

No. 785,359.

PATENTED MAR. 21, 1905.

F. HEINTZE.
SHUTTLE GUARD FOR LOOMS.
APPLICATION FILED MAY 31, 1904.

Fig. 1.

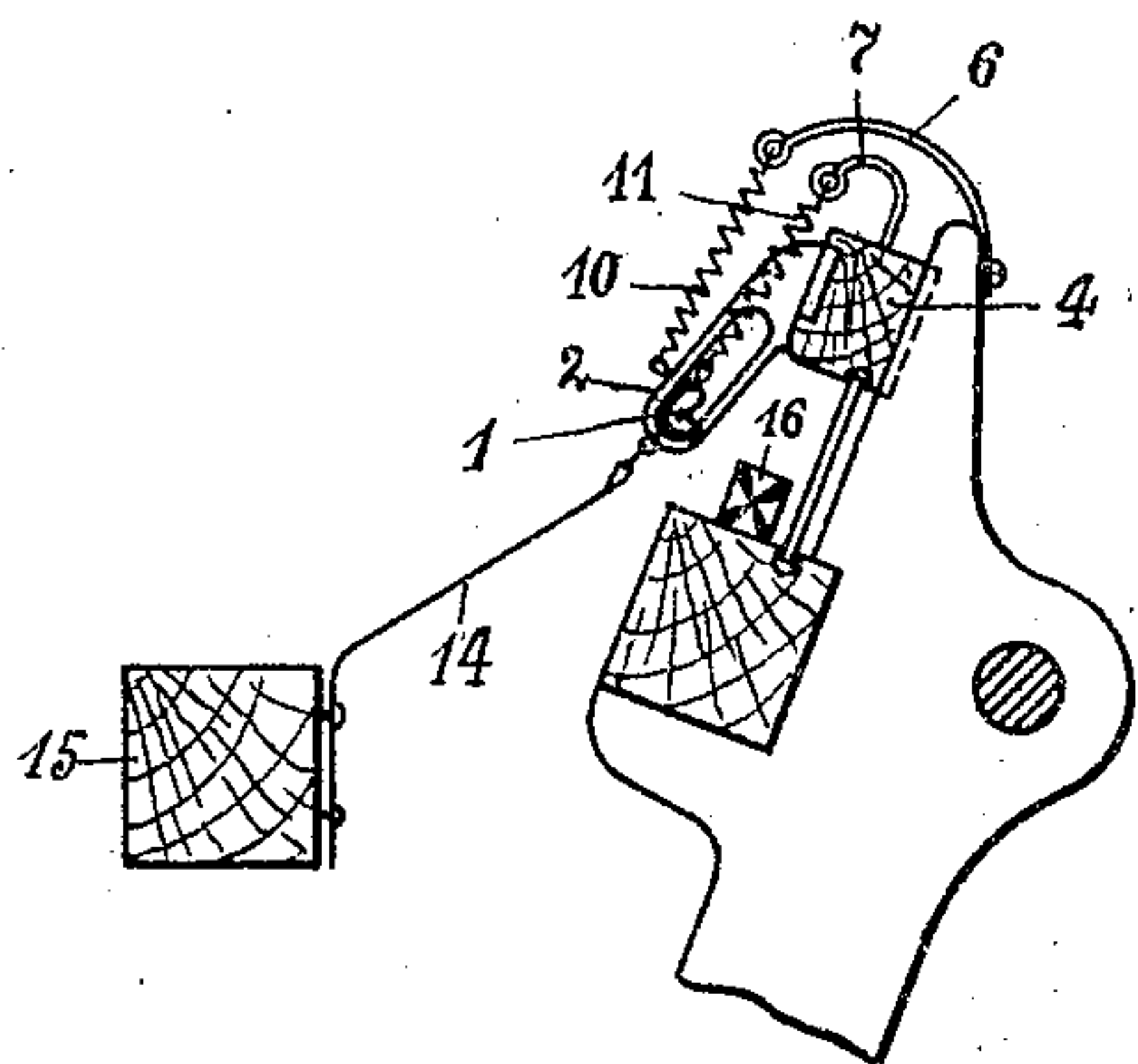


Fig. 2.

