

(No Model.)

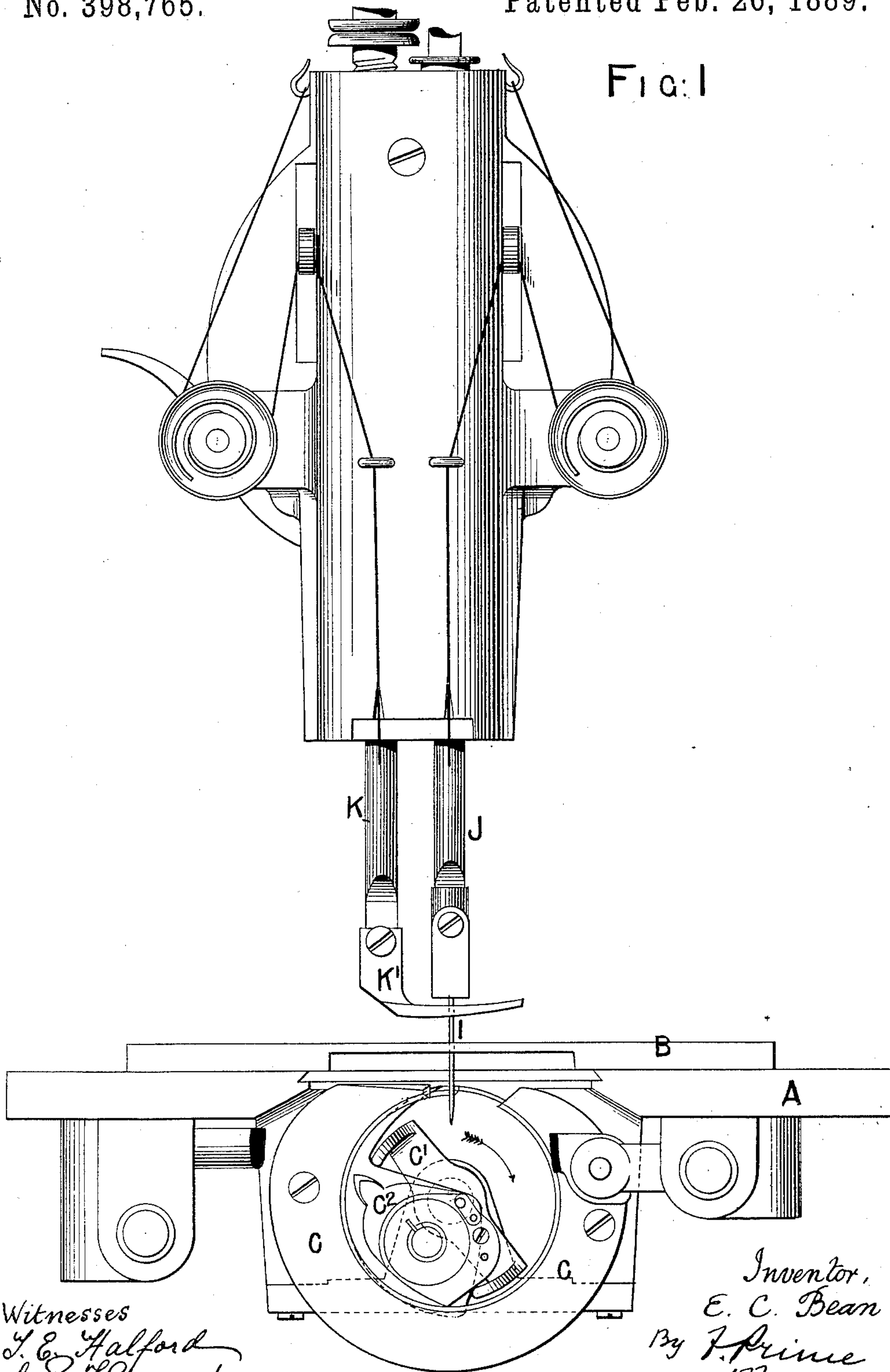
4 Sheets—Sheet 1.

E. C. BEAN.
SEWING MACHINE.

No. 398,765.

Patented Feb. 26, 1889.

