

(No Model.)

E. A. LADUE.

LET-OFF MECHANISM FOR LOOMS.

No. 328,041.

Patented Oct. 13, 1885.

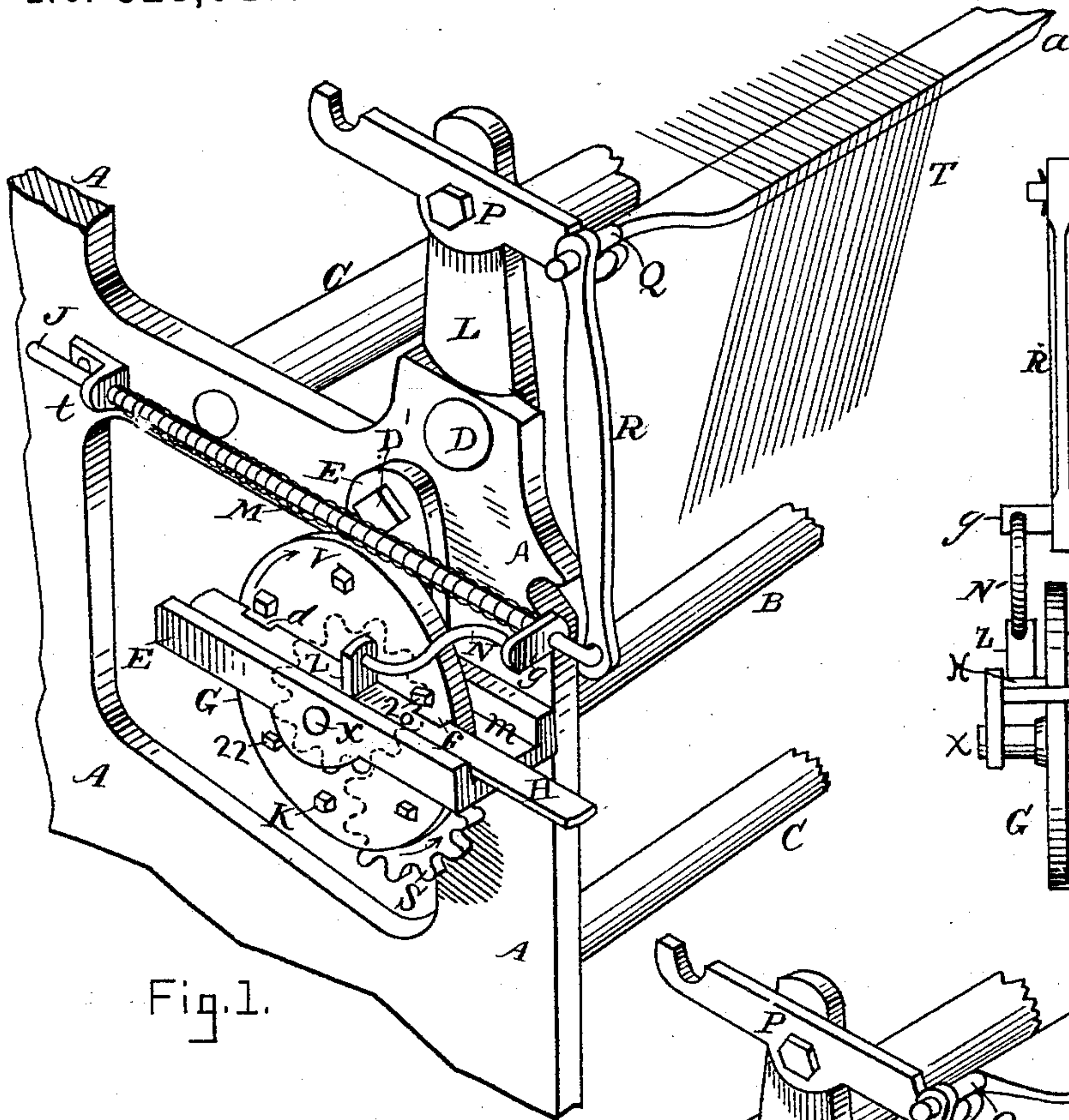


Fig. 1.

