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PATENTED OCT. 1, 1907.

J. L. POALK.

SELVAGE FORMING MECHANISM FOR LOOMS.

APPLICATION FILED JULY 28, 1906. RENEWED JULY 30, 1907.

4 SHEETS—SHEET 1.

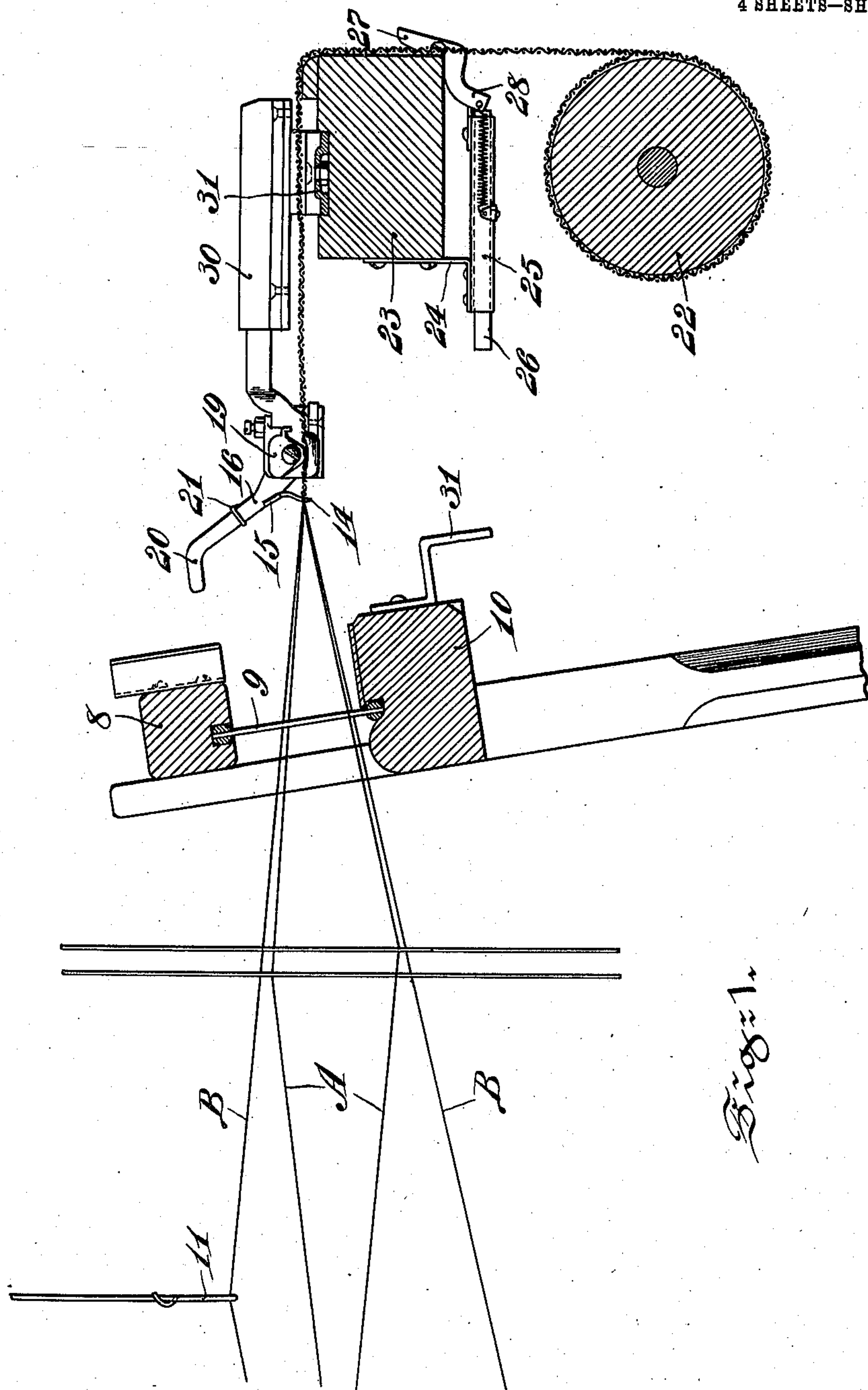


Fig. 1.