FIG. 1



Witnesses
J. E. Halford
W. P. Hammond

Inventor,
E. C. Bean
By *J. Prime*
Attorney

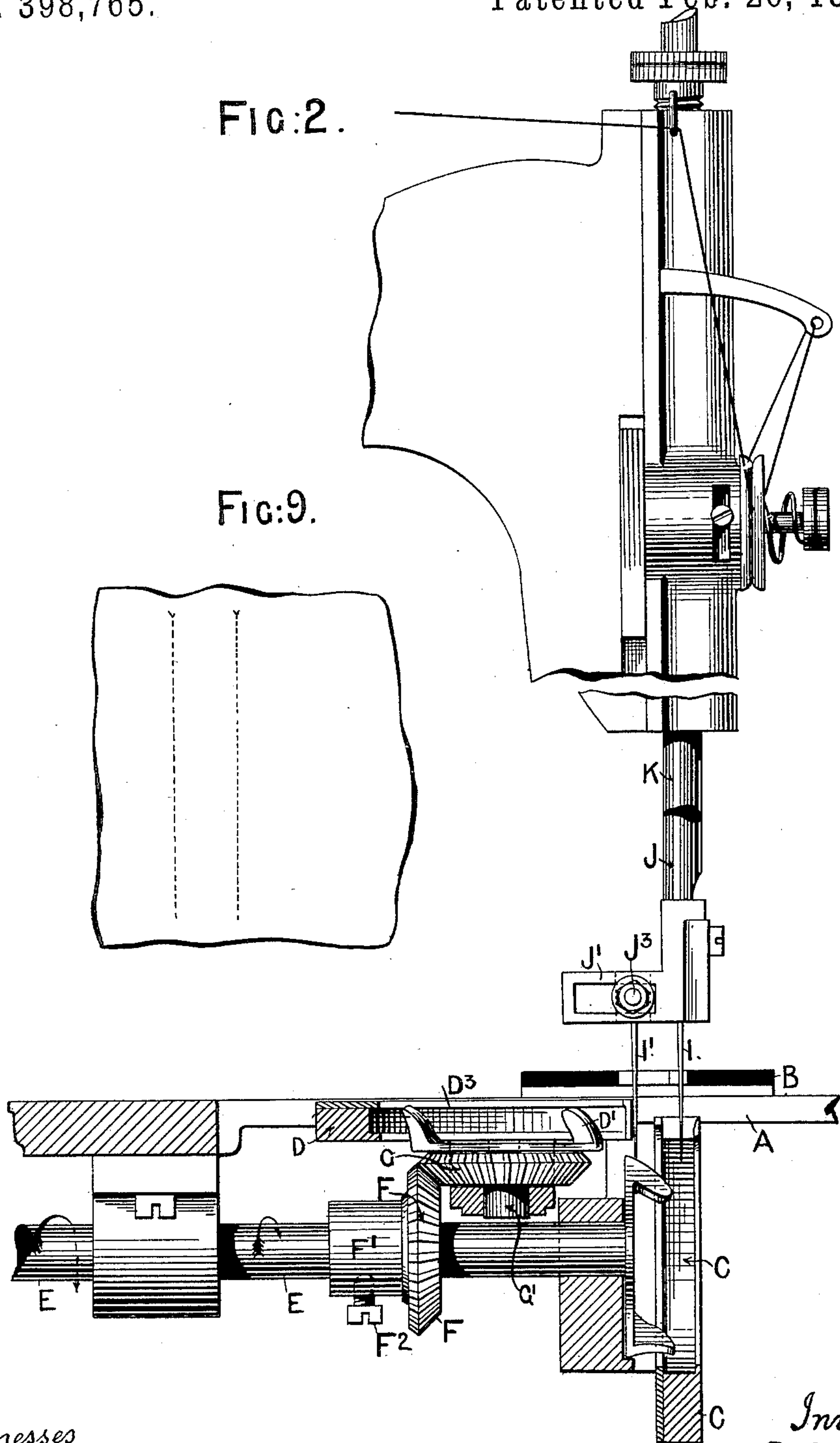
(No Model.)

4 Sheets—Sheet 2.

E. C. BEAN.
SEWING MACHINE.

No. 398,765.

Patented Feb. 26, 1889.



