

No. 812,508.

PATENTED FEB. 13, 1906.

W. J. LUTTON.
LOOM.

APPLICATION FILED MAY 5, 1905.

2 SHEETS—SHEET 1.

Fig. 2.

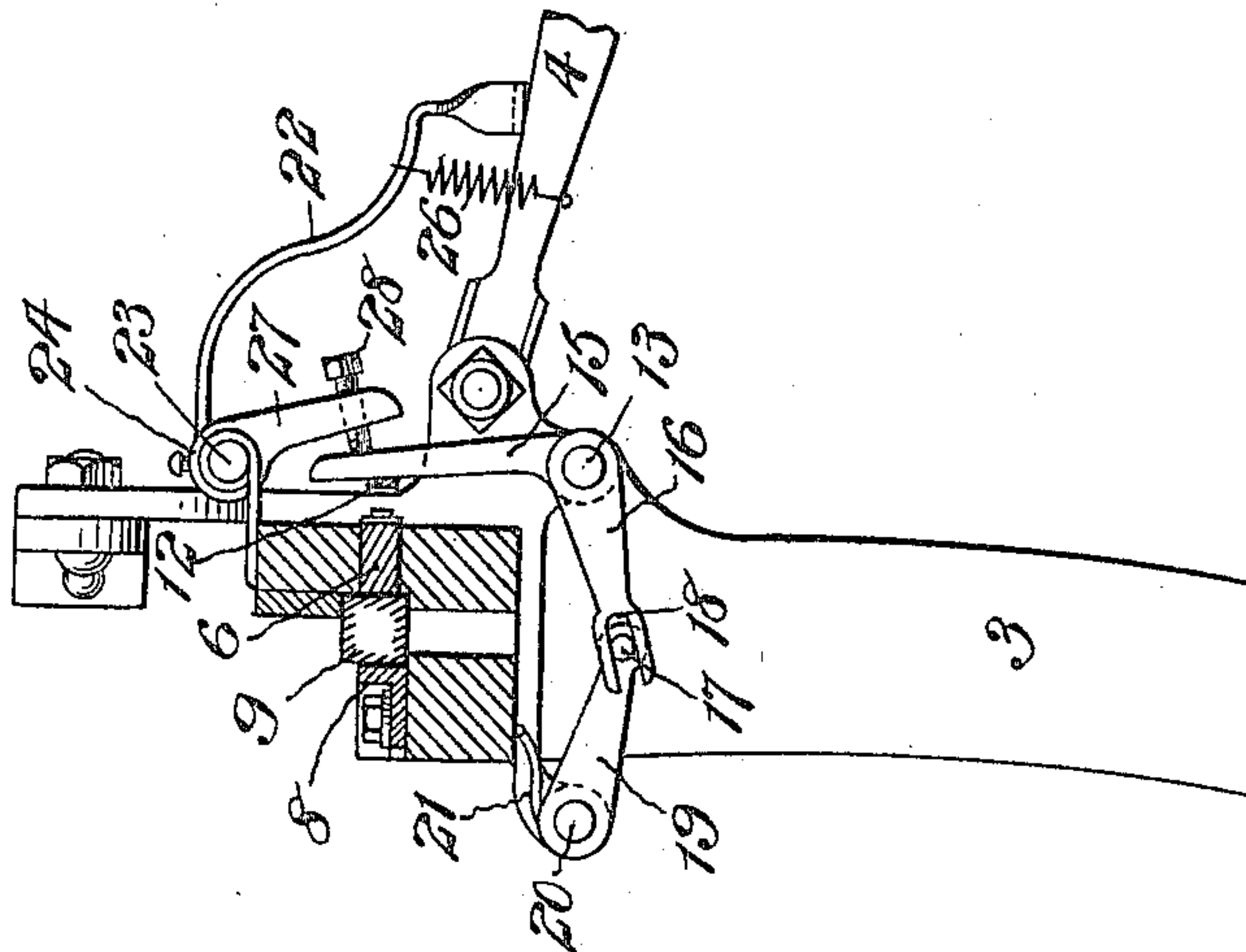
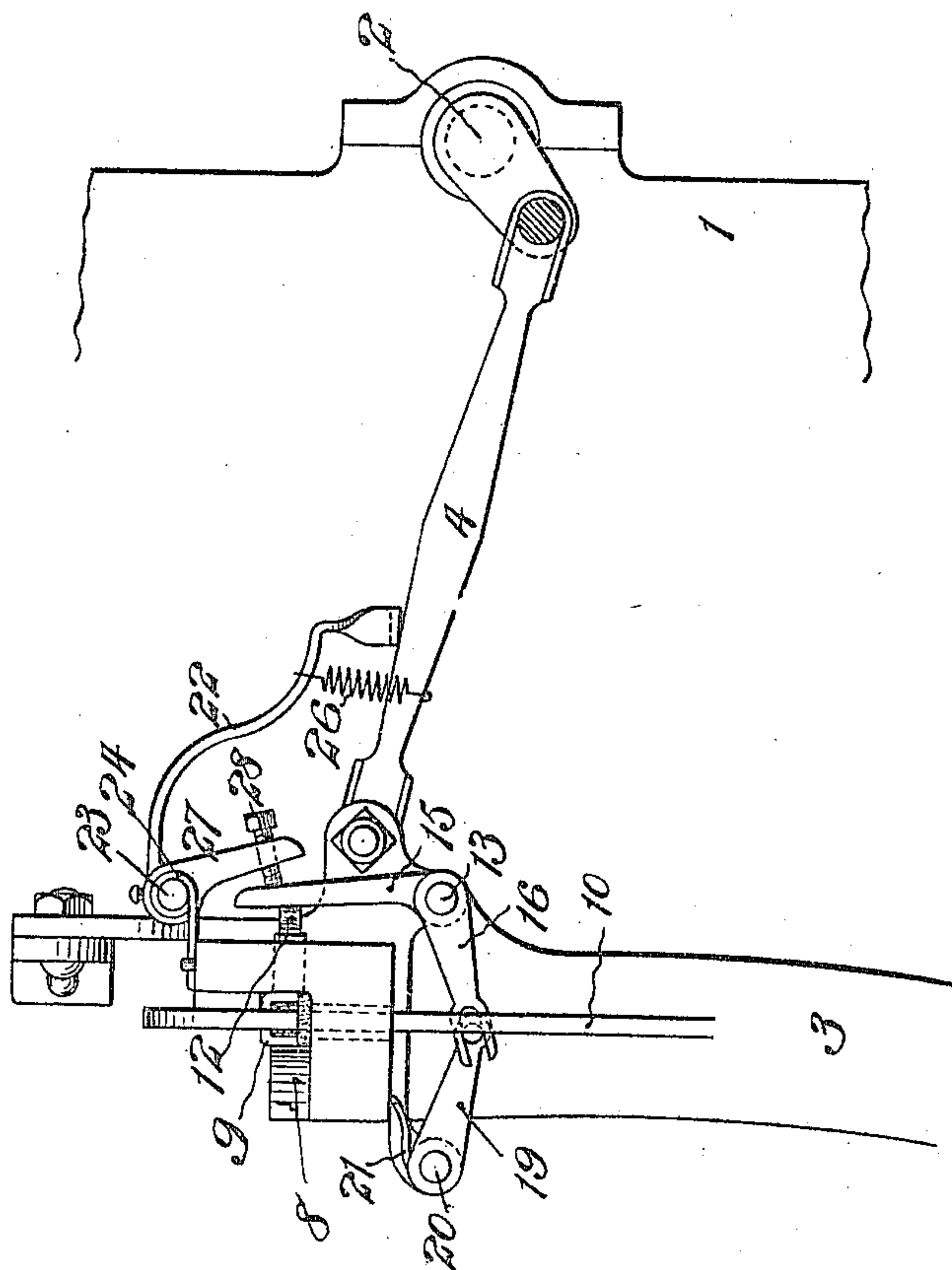


