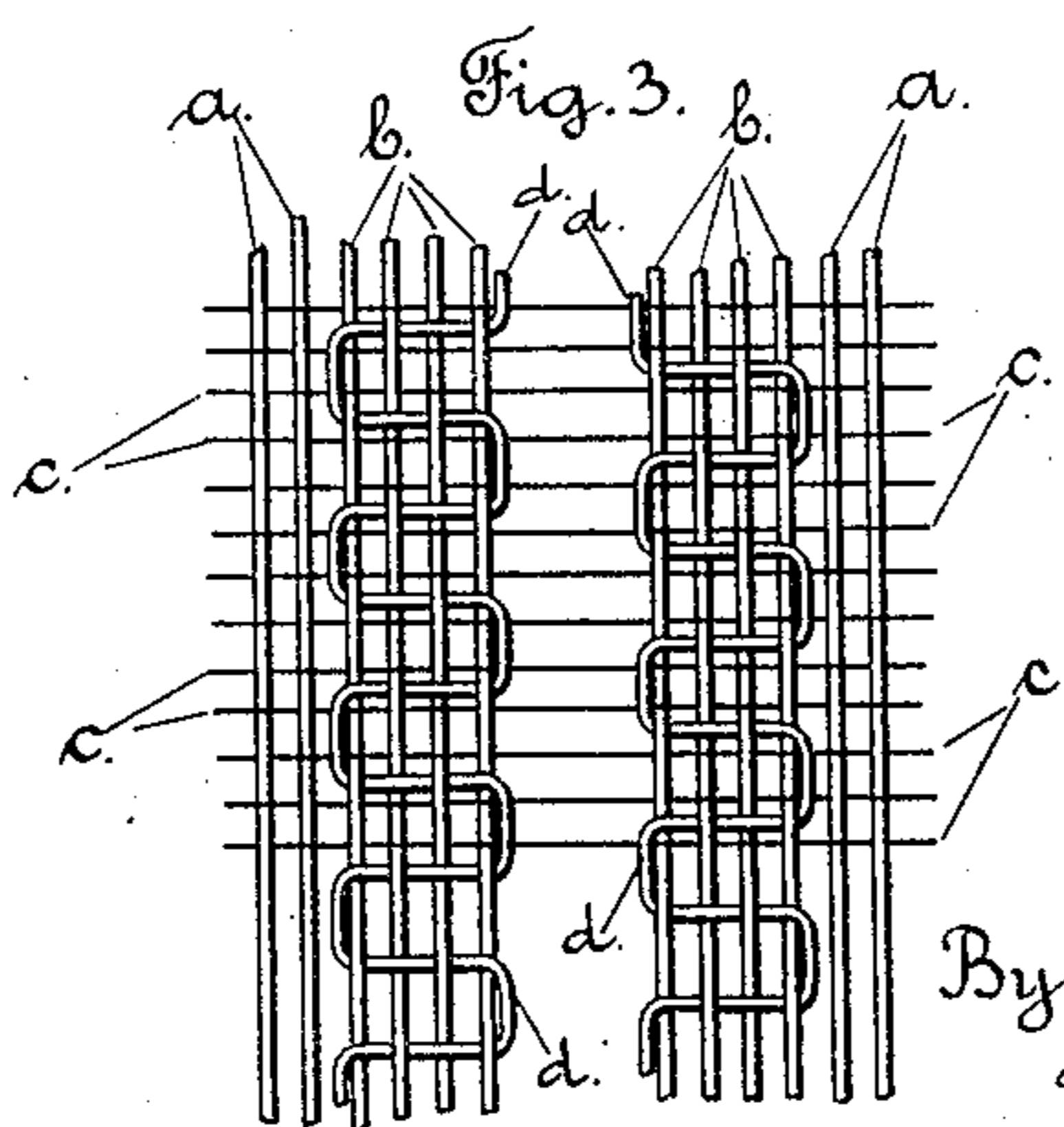
