

(No Model.)

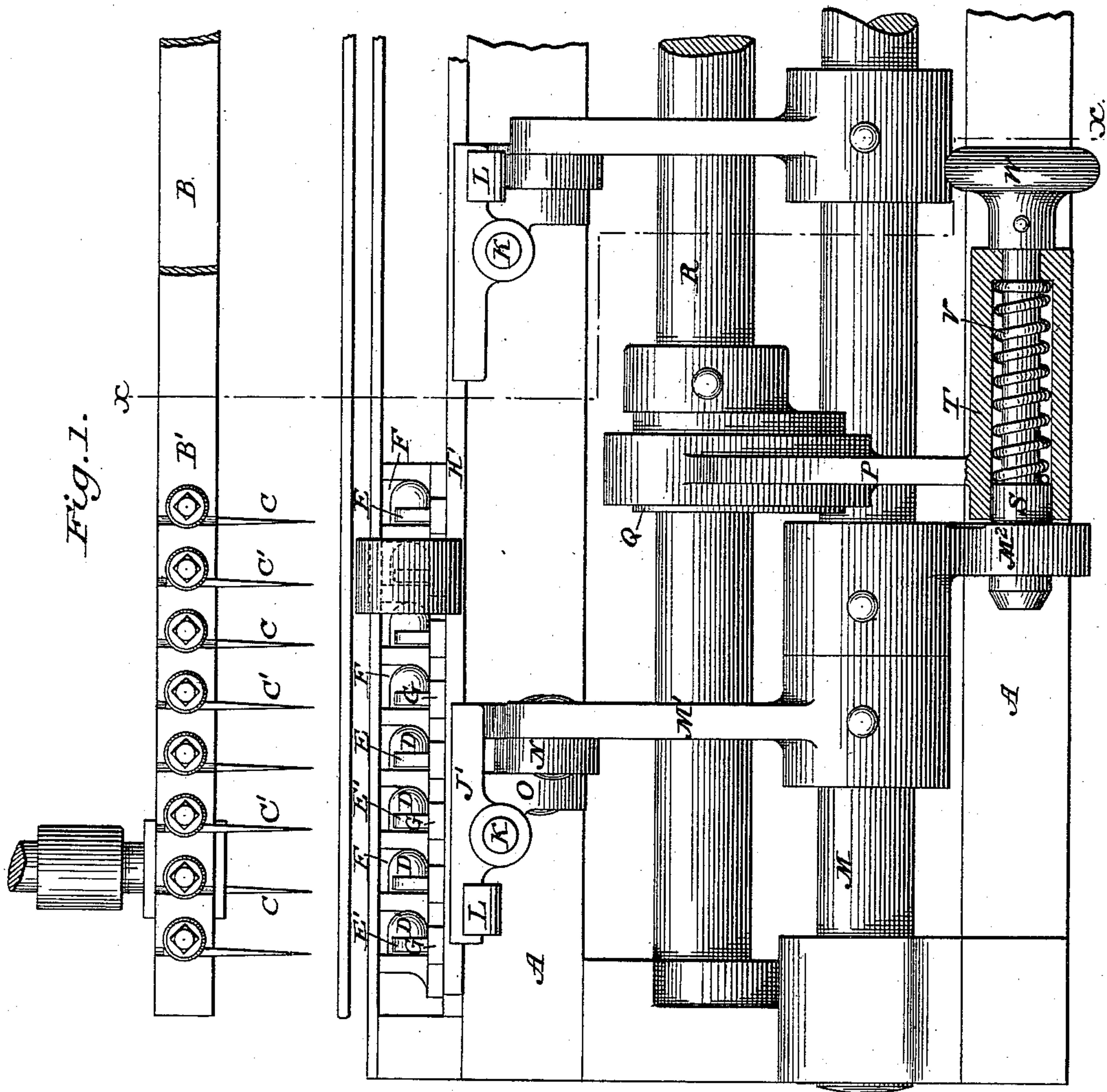
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W. KOCH.

SHUTTLE CARRIER FOR QUILTING MACHINES.

No. 379,480.

Patented Mar. 13, 1888.



Attest:

A. St. Jebsen  
L. C. Jordan.

Inventor:

William Koch,  
By David A. Burr,  
Atty.