Witnesses

J. E. Halford
C. P. Hammond

Inventor,
E. C. Bean.
By J. Prime
Attorney.

(No Model.)

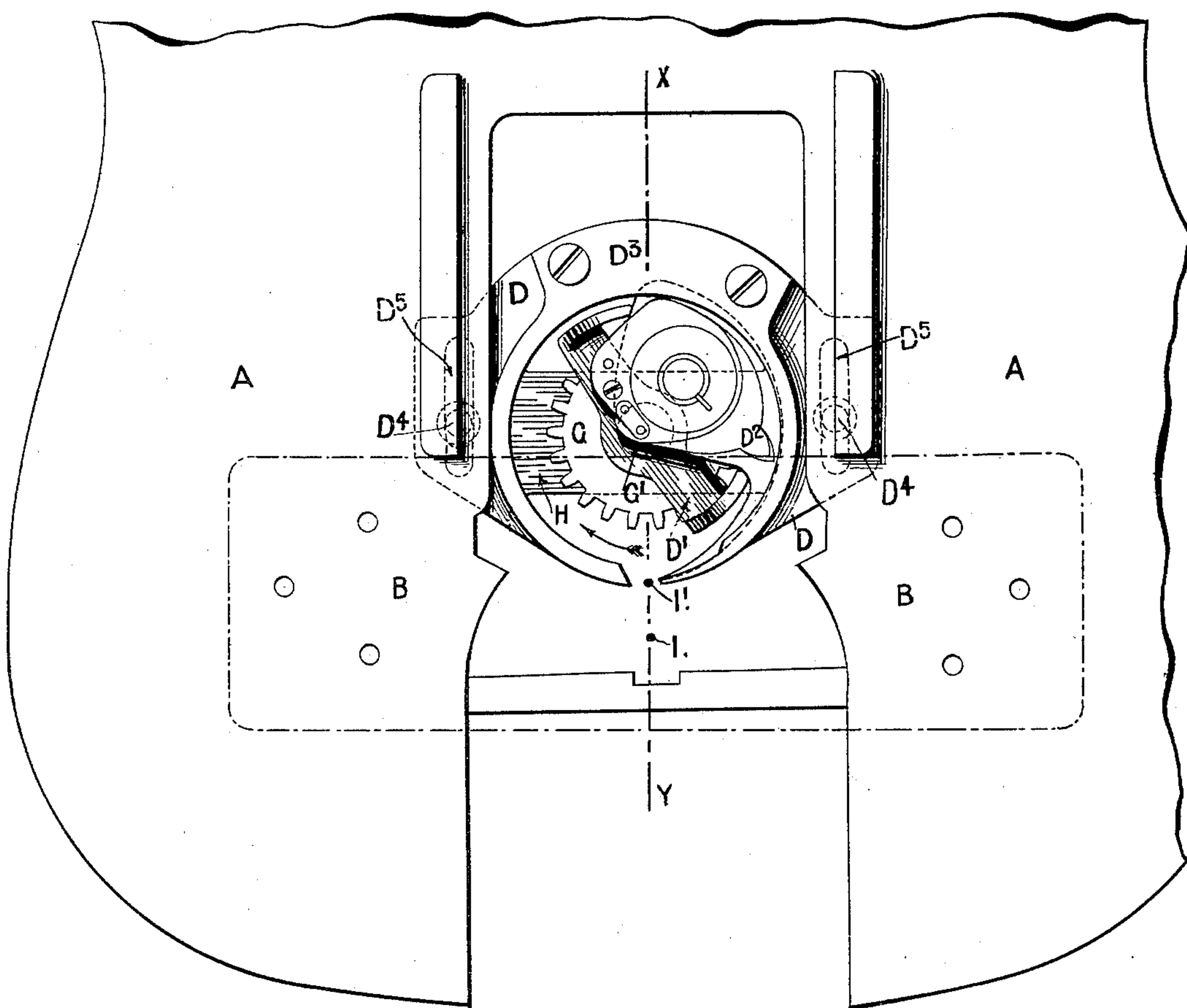
4 Sheets—Sheet 3.

E. C. BEAN.
SEWING MACHINE.

No. 398,765.

Patented Feb. 26, 1889.