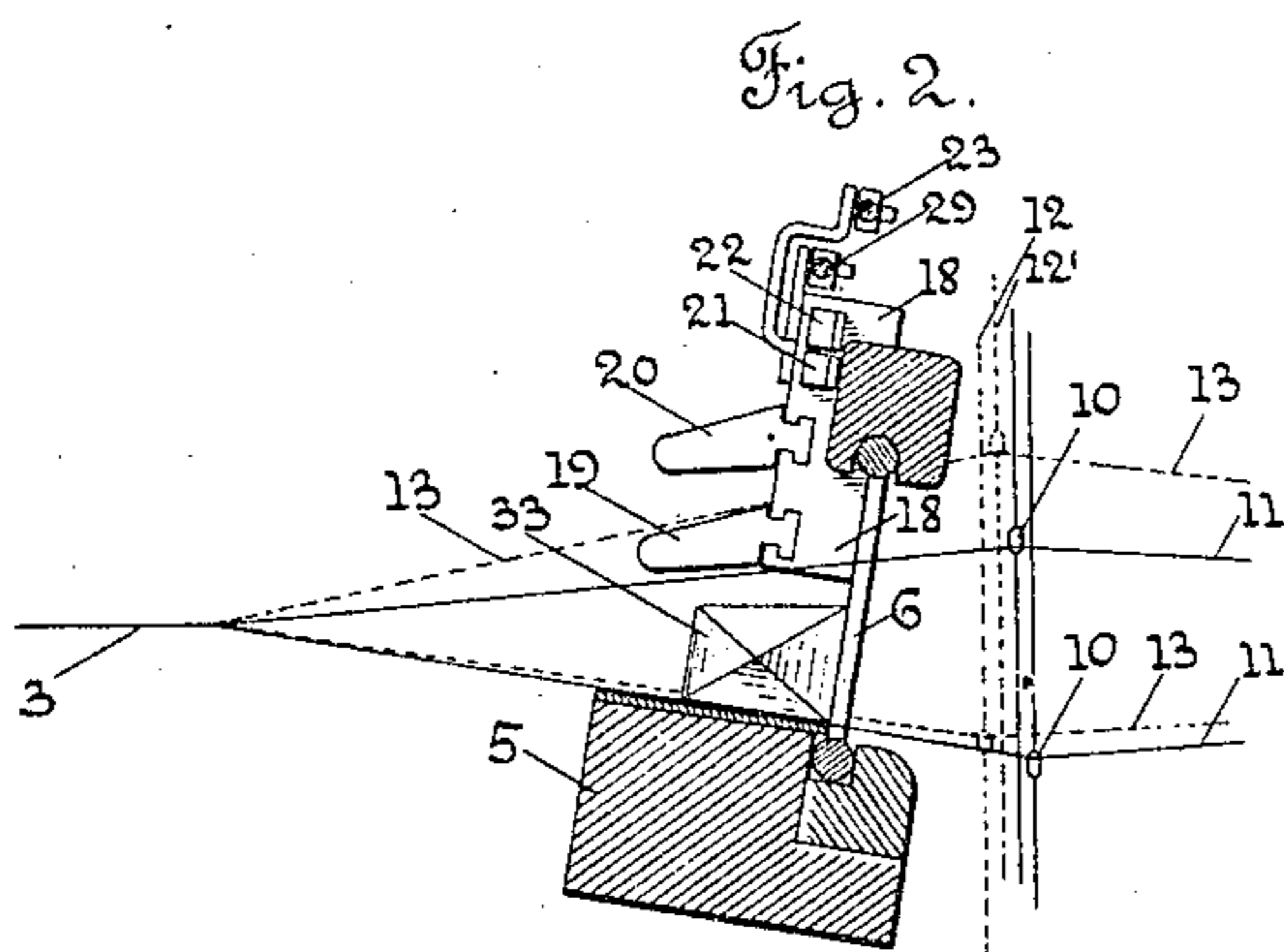