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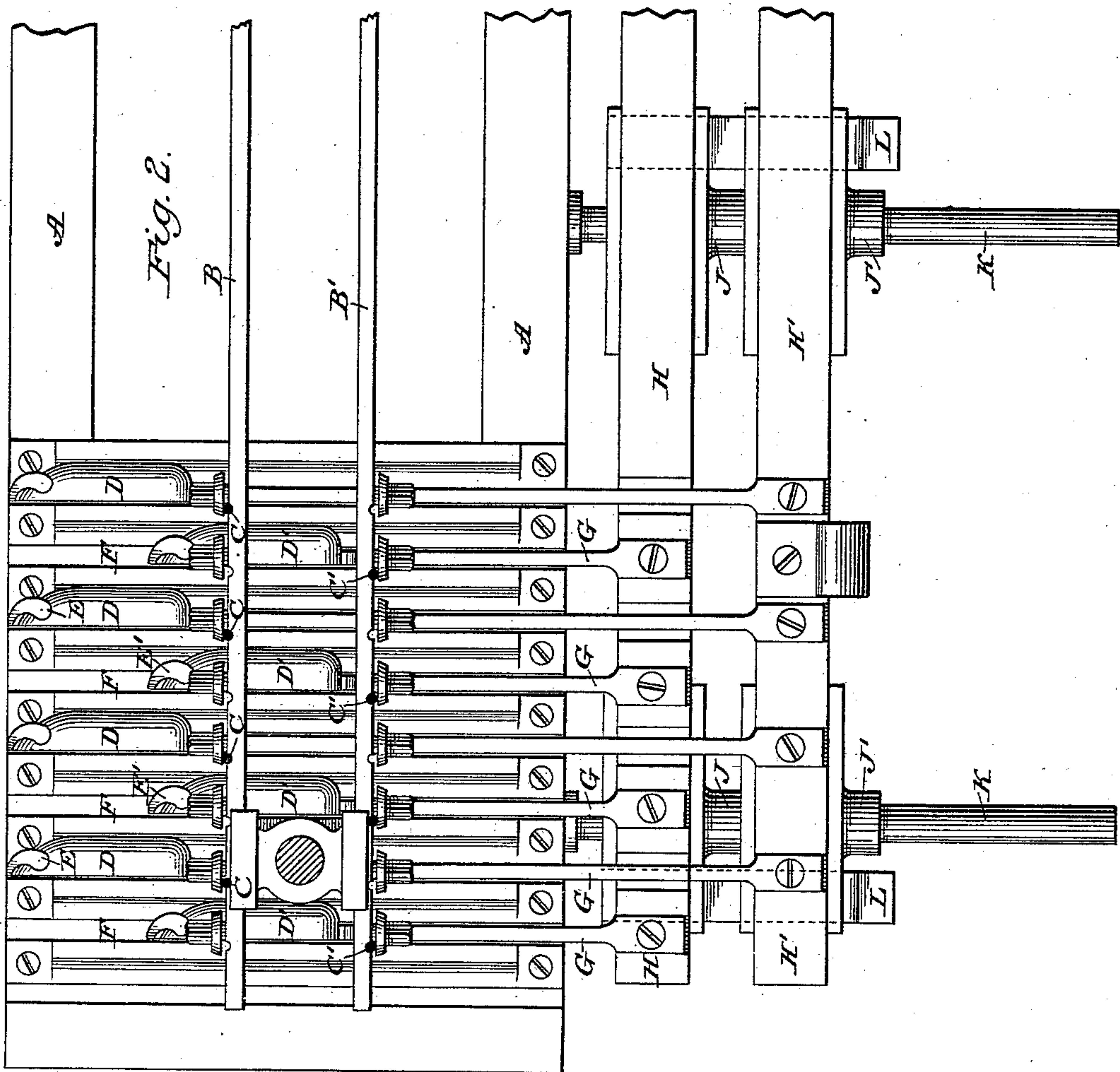
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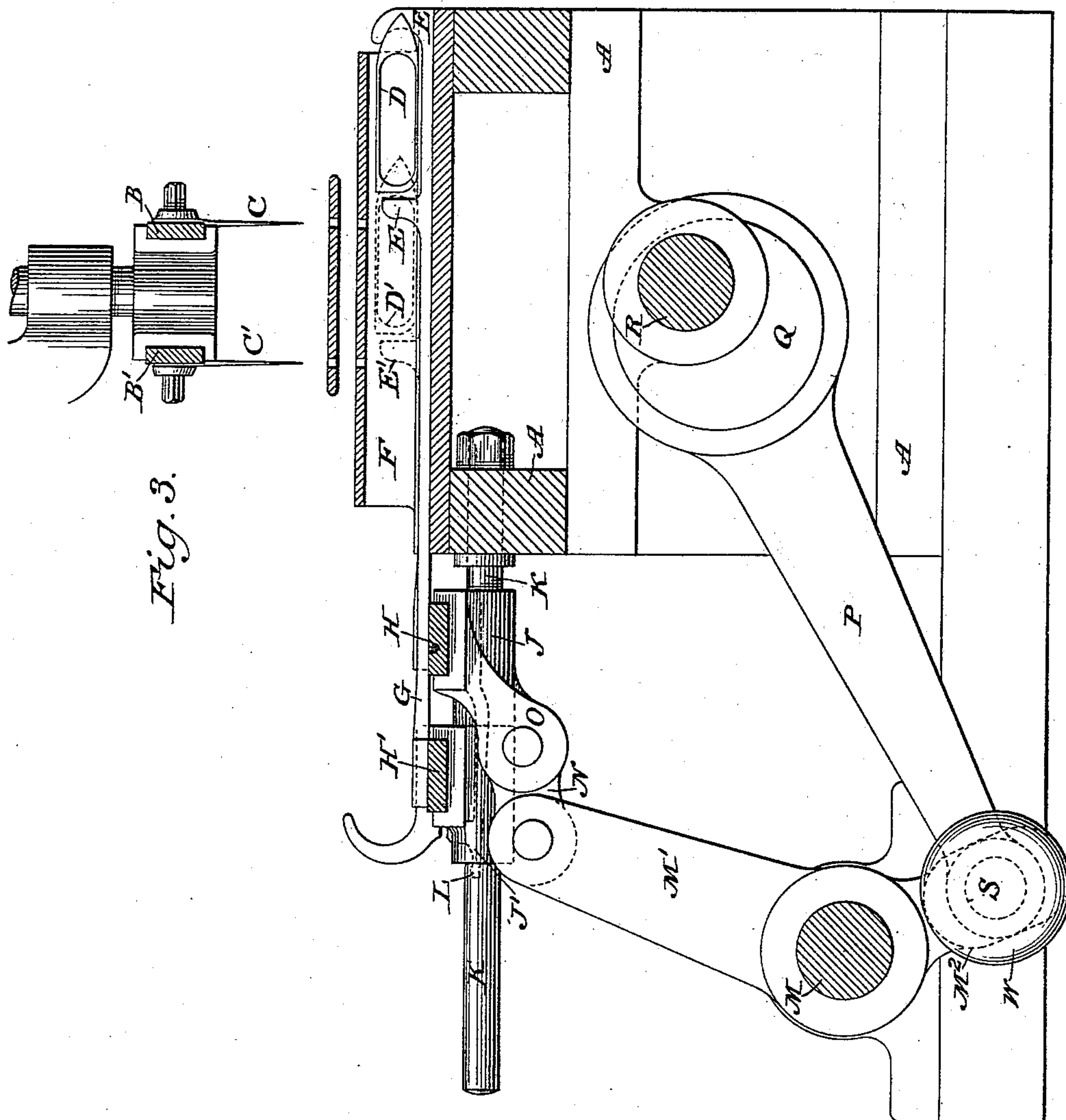
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# UNITED STATES PATENT OFFICE.