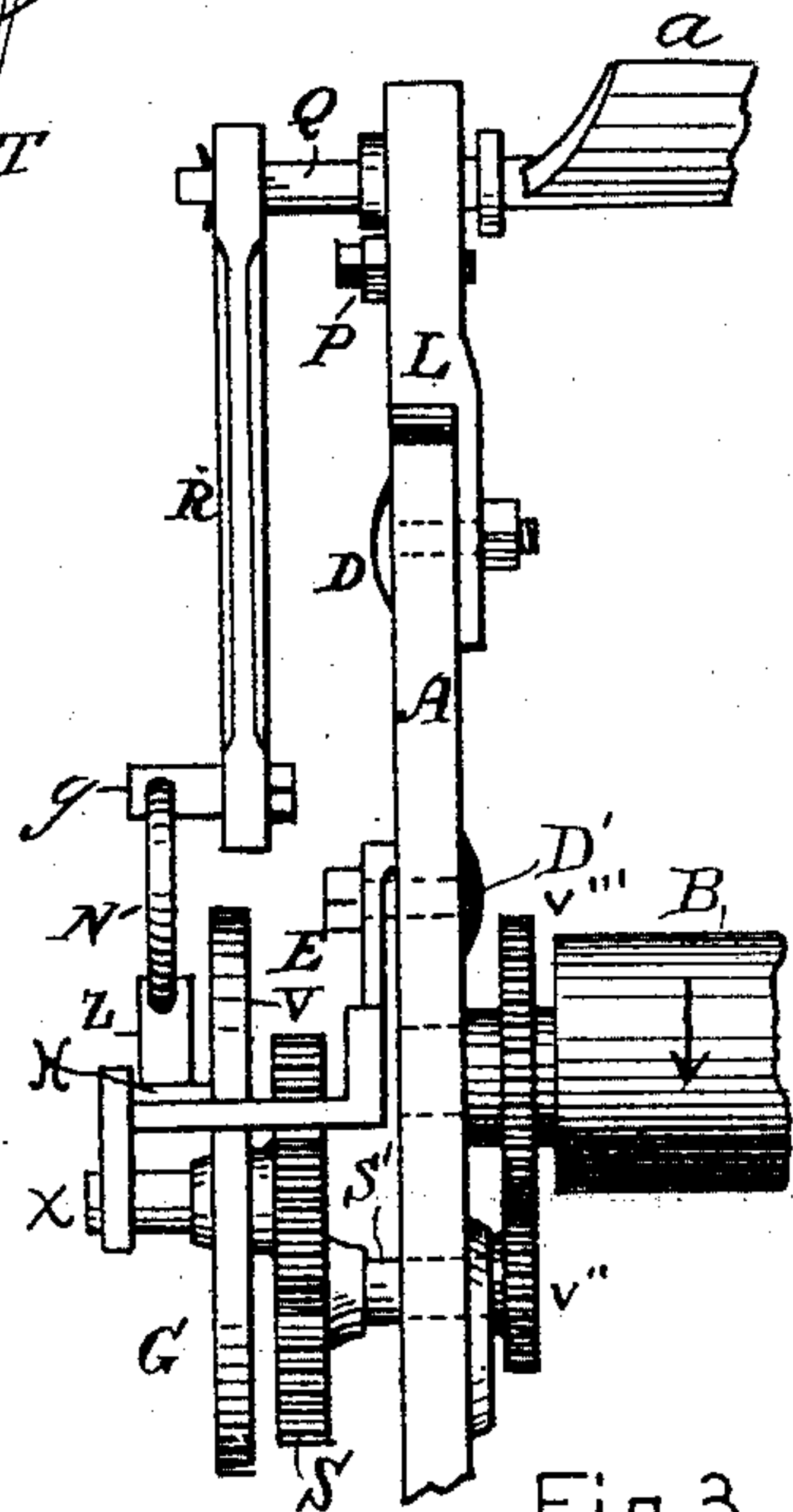


Fig. 3.