Fig. 1.



Witnesses:-
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Henry Thieme.

Inventor:-
William J. Lutton
by attorneys
Hiram Howard

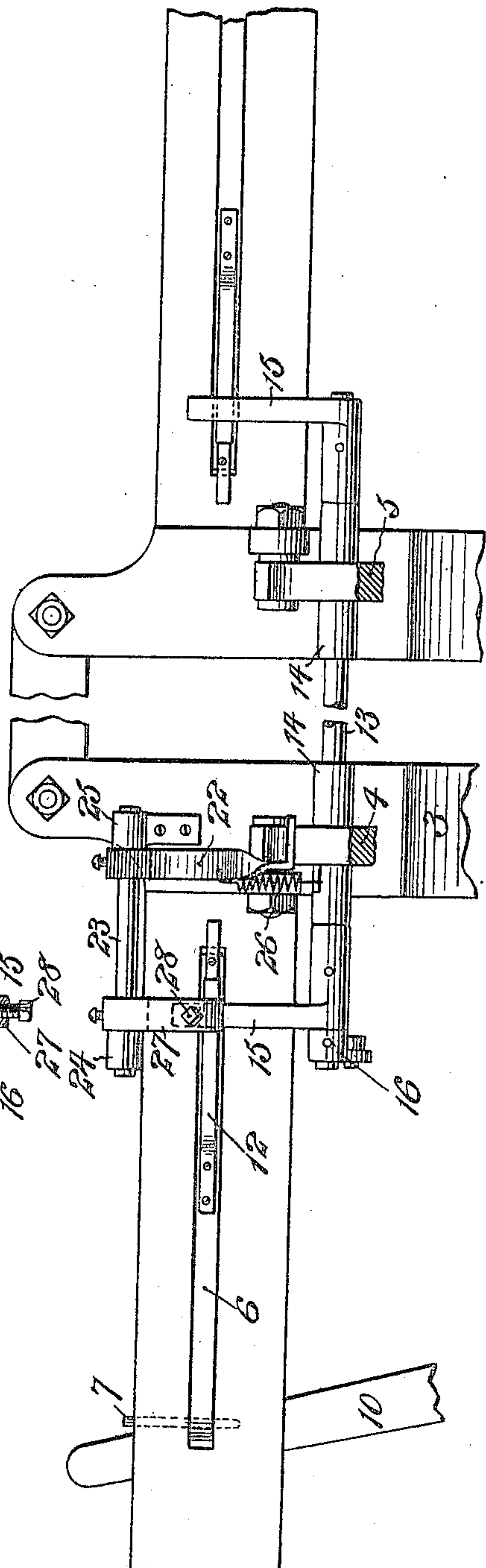
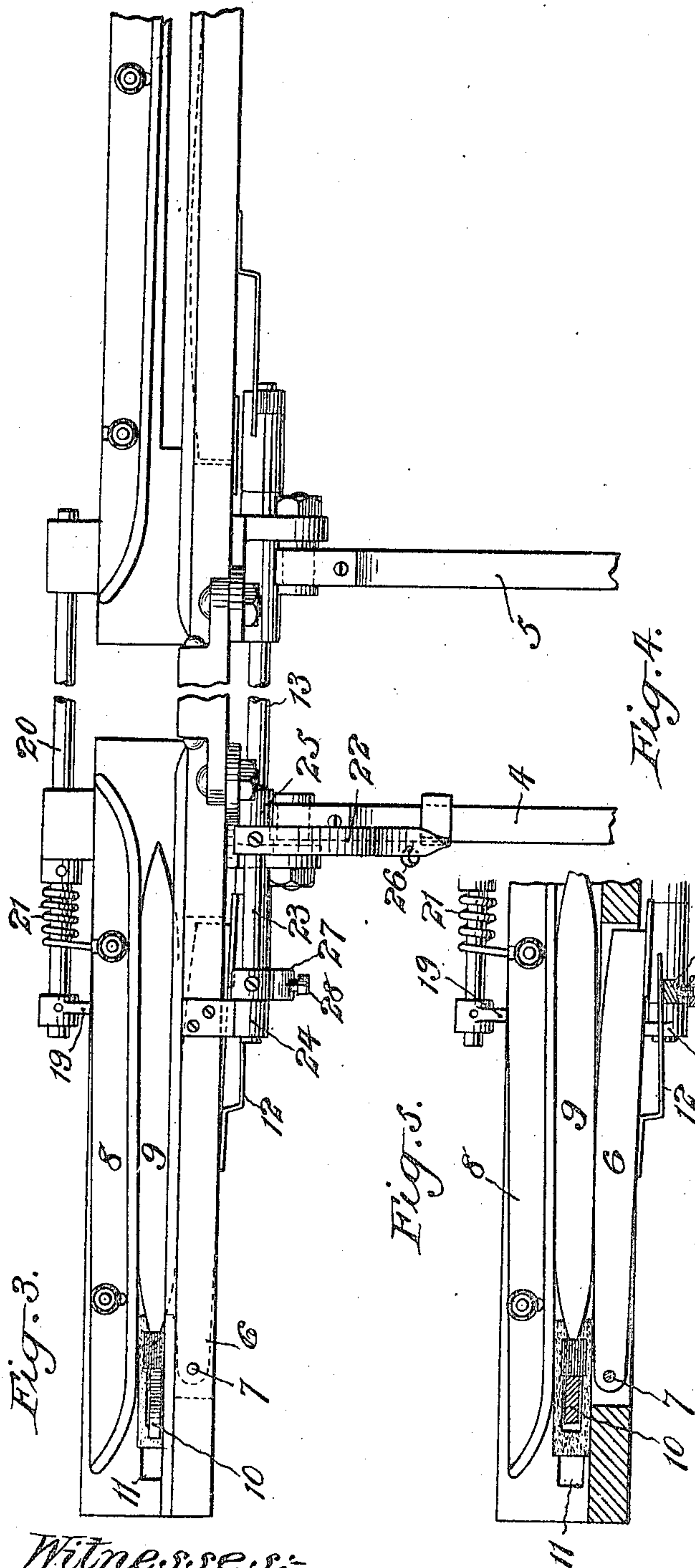
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2 SHEETS—SHEET 2.