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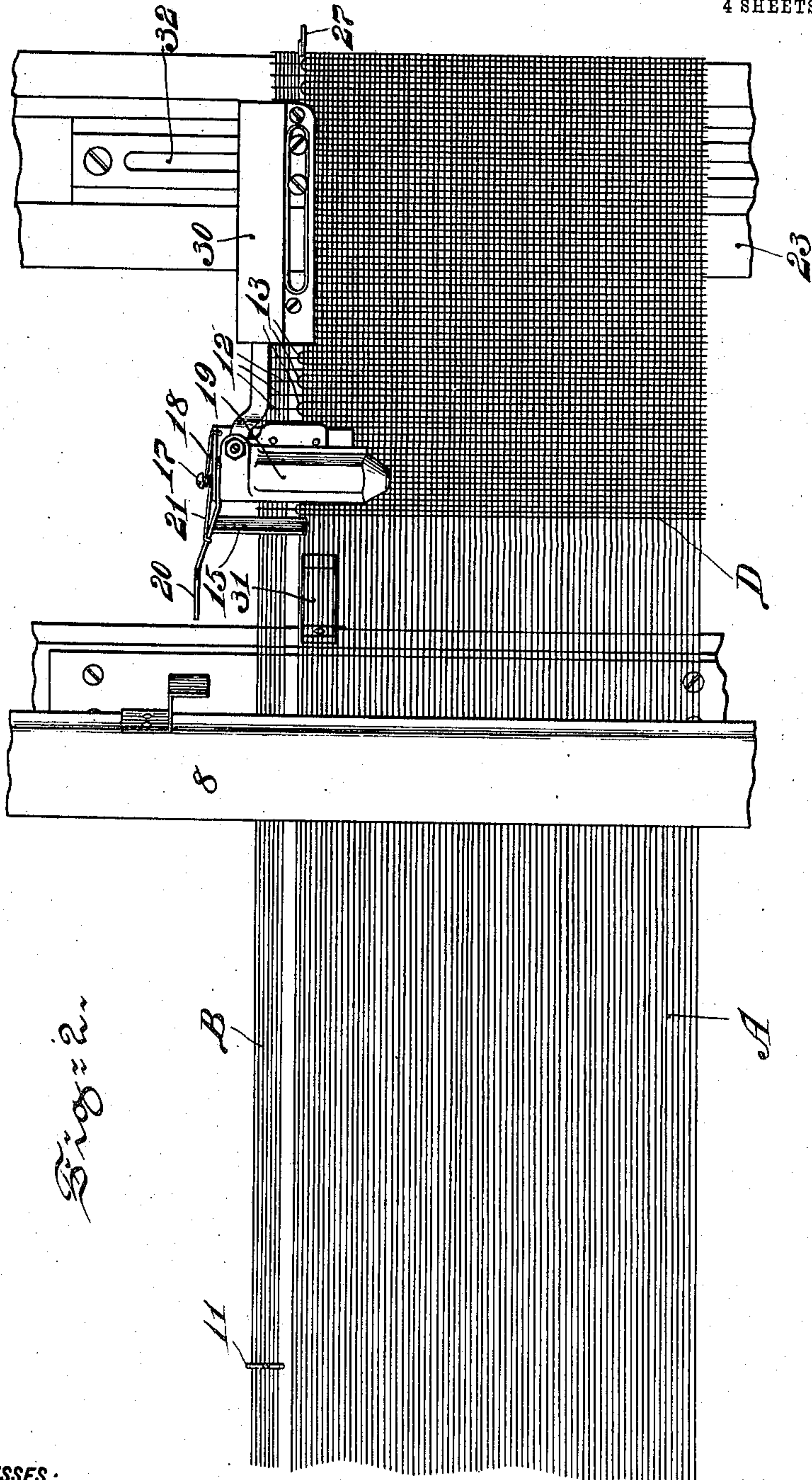