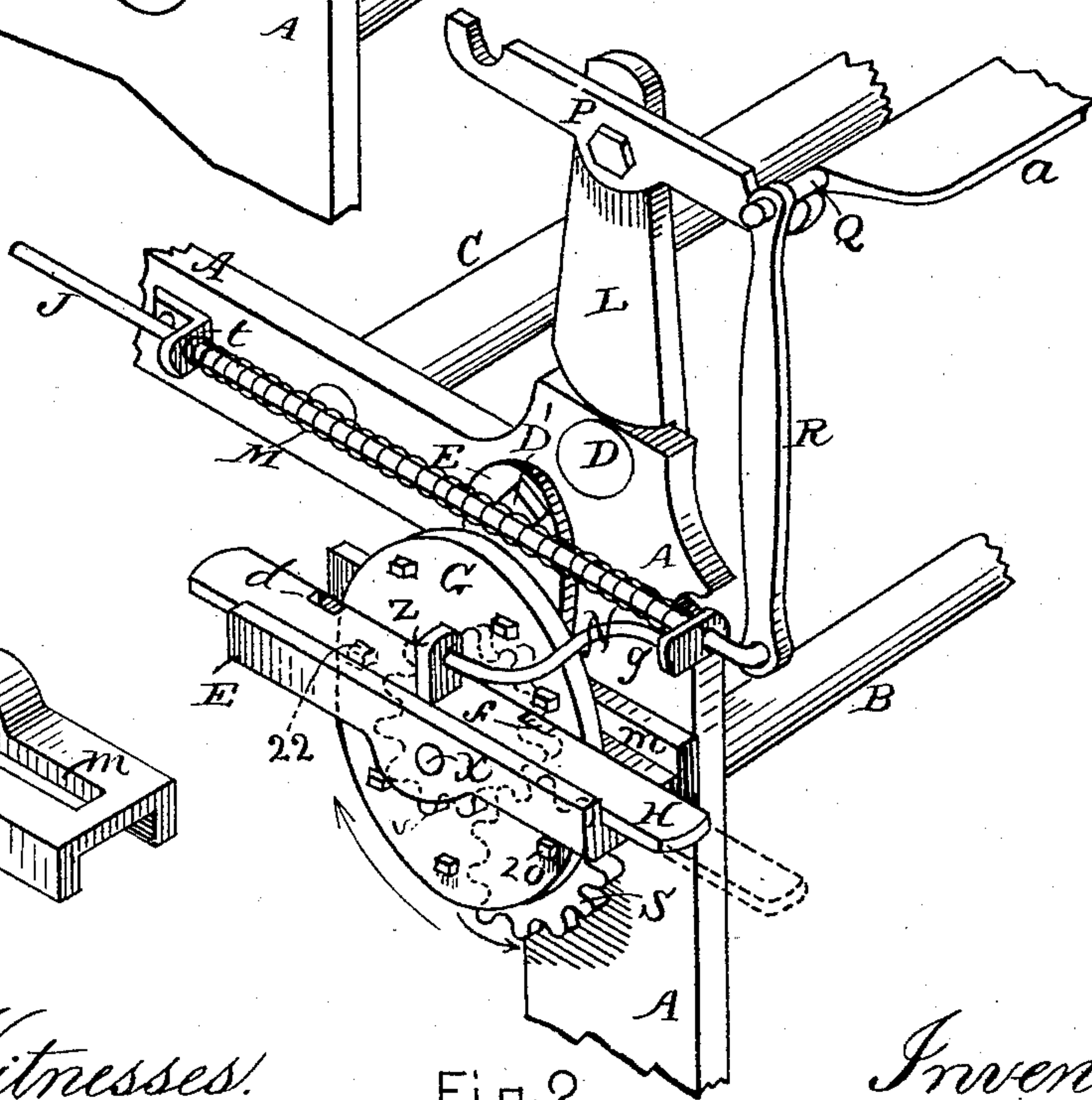


Fig. 2.

