

No. 744,037.

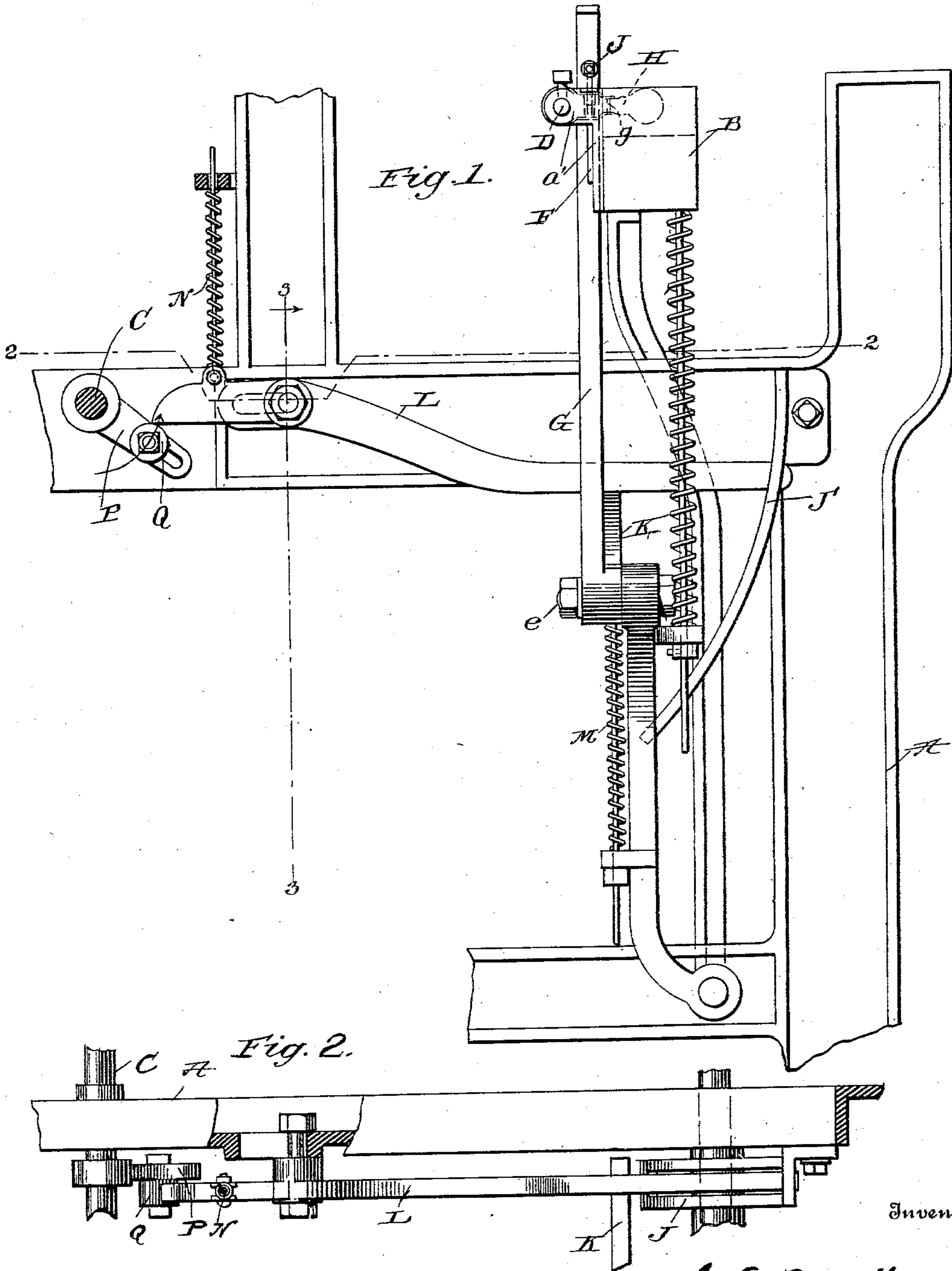
PATENTED NOV. 17, 1903.

C. E. BROUILLETTE.
SHUTTLE DRIVING MECHANISM.

APPLICATION FILED JULY 10, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses
E. Rader
J. J. Sheehy Jr.