FIG: 3



Witnesses
J. E. Halford
C. P. Hammond

Inventor.
E. C. Bean
By J. P. Prince
Attorney.

(No Model.)

4 Sheets—Sheet 4.

E. C. BEAN.
SEWING MACHINE.

No. 398,765.

Patented Feb. 26, 1889.

FIG:4

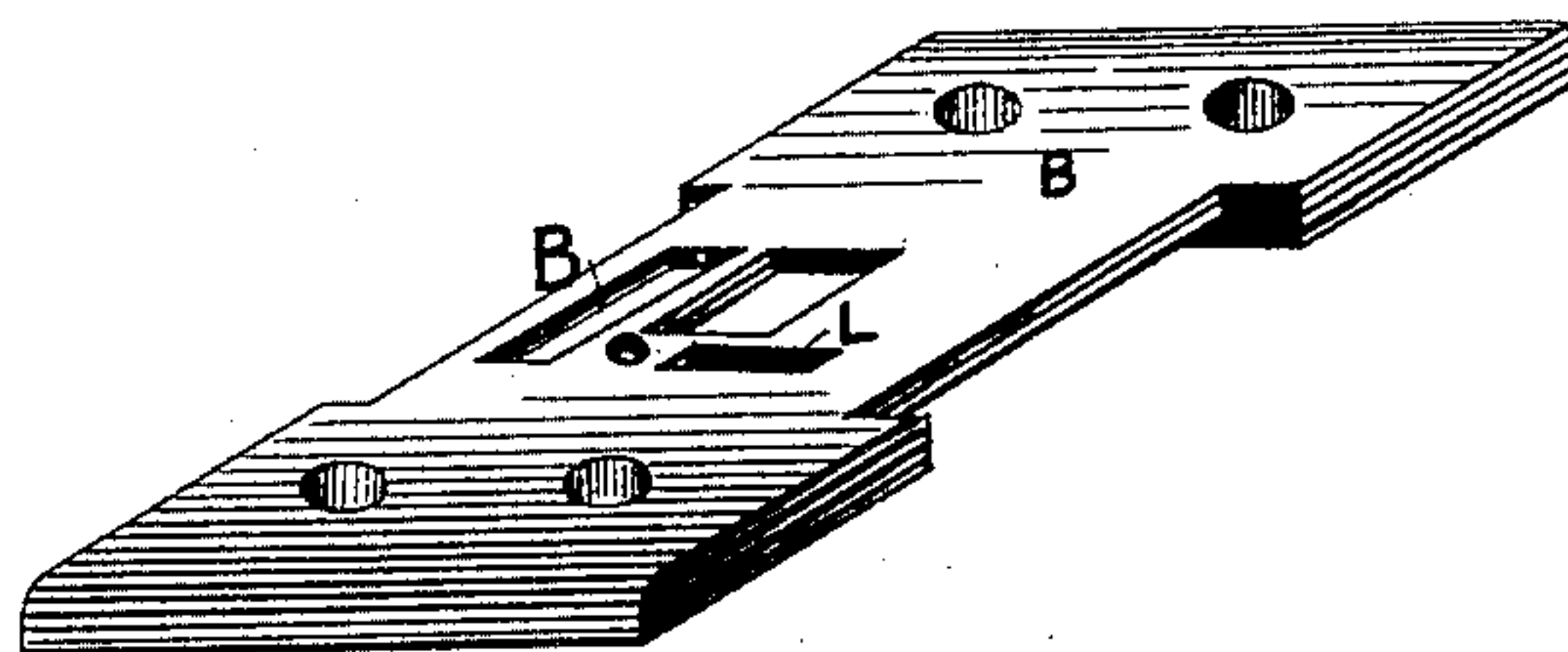


FIG:5