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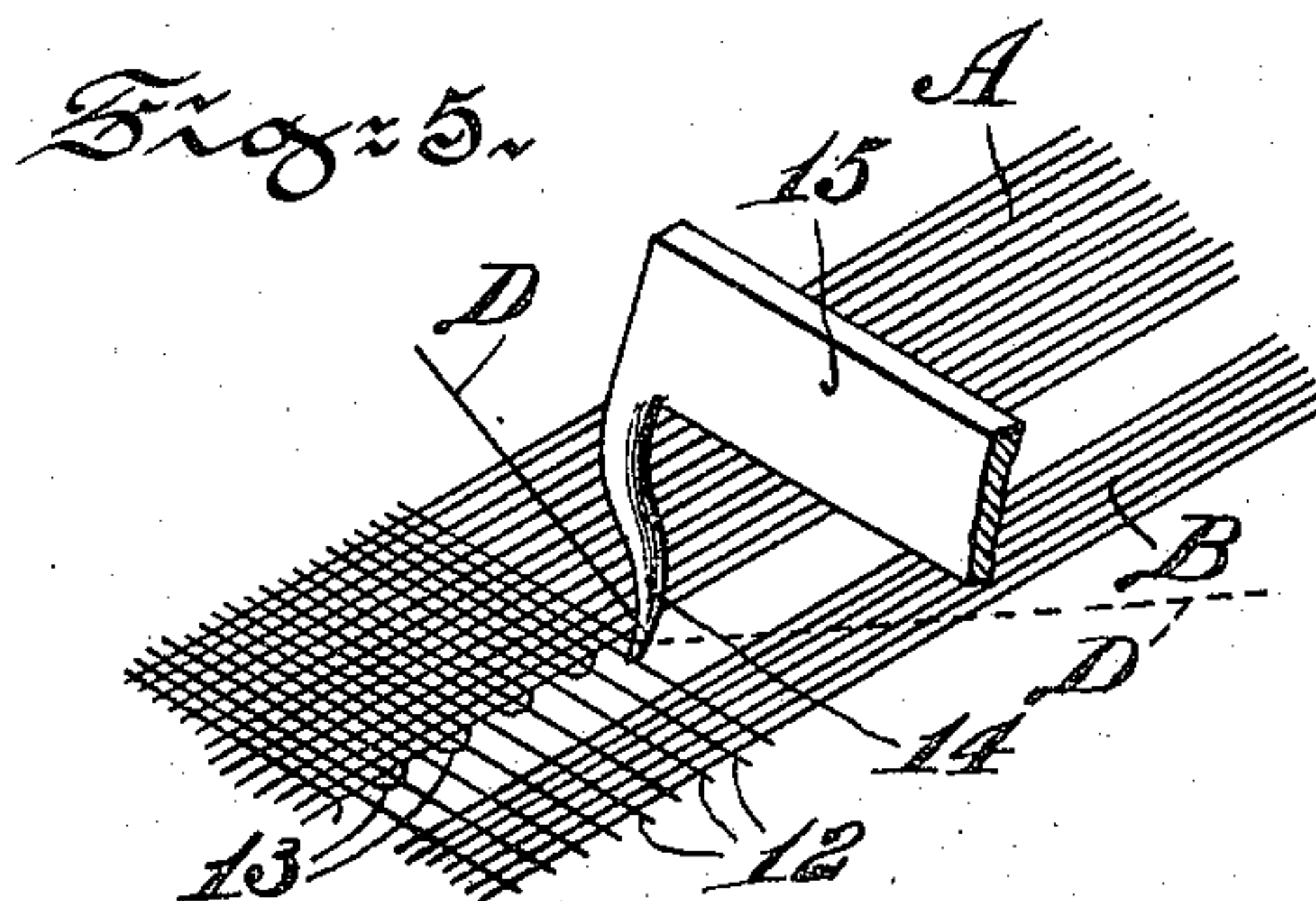