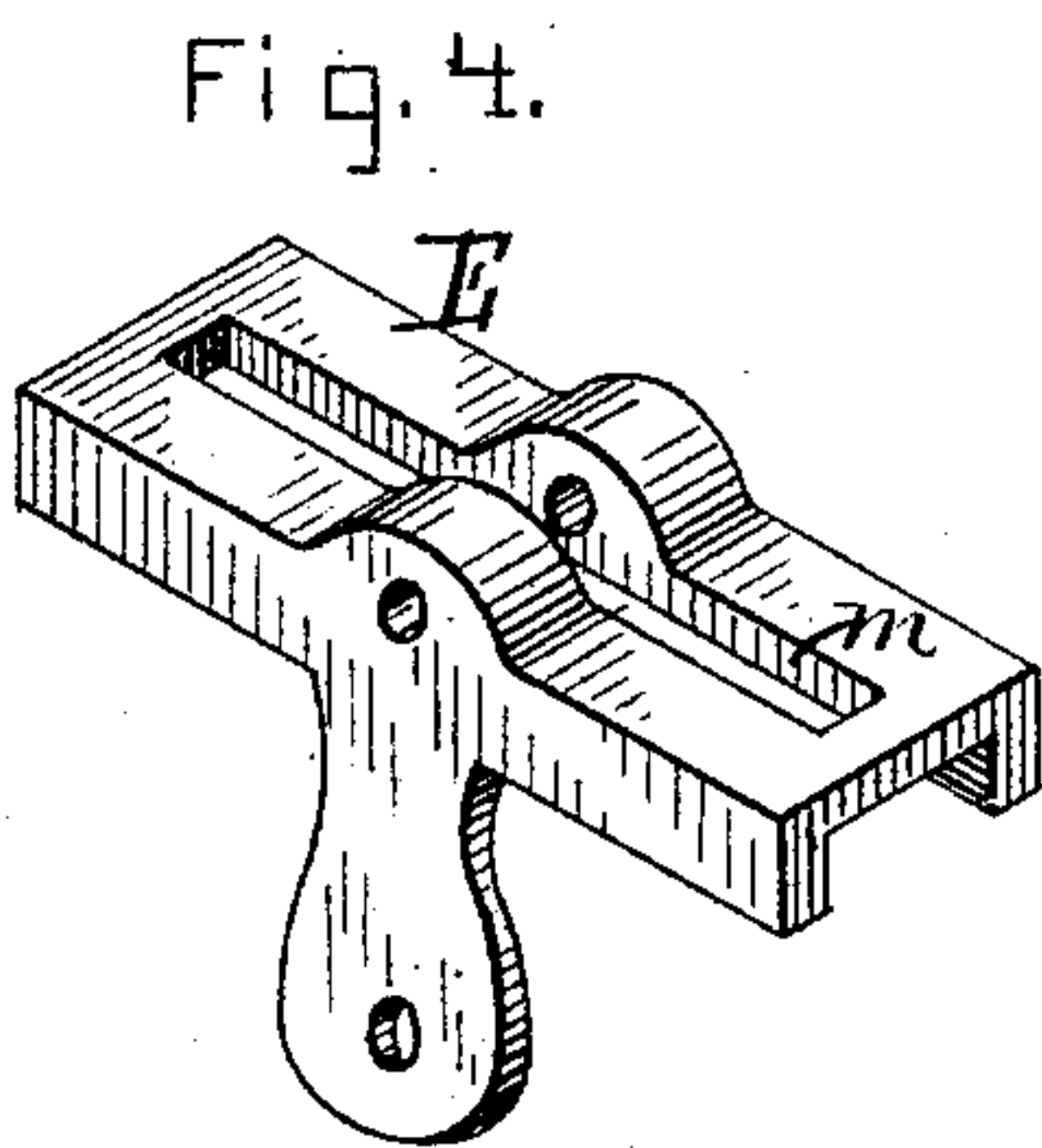


Fig. 4.

Witnesses:

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LET-OFF MECHANISM FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 328,041, dated October 13, 1885.

Application filed May 19, 1884. Serial No. 132,107. (No model.)

To all whom it may concern:

Be it known that I, EUGENE A. LADUE, of Nashua, in the county of Hillsborough, State of New Hampshire, have invented a certain new and useful Improvement in Let-Off Mechanism for Looms, of which the following is a description sufficiently full, clear, and exact to enable any person skilled in the art or science to which said invention appertains to make and use the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is an isometrical perspective view showing a portion of a loom provided with my improvement, the escapement-bar being represented as advanced to the rear end of its course; Fig. 2, a like view with the escapement-bar represented in a position the reverse of that shown in Fig. 1, and Fig. 3 a rear view of the mechanism shown in Figs. 1 and 2. Fig. 4 is a perspective view from the under side of the bracket in which the escapement-wheel has its bearings.