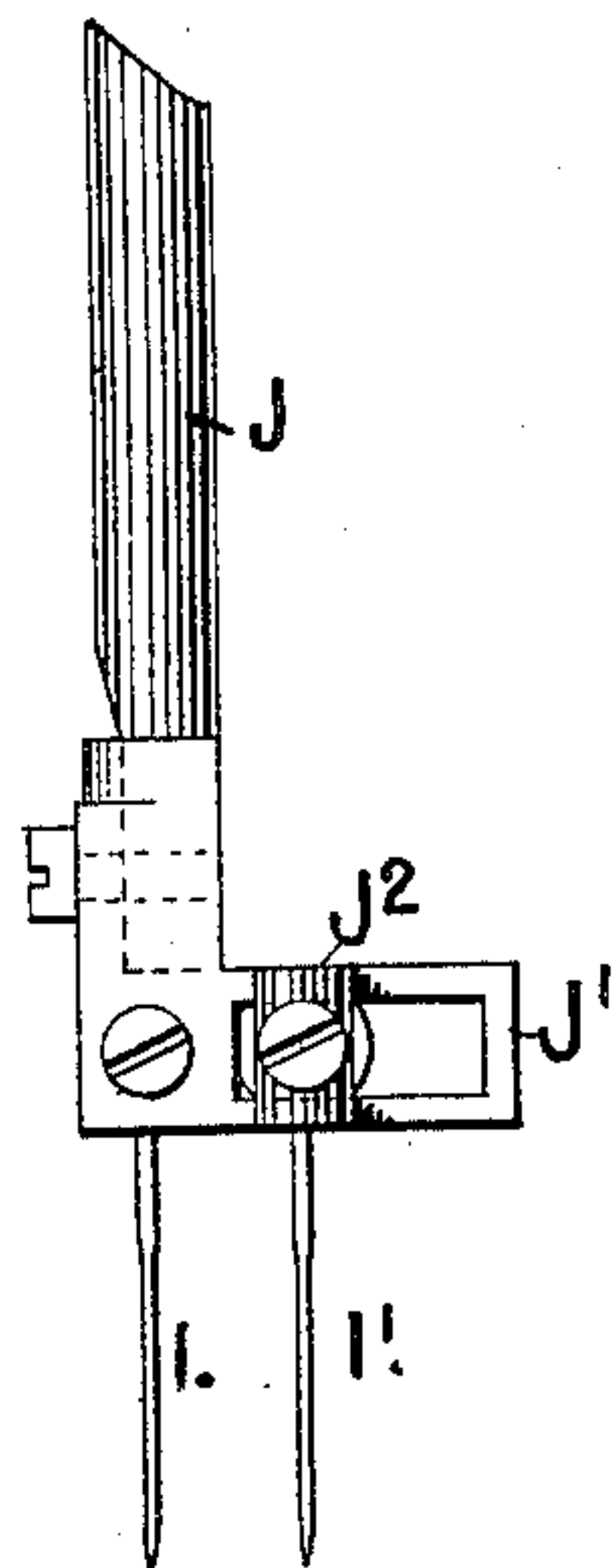


FIG:7

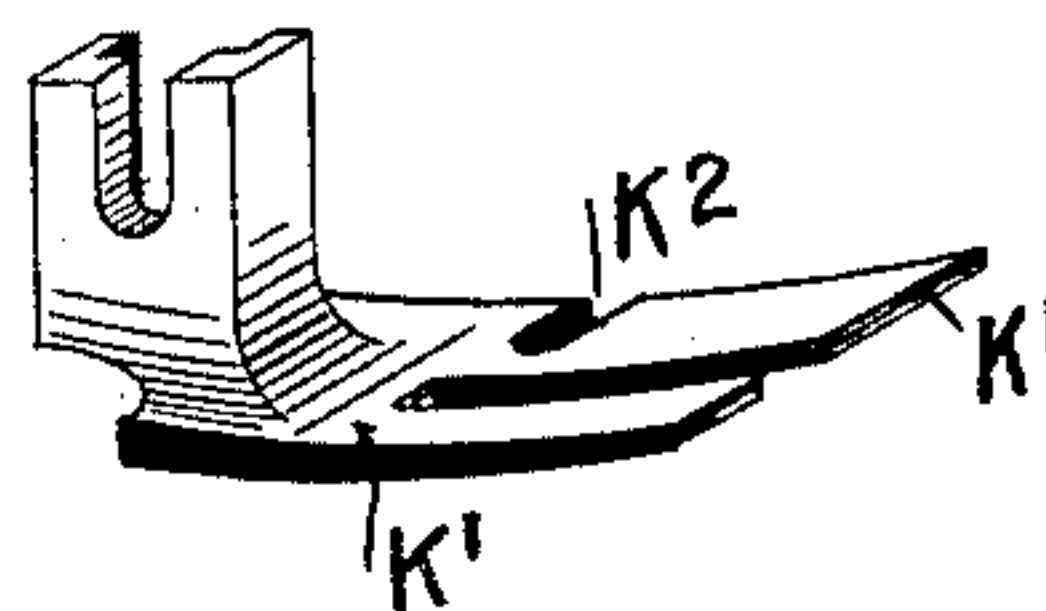


FIG:6

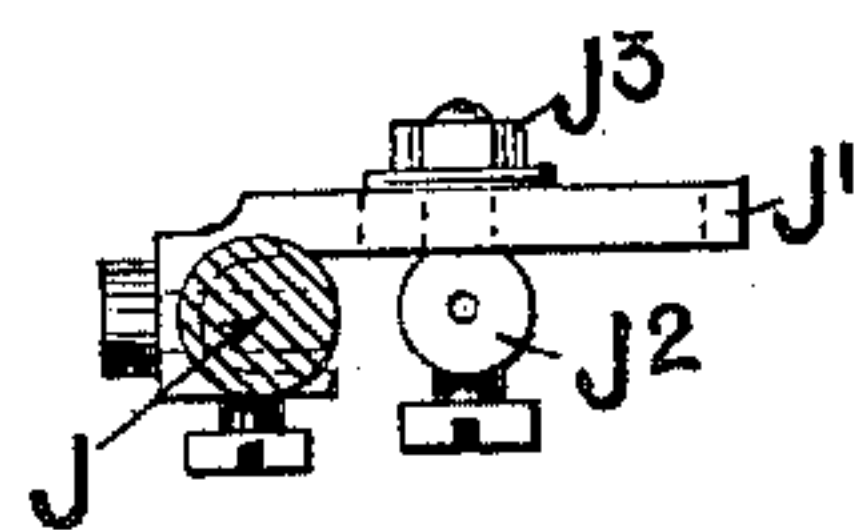
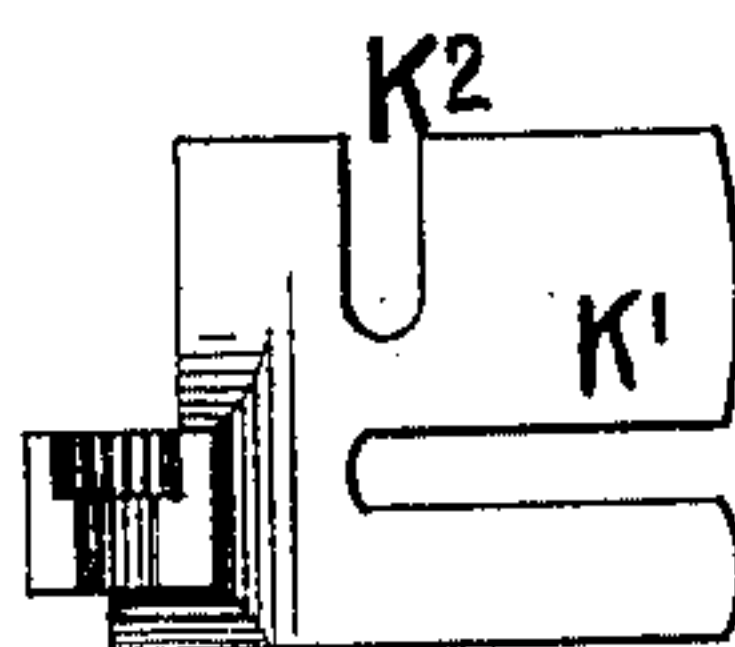


FIG:8



Witnesses.

L. E. Hafford
G. P. Hammond

Inventor,
E. C. Bean
By F. Prince,
Attorney.

UNITED STATES PATENT OFFICE.

EDWARD C. BEAN, OF BUCKLAND, PORTSMOUTH, COUNTY OF HANTS,
ENGLAND.

SEWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 398,765, dated February 26, 1889.

Application filed August 6, 1888. Serial No. 282,028. (No model.)