C. E. Brouillette
By *James J. Sheehy* Attorney

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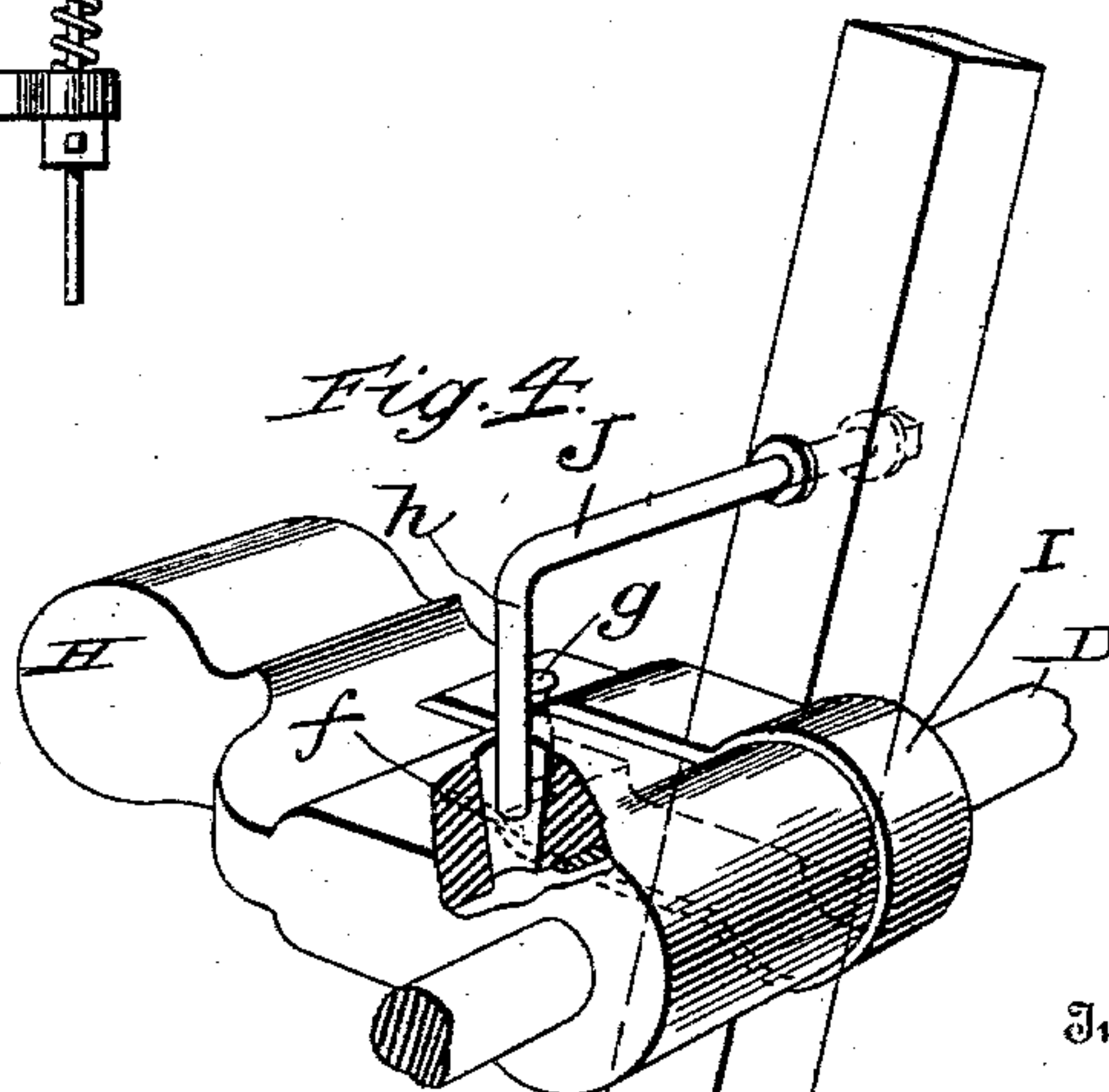
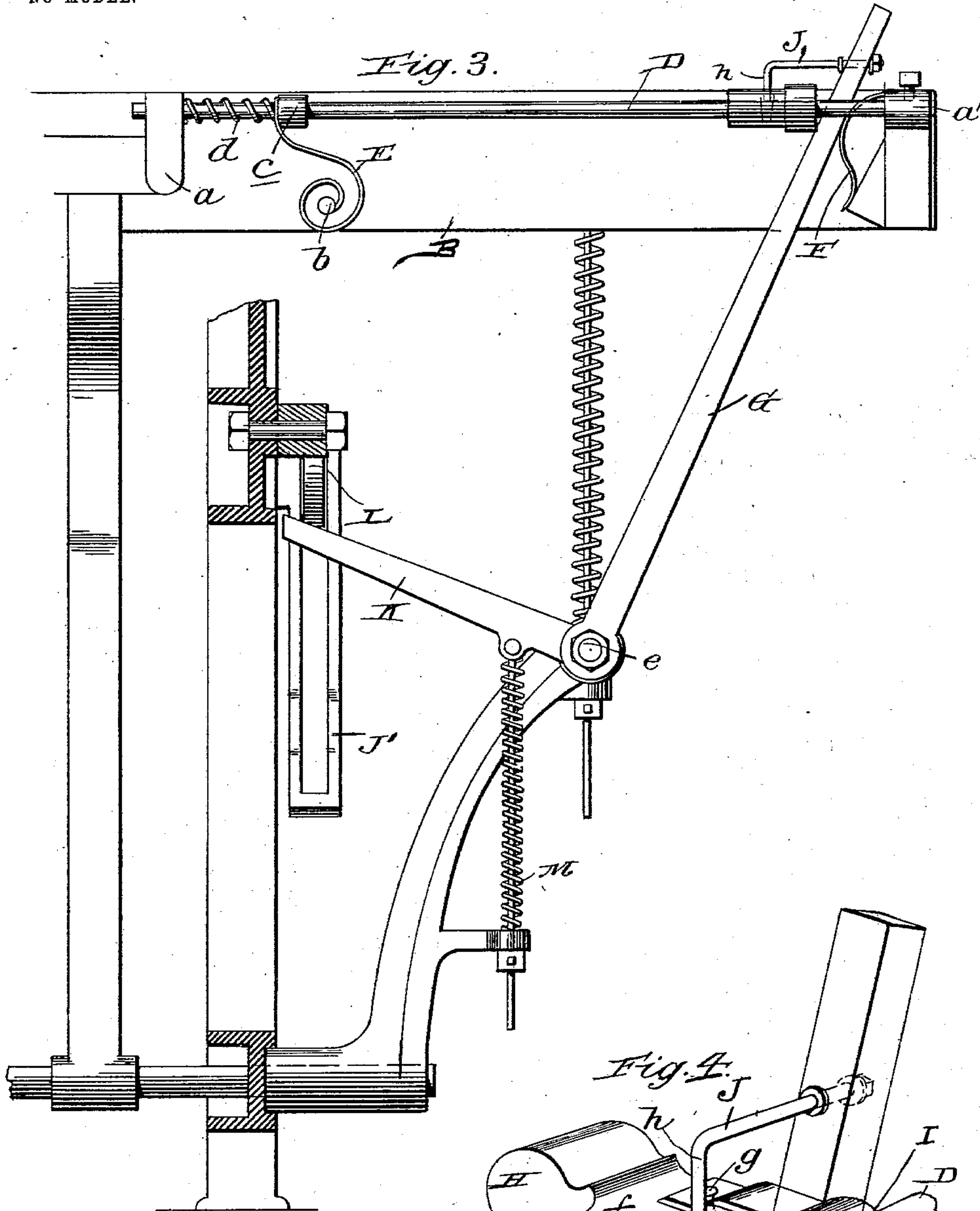
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Witnesses
J. J. Sheehy Jr.