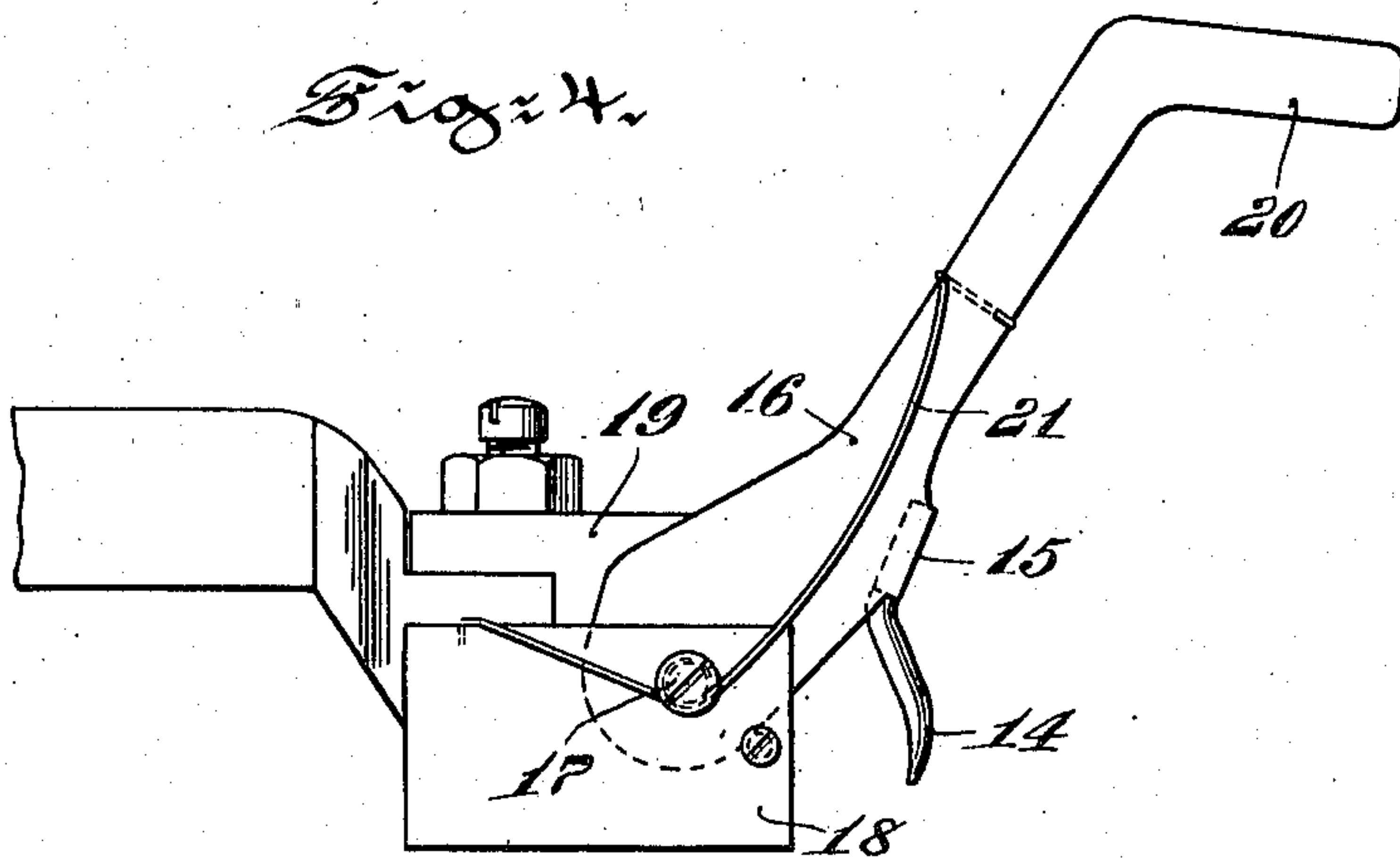
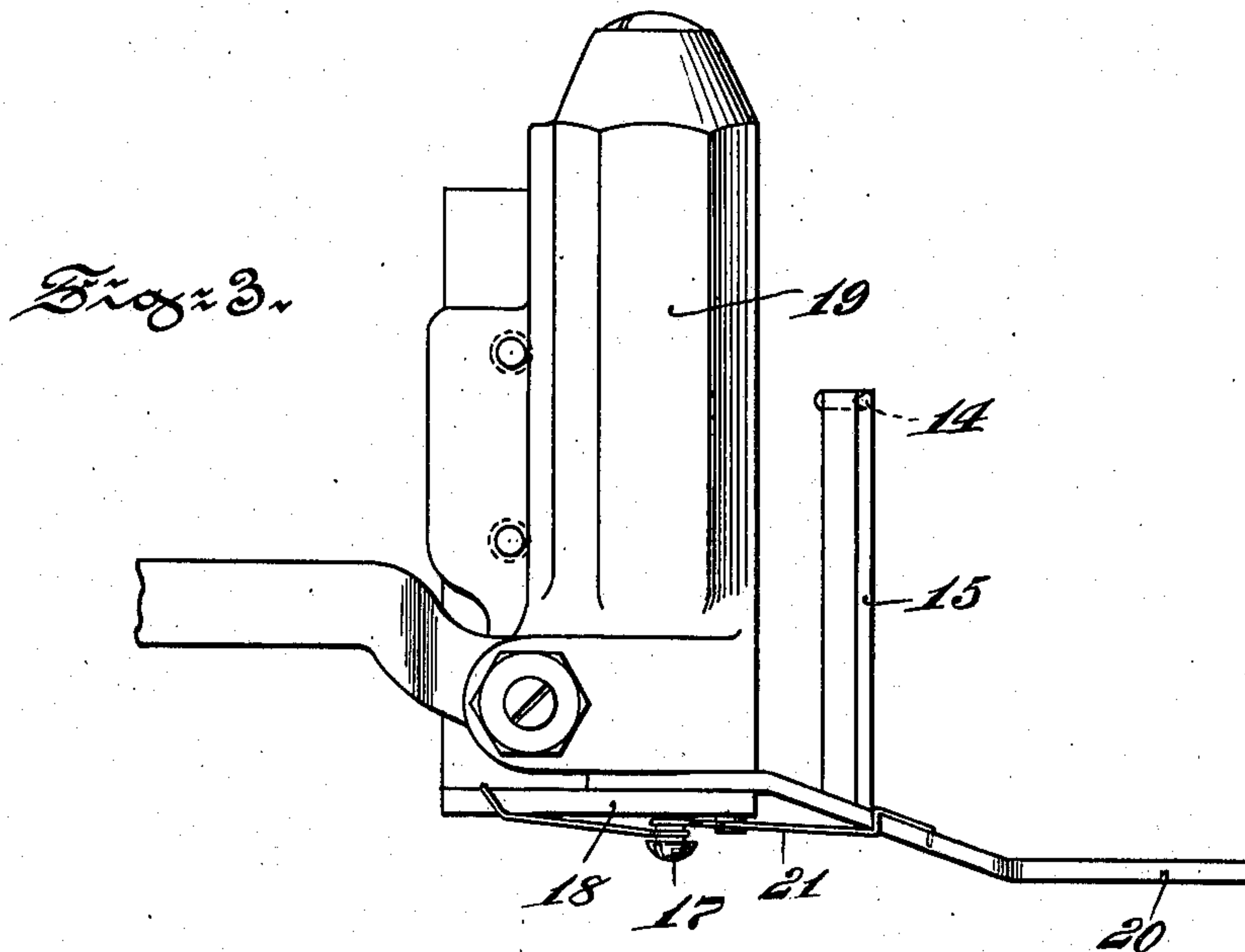