Witnesses:
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UNITED STATES PATENT OFFICE.

WILLIAM J. LUTTON, OF PATERSON, NEW JERSEY.

LOOM.

No. 812,508.

Specification of Letters Patent.

Patented Feb. 13, 1906

Application filed May 5, 1905. Serial No. 258,977.

To all whom it may concern:

Be it known that I, WILLIAM J. LUTTON, a citizen of the United States, and a resident of Paterson, in the county of Passaic and State of New Jersey, have invented a new and useful Improvement in Looms, of which the following is a specification.

The object of the present invention is to provide certain improvements in shuttle-binders for looms whereby the shuttle may be clamped against rebound in its shuttle-boxes by mechanism controlled by the movement of the lay, and particularly by the movement of the pitman which connects the drive-shaft of the loom with the lay.

A further object is to provide mechanism of this character which will be very simple in its construction and operation and which may be applied readily to the lay-beams of looms now in common use.

In the accompanying drawings, Figure 1 represents in side elevation so much of a loom as will give a clear understanding of the construction and operation of my improvement, an upper portion of a lay-beam, a part of the loom-frame, and its drive-shaft being represented. Fig. 2 is a vertical section from front to rear of portions of the parts shown in Fig. 1, the parts being shown in the same position in both figures. Fig. 3 is a detail plan view of my improved device in connection with the opposite shuttle-boxes of the lay. Fig. 4 is a face view of the same, and Fig. 5 is a detail horizontal section through one of the shuttle-boxes and its adjacent parts.

The portions of the loom-frame herein shown are denoted by 1. The drive-shaft of the loom is denoted by 2, and the lay by 3. The lay is connected to the drive-shaft by the usual pitmen 4 and 5, located adjacent to the shuttle-boxes. Each shuttle-box is provided with the usual binder 6, hinged at 7 in the vertical wall of the box, between which binder and the adjustable plate 8 the shuttle 9 is located when in the box.

The picker is denoted by 10 and projects up through the usual slot 11 into the shuttle-box in position to strike the outer end of the shuttle at the required times. The mechanism for operating the picker is not shown herein, as it forms no part of the present invention.

Each of the binders 6 is provided with a spring-arm 12, projecting from its outer side toward the free end of the binder. A spring-

actuated rock-lever is provided, which lever is arranged to normally swing the binders into the positions to be engaged by the shuttle as it is passed back and forth across the loom and impart a slight yielding pressure thereon. This rock-lever is constructed as follows: A rock-shaft 13 is mounted in suitable brackets 14 on the lay. Arms 15 15 project upwardly and press against the spring-arms 12 12 of the binders 6 6 of the two shuttle-boxes. This rock-shaft 13 is also provided with an arm 16, which has a pin-and-slot connection 17 18 with the free end of a spring-actuated arm 19, carried by a rock-shaft 20. A spring 21 on the rock-shaft exerts its tension in a direction tending to swing the arms 15 15 of the rock-shaft 13 inwardly against the spring binder-arms.

For clamping the shuttle in the one or the other of the shuttle-boxes at predetermined points in the movement of the lay to prevent the rebound of the shuttle I provide the following device, which is operated by one of the pitmen which connect the drive-shaft 2 with the lay 3, in the present instance the pitman 4. An operating-lever is provided with an arm 22, fixed to a rock-shaft 23, carried in suitable bearings 24 25 on the lay, the free end of which arm 22 is engaged with the pitman 4. A spring 26 connects the arm 22 with the pitman 4, so as to yieldingly hold the arm in engagement with the pitman. The operating-lever is further provided with a depending arm 27, fixed to the shaft 23, which arm engages one of the arms 15 15 of the rock-lever hereinbefore referred to. In the present instance for the purpose of adjustment I provide the arm 27 with an adjusting-screw 28, the end of which screw bears against the free end of one of the arms 15.