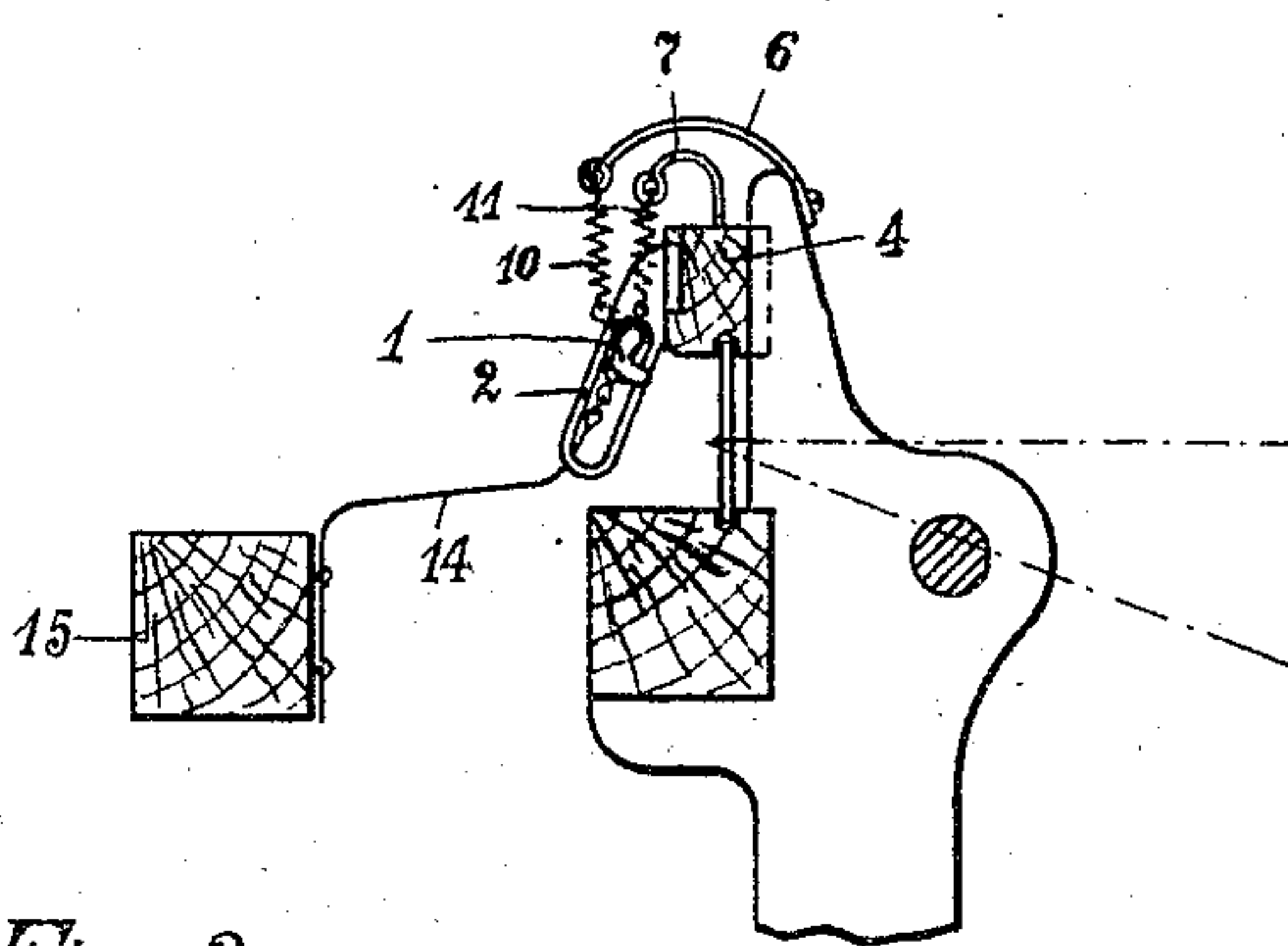


Fig. 3.