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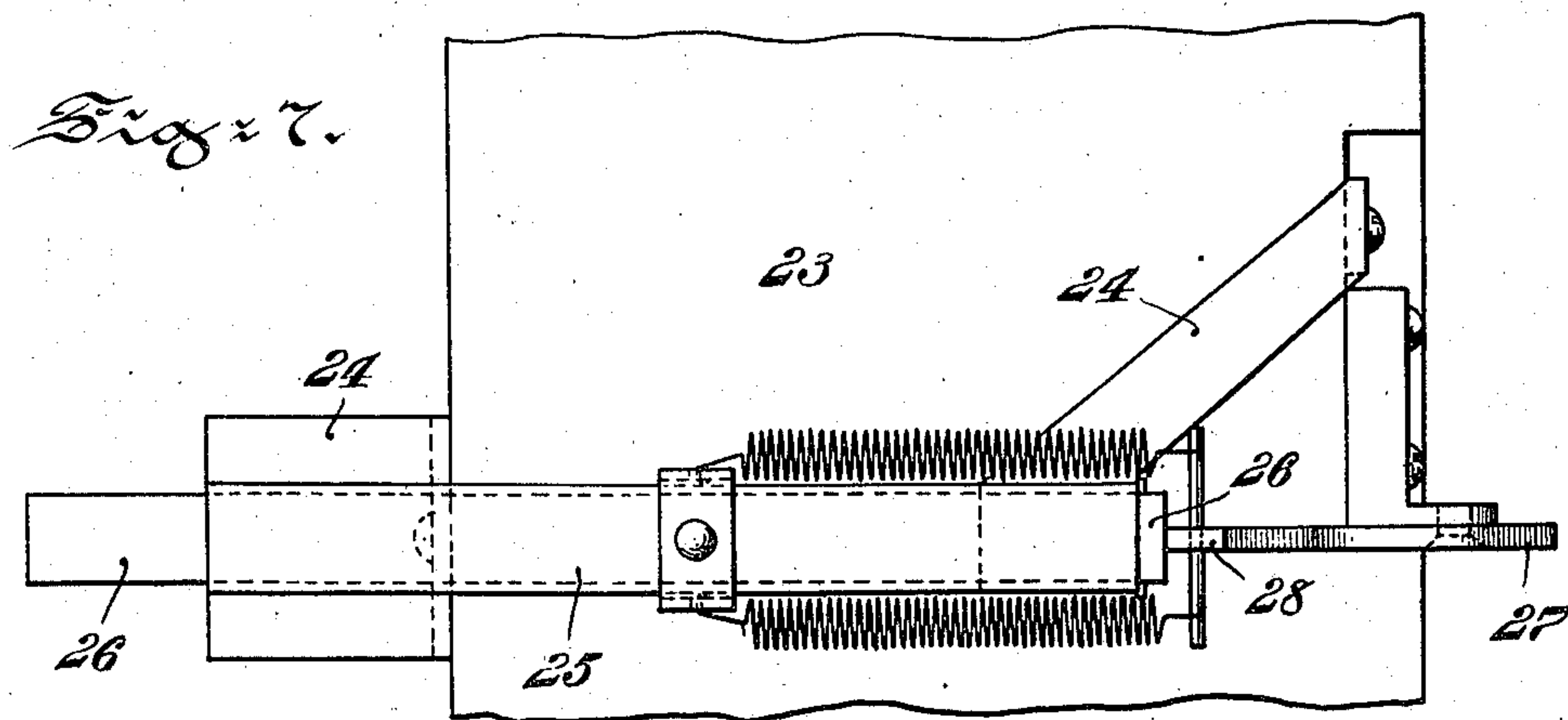
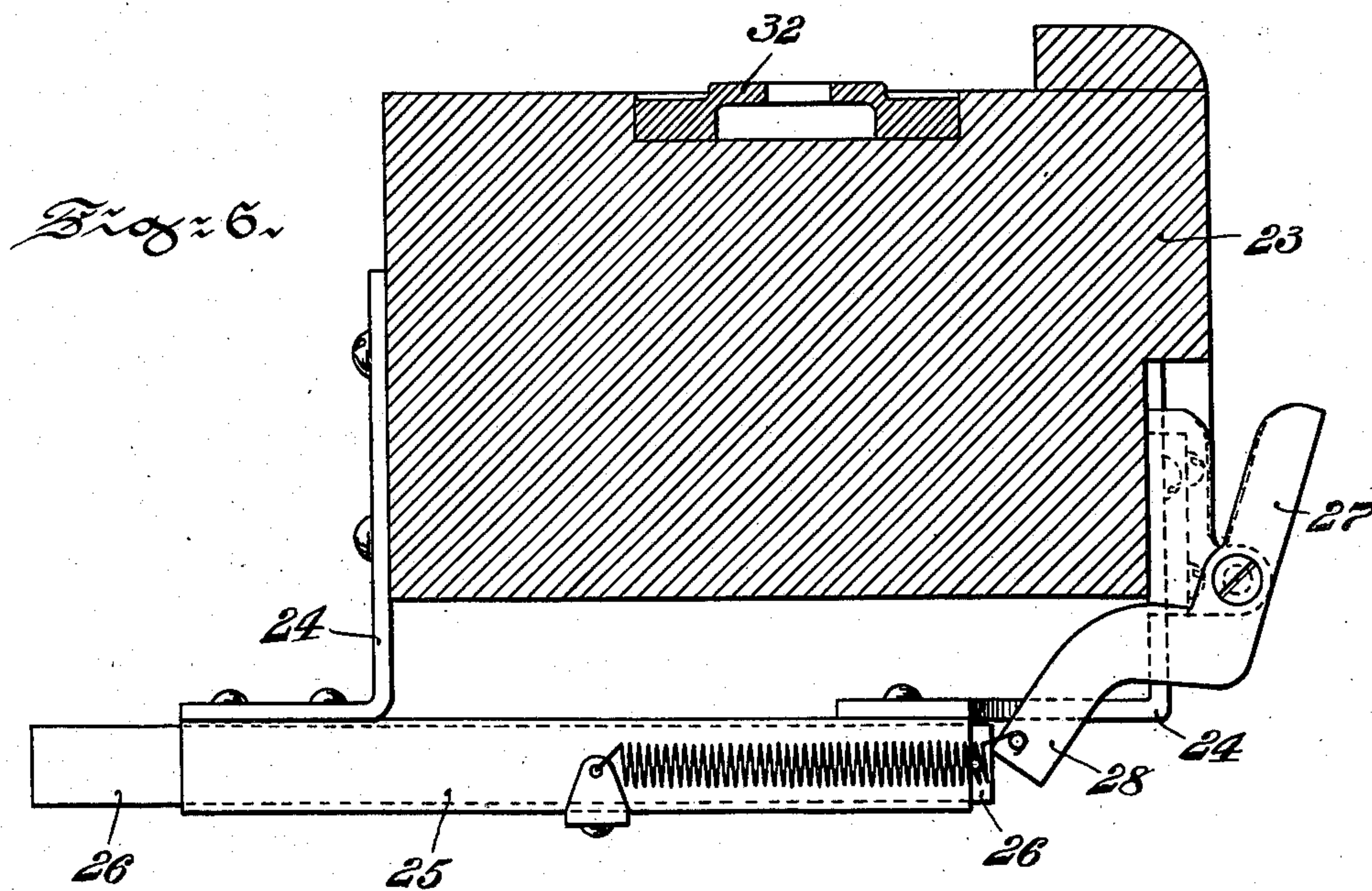
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UNITED STATES PATENT OFFICE.