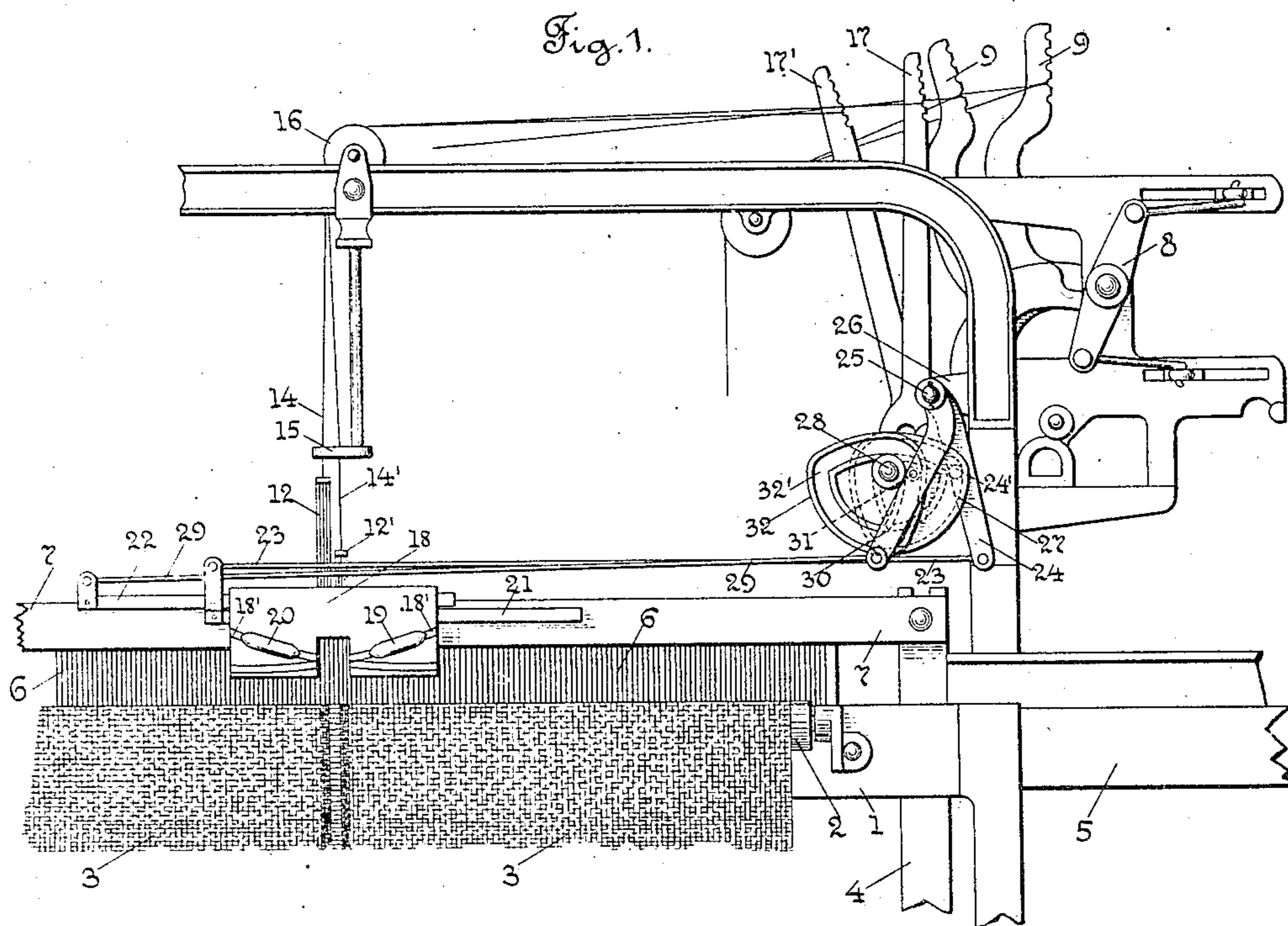