Inventor
C. E. Brouillette
By *James J. Sheehy* Attorney

UNITED STATES PATENT OFFICE.

CHARLES E. BROUILLETTE, OF WOONSOCKET, RHODE ISLAND.

SHUTTLE-DRIVING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 744,037, dated November 17, 1903.

Application filed July 10, 1903. Serial No. 164,968. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. BROUILLETTE, a citizen of the United States, residing at Woonsocket, in the county of Providence and State of Rhode Island, have invented new and useful Improvements in Shuttle-Driving Mechanisms, of which the following is a specification.

My invention pertains to looms, and more particularly to the picker mechanisms thereof; and it consists in the peculiar and advantageous construction hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a detail end elevation of a portion of a woolen-loom of the drop-box type embodying my improved picker mechanism; Fig. 2, a detail horizontal section taken in the plane indicated by the line 2 2 of Fig. 1; Fig. 3, a vertical section taken in the plane of line 3 3 of Fig. 1 looking in the direction indicated by the arrow; and Fig. 4 is an enlarged detail perspective, partly in section, illustrating the connection of the picker comprised in my improvements to the picker-staff also forming part of the improvements.

Similar letters of reference designate corresponding parts in all of the several views of the drawings, referring to which—

A is the frame, and B the lay, of a woolen-loom of the drop-box pattern, and C is a shaft, which is preferably, though not essentially, the crank-shaft of the loom. These parts may be, and preferably are, of the ordinary well-known construction.

D is a picker-rod secured in lugs *a a'* on the rear side of the lay B.

E is a buffer-spring connected at one end to the rear side of the lay, as indicated by *b*, and having its upper end loosely arranged on the rod D and interposed between an abutment *c* on the rod and one end of a coiled spring, which bears at its opposite end against the lug *a*.