JAMES LANE POALK, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO AUTOMATIC OSCILLATING LOOM COMPANY OF AMERICA, A CORPORATION OF NEW JERSEY.

SELVAGE-FORMING MECHANISM FOR LOOMS.

No. 867,300.

Specification of Letters Patent.

Patented Oct. 1, 1907.

Application filed July 28, 1906, Serial No. 328,241. Renewed July 30, 1907. Serial No. 386,246.

To all whom it may concern:

Be it known that I, JAMES LANE POALK, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Selvage-Forming Mechanism for Looms, of which the following is a specification.

My invention has relation to a mechanism for forming the selvage of a fabric woven in that class or type of loom disclosed in my copending application for patent Serial No. 314,755, filed May 2—1906, in which a continuous weft thread drawn from a reel or spool located outside the moving parts of the loom is cut into definite lengths and woven into the fabric, and in such connection it relates particularly to the means whereby the loose and projecting ends of the weft thread may be periodically caught and held until the weft thread is properly beaten up in the fabric.

The nature and scope of my invention will be more fully understood from the following description taken in connection with the accompanying drawings forming part hereof, in which—

Figure 1, is a longitudinal sectional view of such parts of the loom as are necessary for the operation of the selvage forming device, said selvage forming device being illustrated in side elevation and in operative position in the loom. Fig. 2, is a top or plan view of Fig. 1 certain of the parts including also the fabric being broken off. Fig. 3, is an enlarged top or plan view of that portion of the selvage device designed to hook or release a looped weft thread at predetermined times. Fig. 4, is a side elevational view of Fig. 3. Fig. 5, is a diagrammatic view illustrating the operation of the hook of Figs. 3 and 4, and Figs. 6 and 7 are enlarged vertical sectional and top or plan views respectively of the shearing mechanism cooperating with the selvage forming mechanism.