B. F. McGUINESS.
METHOD OF WEAVING.
APPLICATION FILED JUNE 8, 1907.

938.502.

Patented Nov. 2, 1909.



Witnesses
W. Bredt.
W. Raas.

Inventor
Benj. F. McGuinness.
By John E. Dewey
Attorney.

UNITED STATES PATENT OFFICE.

BENJAMIN F. McGUINNESS, OF WORCESTER, MASSACHUSETTS, ASSIGNOR TO CROMPTON & KNOWLES LOOM WORKS, A CORPORATION OF MASSACHUSETTS.

METHOD OF WEAVING.

938,502.

Specification of Letters Patent.

Patented Nov. 2, 1909.

Application filed June 8, 1907. Serial No. 377,941.

To all whom it may concern:

Be it known that I, BENJAMIN F. McGUINNESS, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Methods of Weaving, of which the following is a specification.

My invention relates to a method of weaving fabrics having intermediate selvages,—two or more fabrics at a time as one piece, to be afterward cut apart.

The object of my invention is to improve upon the ordinary method of weaving fabrics of the class referred to, and more particularly to form a selvage on each fabric, of two or more fabrics woven as one piece to be afterward cut apart, in which the selvage filling never passes from the edge or selvage of one fabric, to the selvage or edge of the adjoining fabric, and therefore in cutting apart the two fabrics only the main filling threads will be cut.

In carrying out my improved method of weaving fabrics of the class referred to, I use an ordinary fly shuttle for the ordinary or ground filling, and swivel shuttle for the selvage filling.

I have shown in the drawing a detached portion of a loom, and one form of mechanism combined therewith by which my improved method of weaving may be performed, sufficient to enable those skilled in the art to understand my invention.

Referring to the drawing:—Figure 1 is a front view of a detached portion of one end of the upper part of a loom, and of mechanism combined therewith for carrying out my method of weaving. Fig. 2 is, on an enlarged scale, a transverse section through the lay and the shed forming mechanism shown in Fig. 1. Fig. 3 shows, on an enlarged scale, a detached portion of a double fabric, with my improved selvage on the adjoining edges.

In the accompanying drawing, 1 is the breast beam, having in this instance a roll 2 thereon over which the woven fabric 3, in this instance shown as a double or twin fabric, passes, 4 is the lay sword, carrying the lay beam 5, the reed 6, and the hand rail 7. The dobby motion 8 is of any usual construction, and operates the two jacks 9 for the harnesses 10 for the ground warps 11, see Fig. 2. The two harnesses 12, and 12'

are for the warps 13, for the selvage. There is one harness for the warps for each selvage. Each harness 12, and 12' has a strap 14, and 14' respectively, which passes through the comb-board 15, and over sheaves 16 to the jacks 17, and 17', respectively, which are suitably mounted on the loom side, and are operated in this case by a separate harness chain, not shown. All of the above mentioned parts may be of the usual and well known construction in the class of looms referred to.

I will now describe the mechanism shown in the drawing for performing my method of weaving. A block 18 is in this instance located upon and secured to the front of the hand rail 7, said block 18 has guide-ways 18' therein, of curved shape, in which travel two swivel shuttles 19, and 20. The shuttle 19 is operated by a rack 21, and the shuttle 20 is operated by a rack 22. The racks 21 and 22 are supported and have a reciprocating movement in the block 18, to operate the shuttles 19 and 20, by pinions within the block 18, not shown. The shuttle rack 21 is connected by a rod 23 to one end of a cam lever 24, which is pivotally mounted at its other end on a stud 25 on a stand 26, secured in this instance on some part of the frame of the loom. The cam lever 24 carries a pin or roll 24', which travels in a cam groove in the face of a cam 27, which is fast on a shaft 28, driven from some driven part of the loom, not shown. The other shuttle rack 22 is connected by a rod 29 to one end of a cam lever 30 which is pivotally mounted at its other end on the stud 25 on the stand 26. The cam lever 30 carries a pin or roll 31, which travels in a cam groove 32' in a cam 32 which is fast on the shaft 28. The cams 30 and 32 are so shaped and operated, that when one swivel shuttle 19 is operated, the other swivel shuttle 20 is stationary, and vice versa.