In operation as the drive-shaft 2 is rotated to impart a reciprocating movement to the lay through the pitman connection the shuttle is clamped in the one or the other of the shuttle-boxes as follows: As the pitman 4 travels through its stroke it will assume positions which will draw the arm 22 of the operating-lever downward, and thus move the arm 27 inward to thereby force the arms 15 of the rock-lever inwardly to exert pressure upon the binders 6 of the two shuttle-boxes. This movement will clamp the shuttle in whichever box it happens to be. During the further movement of the pitman 4 it will raise the arm 22 of the operating-lever and thereby swing the arm 27 away from the arm 15 of

the rock-lever which it engages. This will release a great amount of the clamping-pressure upon the shuttle and permit it to be driven by the picker across the loom.

5 It will be seen that by the device herein described I am enabled to operate the binders of both of the shuttle-boxes by a single operating-lever controlled by one of the drive-shaft pitmen. Furthermore, the amount of
10 pressure may be accurately adjusted by means of the adjusting-screw 28, carried by the arm 27 of the operating-lever and also a yielding pressure is obtained because of the use of the spring 26, which is interposed be-
15 tween the arm 22 of the operating-lever and the pitman 4.

It is evident that various changes might be resorted to in the construction and arrangement of the several parts without departing
20 from the spirit and scope of my invention. Hence I do not wish to limit myself strictly to the structure herein set forth; but

What I claim as my invention is—

1. In a loom, a lay, its shuttle-box, a shuttle, a drive-shaft, a pitman connecting the shaft and lay, a binder, a spring-arm carried thereby and means operated by the pitman
25 engaging the spring-arm for causing it to clamp the shuttle within its box at predetermined points in the movement of the lay.

2. In a loom, a lay, its shuttle-box, a shuttle, a drive-shaft, a pitman connecting the shaft and lay, a binder, a spring-arm carried thereby, and an operating-lever having one
35 arm engaged by the pitman and its other arm in position to force the spring-arm inwardly to cause the binder to yieldingly clamp the shuttle in its box at predetermined points in the movement of the lay.

3. In a loom, a lay, its shuttle-box, a shuttle, a drive-shaft, a pitman connecting the shaft and lay, a binder, a spring-arm carried thereby, a spring-actuated rock-lever having
40 one arm engaging the spring binder-arm and an operating-lever having one arm engaged by the pitman and its other arm arranged to engage the arm of the said spring-actuated rock-lever for causing the binder to yieldingly
45 clamp the shuttle within its box at predetermined points in the movement of the lay.

4. In a loom, a lay, its shuttle-boxes, binders therefor, a shuttle, a drive-shaft, a pitman connecting the drive-shaft and lay, a spring-

actuated rock-lever having arms engaging the binders and an operating-lever having
55 one arm engaging the pitman and another arm arranged to engage one of the arms of the rock-lever for causing either one of the binders to clamp the shuttle in the box in which it is located at predetermined points
60 in the movement of the lay.

5. In a loom, a lay, its shuttle-boxes, their binders, spring-arms carried thereby, a shuttle, a drive-shaft, a pitman connecting the shaft and lay, a spring-actuated rock-lever
65 having arms engaging the spring binder-arms and means operated by the pitman engaging one of the rock-lever arms for causing the rock-lever to yieldingly press the two binders into position to clamp the shuttle in
70 the box in which it is located at predetermined points in the movement of the lay.

6. In a loom, a lay, its shuttle-boxes, binders therefor, spring-arms carried thereby, a shuttle, a drive-shaft, a pitman connecting
75 the shaft and lay, a spring-actuated rock-lever having its arms engaged with the spring binder-arm and an operating-lever having one arm engaged by the pitman and its other
80 arm in position to engage one of the rock-arms for causing the rock-lever to force the binders inwardly to clamp the shuttle in the box in which it is located at predetermined points in the movement of the lay.

7. In a loom, a lay, its shuttle-box, a shuttle, a drive-shaft, a pitman connecting the shaft and lay and adjustable means operated by the pitman for clamping the shuttle in its
85 box at predetermined points in the movement of the lay.

8. In a loom, a lay, its shuttle-box, a shuttle, a drive-shaft, a pitman connecting the shaft and lay, a binder and adjustable means operated by the pitman for causing the
90 binder to clamp the shuttle within its box at a predetermined point in the movement of the lay.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 28th day of April, 1905.

WILLIAM J. LUTTON.

Witnesses:

FREDK. HAYNES,
HENRY THIEME.