Referring to the drawings 8 is the hand rail, 9 the reed and 10 the lay beam upon which a shuttle not shown is designed to travel to carry regularly between the warp threads A and periodically between the warp threads B a continuous weft thread D. The warp threads B are arranged at one or both sides of the main warp threads A and are specially provided with means such as the heddles 11 whereby they may be manipulated irrespective of the movement of the main body of warp threads A. The weft thread D, as clearly shown in Figs. 2 and 5, at certain picks of the loom, extends as at 12 into and between a shed formed by the auxiliary warp threads B. The movement of the heddles 11 or similar mechanism so manipulates the auxiliary warps B that these ends 12 of the weft D are locked against transverse movement by the warps B. At certain other picks of the loom, the weft D is formed at the edge of the fabric proper where the warps A end

into bends 13 (see Figs. 2 and 5). These bends are held to position when the weft D is thrown across the fabric by means of the following preferred mechanism. A hook 14 depending from a plate 15 is caused to descend into the path of the weft D so that when the weft D is thrown to make the bend 13 the hook 14 serves as a stop to prevent the weft from being drawn under tension into the fabric. The plate 15 is secured to a lever arm 16 pivoted as at 17 in a bearing 18 attached in any suitable manner as by the temple 19 carried by a box 30 sliding as hereinafter described on the loom frame. The arm 16 has a portion 20 extending in the form of a finger into the path of the lay 8 so that on the movement to beat up the fabric said lay 8 will abut against the finger 20 to lift the arm 16, plate 15 and hook 14. When therefore the weft is to be beaten up in the fabric the hook 14 is raised to an inoperative position but returns to its operative position under the influence of a spring 21 (see Figs. 3 and 4) at all other times.

While as so far explained the forming of the selvage of the fabric is accomplished first by the interlocking of the loose ends 12 of the weft D with the auxiliary warp threads B and second by the retention of the looped portion of the weft D as at 13 by means of the hook 14 until the weft D is properly beaten up in the fabric, yet some provision is also made for trimming the ends 12 which project beyond the normal edge of the fabric. The preferred means for accomplishing the cutting off of the projecting ends is as follows: Above the take up roller 22 for the fabric is arranged a beam 23 over which the fabric travels and to which (see Figs. 1, 6 and 7) is secured by means of the brackets 24 a box or tube 25 in which slides a bolt or rod 26. At one edge of the beam 23 in the path of the fabric at the line between the regular warps A and auxiliary warps B is pivoted a knife, the blade 27 whereof oscillates in a recess of the beam 23 to sever the ends 12. The other end or handle 28 of the knife projects into the path of the bolt 26 and is maintained against said bolt by means of a spring or springs 29. Upon the lay 10 below the reed 9 is secured an angle iron 31 or suitable abutment, which as the lay 10 swings over towards the beam 23 impinges upon the bolt 26 and forces it and the handle 28 of the knife in one direction against the tension of springs 29. When the bolt 26 is thus struck the knife blade 27 is forced into the recess of beam 23 to sever the ends 12. The return movement of the lay 10 permits the bolt 26 and handle 28 of the knife to return to the normal position under the influence of the spring or springs 29.

Upon the top of the beam 23 is arranged a guide way 32 in which the box 30 carrying the hook mechanism may be adjusted transversely of the loom to accommodate for different widths of the fabric. In the same way the temple 19 is adjustable to the box 30 at

right angles to the plane of the guideway 32 to accommodate the hook mechanism to the distance between the frame 23 and lay 10 which may vary in different types of loom.

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

1. In a loom provided with regular sets of warps into a plurality of the sheds of which a continuous weft thread
10 cut into definite lengths is adapted to be thrown, a set of auxiliary warp threads arranged to interlock periodically with the projecting loose ends of said continuous weft thread at one edge only of the fabric and means for operating said auxiliary warp threads independently of the
15 main warps.

2. A selvage forming mechanism for looms provided with regular warps into a plurality of the sheds of which a continuous weft thread cut into definite lengths is adapt-

ed to be thrown, said mechanism comprising a set of auxiliary warp threads operated independently of the 20 regular warps and arranged to interlock periodically with the loose ends of the weft and a hook mechanism adapted to interlock with the bends connecting the portions of the weft entering successive sheds.

3. A selvage forming mechanism for looms provided 25 with regular warps into a plurality of the sheds of which a continuous weft thread cut into definite lengths is adapted to be thrown, said mechanism comprising essentially a set of auxiliary warp threads operated inde- 30 pendently of the regular warps and arranged to interlock periodically with the projecting loose ends of the weft at one edge only of the fabric, in combination with a cutting mechanism arranged to cut off said loose ends during the taking up of the fabric.

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