F is a buffer-spring connected at one end to the lug *a'*, and G is a picker-staff arranged to work on the center *e*, Fig. 3. The picker-staff swings parallel to the rod D and between the springs E and F, which latter have for their purpose to cushion the staff at the com-

pletion of its movements in opposite directions, and thereby prolong the usefulness of the same.

H is a picker, of rawhide or other suitable material, arranged to slide on the rod D and having a vertically-disposed hole *f*, and I is a band of steel or other suitable metal, which straddles the rear portion of the picker and has its ends riveted or otherwise secured thereto, as indicated by *g*. The said band has for its purpose to prevent wear of the picker when the same contacts with the staff G.

J is a drag-rod—i. e., a rod designed after the throw of the picker to drag or hold the picker to the staff G. The said rod is fixed to and extends forwardly from the picker-staff and has a depending arm *h* loosely arranged in the hole *f* of the picker H, this latter in order to enable the rod to perform the function stated and yet permit the rod to assume different positions as the staff swings on the center *e* without frictional wear of the picker.

J' is a curvilinear guide fixed to the frame A at one end thereof; K, an arm formed integral with or otherwise fixed with respect to the staff G and disposed at right angles to the same; L, a lever fulcrumed at an intermediate point of its length on the end of frame A and having one of its arms disposed above the arm K of the picker-staff and in the guide J'; M, a spring for returning the picker-staff to the position shown in Fig. 3 subsequent to a throw of the staff; N, a spring for returning the lever L to the position shown in Fig. 1 subsequent to a depression of the long arm of said lever, and P a tappet-arm fixed on the crank-shaft C and carrying an antifriction-roller Q, arranged to engage the short arm of the lever L. In the practical operation of this part of my invention it will be observed that when the shaft C is rotated in the direction indicated by arrow in Fig. 1 the antifriction-roller Q on the arm P will rock the lever L and through the medium of said lever and the arm K throw the picker-staff G. It will also be observed that subsequent to the disengagement of the antifriction-roller Q from the short arm of the lever L and the throw of

the picker-staff the springs M and N will return the picker-staff and the lever L, respectively, to the positions shown in the drawings.

It will be appreciated from the foregoing that in virtue of my improvements the throw of the picker-staff is quickly and easily effected and that its movements are attended with but a minimum amount of shock and friction, with the result that the usefulness of all of the parts is materially prolonged.

While I prefer to arrange the tappet-arm P on the crank-shaft C, I desire it understood that said arm may be arranged on any other suitable shaft of the loom, and I also desire it understood that my improvements may be embodied in any type of loom to which they are applicable without involving a departure from the scope of my invention.

I have entered into a detailed description of the construction and relative arrangement of the parts embraced in the present and preferred embodiment of my invention in order to impart a full, clear, and exact understanding of the same. I do not desire, however, to be understood as confining myself to such specific construction and arrangement of parts, as such changes or modifications may be made in practice as fairly fall within the scope of my invention as claimed.

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

1. In a loom, the combination of a lay, a picker-rod connected therewith, a swinging picker-staff, a picker arranged to slide on the picker-rod, and having an opening, and a drag-rod connected to the picker-staff, and having an arm disposed and movable laterally in the opening of the picker.

2. In a loom, the combination of a lay, a picker-rod connected therewith, a swinging picker-staff, a picker of rawhide or other

suitable material, arranged to slide on the picker-rod, and having an opening, a metallic band secured on the rear portion of the picker, and adapted to prevent wear of the same against the picker-staff, and a drag-rod connected to the picker-staff, and having an arm disposed and movable laterally in the opening of the picker.

3. In a loom, the combination of a lay, a picker-rod connected therewith, buffer-springs arranged adjacent to the ends of said rod, a swinging picker-staff interposed between the lay and the picker-rod, and movable between the buffer-springs, a picker, of rawhide, slidable on the picker-rod, and having an opening, and a drag-rod connected to the picker-staff and having an arm loosely arranged and movable laterally in the opening of the picker.

4. In a loom, the combination of a frame, a lay, a picker-rod connected to the lay, buffer-springs arranged adjacent to the ends of said rods, a picker-staff movable between the buffer-springs, and having an arm fixed thereto, a picker slidable on the rod, and having an opening, a drag-rod fixed to the picker-staff, and having an arm loosely arranged and movable laterally in the opening of the picker, a lever fulcrumed at an intermediate point of its length on the frame, and having one arm in engagement with the arm of the picker-staff, a rotary tappet arranged to engage the other arm of the lever, and means for returning the parts to their normal positions subsequent to a throw of the picker-staff.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

CHARLES E. BROUILLETTE.

Witnesses:

BELLE SMITH,
GEO. W. SPAULDING.