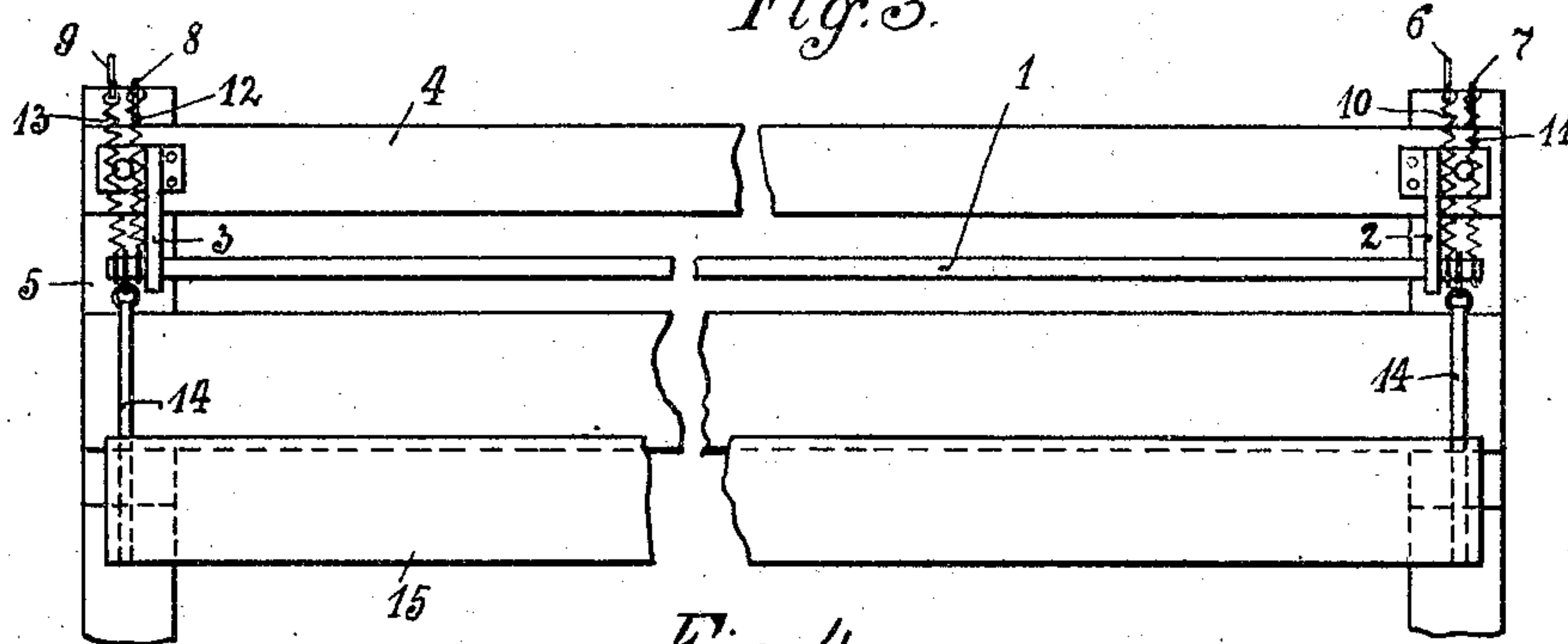
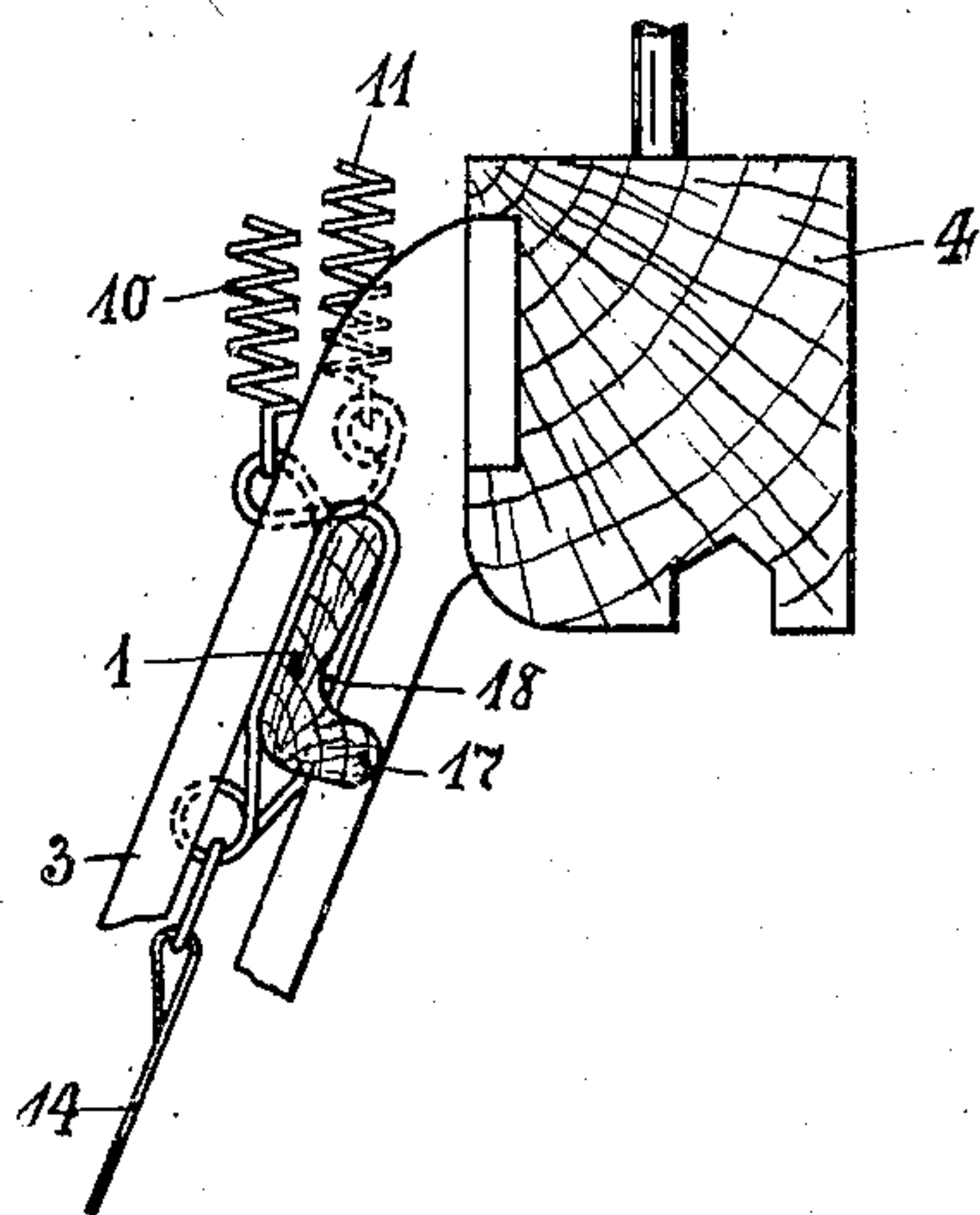