The operation of the mechanism shown in the drawing and above described, for performing my method of weaving, will be readily understood by those skilled in the art. When the lay is in its rear position, shown in Fig. 2, the shuttle 33 is thrown through the main shed, in this case from the right to the left in Fig. 1, at the same time the swivel shuttle 19 carries the selvage filling into the higher shed of the selvage warp of the fabric at the left; the sheds are then

changed. At the next pick, the shuttle 33 goes back from the left to the right, and the other swivel shuttle 20 carries the selvage filling into the higher selvage shed of the fabric at the right, while the first swivel shuttle 19 remains stationary for one pick at the left of the block 18; and the sheds are then changed. At the third pick the shuttle 33 is thrown to the left again, and the swivel shuttle 19 moves back to the right to carry the second selvage filling into the selvage shed of the fabric at the left; and the sheds are then changed. At the fourth pick of the main shuttle 33, the swivel shuttle 20 is moved again, and puts a second selvage filling into the selvage shed of the fabric, at the right and the sheds are then changed, and this operation is repeated, each swivel shuttle acting alternately to put a selvage filling into one fabric, without carrying it into the other fabric.

My method of weaving is clearly shown in Fig. 3, in which *a* designates the warp threads for the body of the fabric, *b* are the warp threads for the inside selvages of the fabric; *c* is the ground filling, and *d* is the selvage filling. Each shot of the ground filling *c* is beaten up, by the reed with a shot of one of the selvage fillings *d* alternately, and thus the selvage filling is as securely bound in the fabric as the ground filling, and in cutting apart the two pieces of the fabric, the selvage filling can never be cut.

It will be understood that I do not limit my invention to the particular mechanism shown and described for performing my method of weaving, as said method may be performed by other mechanisms adapted for the purpose.

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

1. The method of weaving a plurality of fabrics to be cut apart, to make inner selvages, which consists in forming sheds of varying heights in the warp, the higher shed being formed at the inner selvage, inserting the main filling through the lower shed in one direction, and simultaneously inserting a selvage filling through the higher shed formed of the selvage warp on the inner edge of one fabric at one pick, the formation of new sheds, and inserting the main filling through the lower shed in the opposite direction, and simultaneously inserting a selvage filling through the higher shed

formed of the selvage warp in the inner edge of the adjoining fabric at the second pick, the formation of new sheds, and inserting the main filling through the lower shed in the first named direction, and simultaneously inserting a selvage filling through the higher shed formed of the selvage warp on the inner edge of the first named fabric at the third pick, the formation of new sheds, and inserting the main filling through the lower shed in the opposite direction, and simultaneously inserting a selvage filling through the higher shed formed of the selvage warp on the inner edge of the adjoining fabric at the fourth pick, a selvage filling being inserted alternately in the first named fabric, without being carried into the adjoining fabric.

2. The method of weaving a plurality of fabrics to be cut apart, to make inner selvages, which consists in forming sheds of varying heights in the warp, the higher shed being formed at the inner selvage, inserting the main filling through the lower shed in one direction, and simultaneously inserting a selvage filling through the higher shed formed of the selvage warp on the inner edge of one fabric at one pick, the formation of new sheds, and inserting the main filling through the lower shed in the opposite direction, and simultaneously inserting a selvage filling through the higher shed formed of the selvage warp in the inner edge of the adjoining fabric at the second pick, the formation of new sheds, and inserting the main filling through the lower shed in the first named direction, and simultaneously inserting a selvage filling through the higher shed formed of the selvage warp on the inner edge of the first named fabric at the third pick, the formation of new sheds, and inserting the main filling through the lower shed in the opposite direction, and simultaneously inserting a selvage filling through the higher shed formed of the selvage warp on the inner edge of the adjoining fabric at the fourth pick, a selvage filling being inserted alternately in each fabric without being carried into the other fabric, and each pick of main filling being beaten up with a pick of one of the selvage fillings, alternately.

BENJ. F. McGUINNESS.

Witnesses:

JOHN C. DEWEY,
M. HAAS.