Like letters of reference indicate corresponding parts in the different figures of the drawings.

My invention relates exclusively to the warp-detaining or let-off mechanism of the loom; and it consists in a novel construction and arrangement of the parts, as hereinafter more fully set forth and claimed, by which a simpler and more effective device of this character is produced than is now in ordinary use.

The nature and operation of the improvement will be readily understood by all conversant with such matters from the following explanation:

In the drawings, A represents the end or frame of the loom, B the warp-beam, and C the cross-bars, all of these parts being constructed and arranged in the ordinary manner.

Attached to the end A by the screw-bolt D' there is a bracket, E, and journaled horizontally in said bracket on the shaft x there is a disk, G, the lower portion of the disk projecting downwardly through an elongated slot, m .

An escapement-bar, H, is fitted to slide horizontally in the bracket E, said bar being provided on its inner edge, adjoining the outer face of the disk G, with two elongated notches or slots, $d f$, and on its upper side with a stud, z .

Projecting from the end A, above the disk G, there is a bracket, t , and fitted to slide horizontally therein is a rod, J, provided with the fixed laterally-projecting arm g and coiled spring M, the spring acting expansively against said arm and the bracket t to force the rod toward the beam B.

A bent arm, N, has one of its ends rigidly attached to the arm g and the other to the stud z , so that when the rod J is moved back and forth corresponding reciprocating movements will be imparted to the escapement-bar H.

Projecting upwardly from each end of the loom there is a standard, L, carrying the cross-bar P, and mounted in said bars there is a rocker-shaft, Q, provided with a downwardly-projecting rigid arm or crank-lever, R, the lower end of which is jointed to the rear end of the sliding rod J.

A pinion, S, is mounted on a horizontally-arranged stub-shaft, S', Fig. 3, in the end A, said pinion intermeshing with a pinion, v , (shown by dotted lines in Figs. 1 and 2, and by full lines in Fig. 3,) attached to the inner face of the disk G, and concentrically arranged therewith on the shaft x . The stub-shaft, on which the pinion S is mounted, also carries another pinion, v'' , at its inner end, which intermeshes with a gear, v''' , on the warp-beam B, so that when said beam is turned by the pull on the warps in the direction indicated by the arrow thereon the disk G will be turned in the direction indicated by the arrow thereon.

The rocker-shaft Q is flattened or provided with a thin wide outwardly-projecting flange, a , over which the yarn T passes from the beam.

Projecting horizontally from the outer face of the disk G there are a series of studs, K, which are slightly less in diameter than the length of the slots $d f$, to permit the studs to pass freely through said slots.

The operation of the improvement is as follows: The loom being in use, with the yarn T drawn taut over the rocker-shaft, and one of the studs K (which, for convenience of reference, is marked 20) pressing forcibly on top of the escapement-bar H, near the slot f , when, now, the lay moves, the flange a of the rocker-shaft will be depressed, forcing the lower end of the arm R inwardly, and sliding the bar H back until the stud 20 passes downwardly or

"escapes" through the slot *f*, and the stud 22 is brought to bear against the under side of the bar near the slot *d*, as indicated by the dotted lines in Fig. 2.

5 When the pick has been made and the strain on the yarn is relieved, the spring M will force the lower end of the arm R outwardly, elevate the flange *a*, slide the bar H back into its normal position, and permit the stud 22 to escape or pass upwardly through the slot *d*, at
10 the same time bringing another stud to bear on top of the plate and stopping the revolution of the disk G, in a manner which will be readily obvious without a more explicit description.
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Having thus explained my invention, what I claim is—

The combination of a warp-beam, B, a flanged

rock-shaft, Q, a crank-arm attached to said rock-shaft, a sliding rod, J, connected at one 20 end to said crank-arm and provided with a lateral arm, *g*, a spring for pressing said rod in one direction, a sliding escapement-bar, H, provided with the lug Z and with notches *d f*,
25 an arm connecting the lateral arm of said sliding rod with the lug of said escapement-bar, an escapement-disk, G, provided with studs K, adapted to alternately engage said escapement-bar, and intermediate gearing connecting the shaft of said disk with the shaft of the 30 warp-beam, substantially as described.

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Witnesses:

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