Fig. 4.



Witnesses:

H. Gravert
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UNITED STATES PATENT OFFICE.

FRITZ HEINTZE, OF GREIZ, GERMANY, ASSIGNOR OF ONE-HALF TO MAX SCHUHMANN, OF GERA REUSS, GERMANY.

SHUTTLE-GUARD FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 785,359, dated March 21, 1905.

Application filed May 31, 1904. Serial No. 210,525.

To all whom it may concern:

Be it known that I, FRITZ HEINTZE, a subject of the Emperor of Germany, residing at Greiz, Saxony, in the German Empire, have
5 invented a new and useful Shuttle-Guard for Looms, of which the following is a clear, exact, and full specification.

The object of my invention is to provide an improved shuttle-guard for looms that shall
10 be thoroughly reliable, of simple construction, and readily adapted to ordinary looms.

I am aware that a kind of shuttle-guard has been proposed in which a single lath is temporarily placed over the shed to prevent
15 the shuttle leaving its straight path; but experience has shown that the said lath sometimes assumes an inclined position, and so causes the shuttle when striking against the same to fly off at an angle, thereby often doing
20 serious damage and endangering life.

My invention is illustrated in the annexed drawings, in which—

Figures 1 and 2 are similar views showing different positions of the parts of a loom to
25 which the improved shuttle-guard is applied. Fig. 3 is a face view corresponding to Fig. 1, and Fig. 4 is a sectional view of a portion thereof drawn to a larger scale.

Similar numerals refer to similar parts
30 throughout the several views.

According to this improved arrangement the shuttle-guard rail 1 is made in form of a special lath or movable rail extending along the shuttle-race and working in slotted guide-
35 straps 2 and 3, fixed to the batten lay-cap 4. The said guard-rail is provided with metal strips or bands to work in the guide-straps, so as to obviate rapid wear of these parts. To the top of the batten-heads and the lay-
40 cap are fixed curved arms 6 7 8 9 with hooks or eyes at their free ends for the attachment of helical springs 10, 11, 12, and 13, respectively. The other ends of said springs are secured to eyes fixed to the guard-rail 1 and
45 serve to draw the latter against the lay-cap. To the lower edge of the rail 1, at each end thereof, are attached retaining-straps 14,

firmly fixed to the immovable breast-beam 15. Thus at the retreat of the batten the breast-beam straps 14 pull the rail 1 toward the
50 lower end of the guide-straps 2 and 3, so bringing it into a position to retain the shuttle 16.

From the cross-section, Fig. 4, it will be more clearly seen that I have given the rail 1
55 a special form, whereby the lower edge of such rail is shaped to provide a one-sided ledge 17, with a longitudinal recess 18 in the body of the rail at the juncture between it and said ledge. This special form of guard-
60 rail insures greater certainty in catching and retaining the shuttle than an ordinary straight lath. I have also found it necessary to provide the aforesaid four springs for the said
65 rail, so that when one of the springs suddenly breaks the other will temporarily be able to act alone. With single springs at each end and one snapping the rail will be drawn up
70 at one end by the spring and down at the other end, thus causing the shuttle to fly off at a tangent and doing damage. Moreover, the double springs produce a smoother action, as their combined power is only equal to that of the single spring.

What I claim as my invention, and desire to
75 secure by Letters Patent of the United States, is—

The combination, in shuttle-guards for looms, of a guard-rail composed of a flat body
80 portion, a one-sided ledge at the lower end thereof, a longitudinal recess at the juncture of these parts and iron fittings near each end of said rail, guide-straps fixed to the lay-cap to receive the guard-rail, a pair of springs
85 secured at each end of the guard-rail, curved arms connected to said springs and fixed to the lay-cap and batten-heads, and retaining-straps connecting the guard-rail to the breast-beam fixing the said rail to the breast-beam, all substantially as set forth.

FRITZ HEINTZE.

Witnesses:

M. BÖHME,
MAX REICHEL.