WILLIAM KOCH, OF NEW YORK, N. Y.

## SHUTTLE-CARRIER FOR QUILTING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 379,480, dated March 13, 1888.

Application filed July 28, 1887. Serial No. 245,488. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM KOCH, of the city, county, and State of New York, have invented certain new and useful Improvements in Shuttle-Carriers for Compound Sewing-Machines or Quilting-Machines; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification, in which—

Figure 1 is a front elevation, partly in section, of a portion of a quilting-machine embodying my invention. Fig. 2 is a plan view of the same with the upper plate of the shuttle-box removed, and Fig. 3 an irregular vertical section in line *xx* of Fig. 1.

Similar letters indicate like parts in all of the figures.

My invention relates to that class of sewing-machines in which two gangs or rows of needles are employed, requiring two sets of shuttles, the one behind the other.

It has for its object to facilitate the withdrawal of the shuttles in either set to refill or rethread them.

It consists in the combination, with each row of shuttle bars and carriers, of an independent transverse driving-bar and carriage at the rear of the machine and a coupling device by which the two bars are made to move in unison.

It consists, also, in the combination, with said driving-bars, of a detachable coupling device by which the rock-shaft actuating said bars to produce their reciprocation is connected to or disconnected from the eccentric on the rotating shaft by which said rock-shaft is actuated.