To all whom it may concern:

Be it known that I, EDWARD CHARLES BEAN, a subject of the Queen of Great Britain, residing at Buckland, Portsmouth, county of Hants, England, have invented certain new and useful Improvements in Sewing-Machines, of which the following is a specification.

My invention relates to an improved manner of using two needles in one machine to enable two rows of lock-stitch sewing to be sewed at the same time.

To enable this invention to be properly understood, I will proceed to fully describe the same with aid of the accompanying drawings, which show the invention applied to a machine of the "Singer" type.

The same letters of reference are used to denote the same parts in all the views.

Figure 1 is a front elevation of head of machine arranged according to this invention with view of usual shuttle arrangement; Fig. 2, a side elevation of head and partial sectional longitudinal view of means for operating two shuttles simultaneously, taken at line X Y, Fig. 3; Fig. 3, a partial plan view of table of machine with special horizontally-placed shuttle arrangements; Fig. 4, a perspective view of work-plate; Fig. 5, a detached partial view of needle-bar; Fig. 6, a plan view of Fig. 5; Figs. 7 and 8, perspective and plan views, respectively, of presser-foot; Fig. 9, a view of a piece of material, as shown by this machine, with two rows of stitching at the same time.

A represents a partial view of table of machine; B, the work-plate; C, the usual vertical shuttle-race; C', the shuttle-carrier; C², the shuttle; D, a special shuttle-race placed horizontally; D', the shuttle-carrier; D², the special shuttle. The two shuttles D² and C² are arranged at right angles to each other and work in opposite directions, as shown by arrows; D³, guard-ring to retain shuttle D² in race; E, the usual shuttle-driving shaft, which, in accordance with this invention, is fitted with a bevel gear-wheel, F, attached to a boss-sleeve, F', made adjustable as to po-

sition on shaft E by a set screw, F². This bevel-wheel gears with another bevel-wheel, G, keyed on stud-shaft G', revolving in and held by a cross-bracket, H, attached to shuttle-race bed D. The top of shaft G' is attached to shuttle-carrier D'. The bed of shuttle-race D is attached to under side of table A, and must be arranged to be adjustable as to position. This adjustability may be effected by the means shown in drawings at Fig. 3, consisting of screws D⁴ and slots D⁵.

I I' are the two needles, the former being the usual one and the latter the extra one; J, the needle-bar having a right-angle slotted extension, J', to attach an additional needle-holder, J², to. This holder is made with a side-projecting screw-threaded stem, J³, to enable the holder to be moved in slot nearer to or farther from the needle I, when it is secured by the nut on screw. When changing position of needle I', it will be at once understood that the shuttle-race bed D and wheel F must be correspondingly moved to suit the position of needle; K, the presser-foot bar; K', the foot. This is formed with a slot, K², to suit adjustability of needle I'. The plate B is also formed with a slot, L, in place of a hole, also to suit the adjustability of the needle I'.

The usual cotton-feeding and take-up arrangements are duplicated to meet the requirements of the second needle.

Having fully described my invention, what I desire to claim and secure by Letters Patent of the United States is—

1. In a two-needle sewing-machine, the combination, with the needle-operating mechanism of a two-needle sewing-machine and its two needles, of a shuttle-operating shaft carrying the usual shuttle for co-operating with one of the needles, a second shuttle arranged in a plane at right angles to the plane in which the first-named shuttle operates for co-operating with the second needle, and means for driving the second shuttle from the shuttle-shaft, all substantially as and for the purposes set forth.

2. The combination, with the needle-operating mechanism of a two-needle sewing-machine and its two needles, of a shuttle-operating shaft carrying the usual shuttle for co-
5 operating with one of the needles, a second shuttle arranged at right angles to the first-named shuttle for co-operating with the other needle, a spindle, G', on which said shuttle is mounted, a gear on said spindle, and a second
10 gear on the shuttle-operating shaft and en-

gaging with the first-named gear, all substantially as and for the purpose set forth.

EDWARD C. BEAN.

Witnesses:

WALTER LANGER,
50 Victoria Terrace, Landport, Portsmouth,
England, *Short-hand writer.*

ARTHUR WILLIAMSON,
33 Gold Street, Southsea, Portsmouth, Eng-
land, *Notaries' Clerk.*