In the accompanying drawings, A represents a portion of the frame of a quilting-machine; B and B', its needle-bars, each carrying a set or row of needles, C and C', (see Fig. 3,) and D D D and D' D' D' the shuttles resting in the shuttle-carriers E E E and E' E' E', which are fitted to slide back and forth, in the customary manner, transversely under the two rows of needles in suitable raceways, F F F, which, being of the usual approved construction, need not be herein more fully described.

As the needles in the two rows are made to alternate in their position, so that no one needle

is immediately behind the other, (see Fig. 2,) every alternate shuttle D is carried to the front, so as to operate in connection with the front row, C, of needles.

All the carriers E' E' for the rear row of shuttles, D' D', are severally connected by means of shuttle rods or bars G G with a transverse driving-bar, H, secured upon a carriage, J, mounted to slide freely upon horizontal guide-rods K K to and from the needle-bars, so that the movement of the carriage will be imparted to the shuttle-carriers through said shuttle-rods G G. In like manner the carriers for the front set of shuttles, D D, are all severally connected with a second transverse driving-bar, H', which is secured parallel with the first upon a second carriage, J', mounted upon the same guide-rods, K K, outside of and in contact with the carriage J, so as to move with it and yet admit of being readily separated and drawn back therefrom. These two carriages J and J' are coupled and held together to move in unison by means of a spring-catch, L, as shown in Fig. 2 and by dotted lines in Fig. 3, or other equivalent device.

The reciprocation of the two carriages J and J' to actuate the shuttles is produced, in the customary manner, by means of an arm, M', projecting from a rock-shaft, M, which is coupled by a pivoted link, N, with an arm, O, projecting from the inner carriage, J. (See Fig. 3.) The rock-shaft M is actuated by means of a rod, P, from an eccentric, Q, upon the rotating shaft R of the machine, said rod being coupled to a radial arm, M<sup>2</sup>, projecting from the rock-shaft M, by means of a coupling-pin, S, working out through a sleeve, T, secured transversely upon the end of the arm P, to enter a pivotal aperture pierced to receive it in the end of the arm M<sup>2</sup> of said rock-shaft M, as illustrated in Fig. 1. This pivotal coupling-pin S is automatically kept in its seat in the arm M<sup>2</sup> of the shaft by means of a spiral spring, V, inclosed within the sleeve T; but the spring may be compressed and the pin drawn back to disengage it from the lever by means of a knob, W, on the end of the pin, outside the sleeve.

When the rock-shaft M is uncoupled from its driving-shaft P, it is free to rotate and al-



low the carriage J, linked to the arm M', to be moved out upon the guide-rods K K far enough to withdraw all the shuttle-carriers out entirely clear of the needles C', so that any 5 of the shuttles may be readily reached and withdrawn; or by uncoupling the outer carriage, J', from the inner carriage the former may be moved out upon the guide-rods K K independently of the latter and of the move- 10 ment of the rock shaft, and the inner or front set of shuttle-carriers, E E, be thereby alone drawn out to permit of the removal of the shuttles therefrom.

Thus by means of my invention all the shut- 15 tle-carriers may be drawn out together clear of the needles, or the inner shuttle-carriers may be so drawn out independently of the others, as may be found at the time most useful, and ease of access is permitted at all times 20 to any of the shuttles without disturbing or displacing any other parts of the machine.

I claim as my invention—

1. The combination, in a sewing-machine 25 having two or more rows of needles, with its shuttle-carriers, reciprocating driving-bars coupled to said carriers, a rock-shaft actuating

said driving-bars, and a rotating shaft actuating said rock-shaft, substantially in manner as herein described, of a detachable coupling interposed between the rotating shaft and the 30 rock-shaft, substantially in the manner and for the purpose herein set forth.

2. The combination, with two or more rows of shuttles and shuttle-carriers in a sewing-machine having two or more rows of needles, 35 of a separate reciprocating driving-bar for each row of shuttles, an independent carriage for each driving-bar, a common guideway for both carriages, a detachable device for coupling the carriages to move in unison, and 40 mechanism, substantially as described, for imparting a reciprocating movement to said carriages, all substantially in the manner and for the purpose herein set forth.

In testimony whereof I have signed my name 45 to this specification in the presence of two subscribing witnesses.

WILLIAM KOCH.

Witnesses:

A. N. JESBERA,  
DAVID A. BURR.