

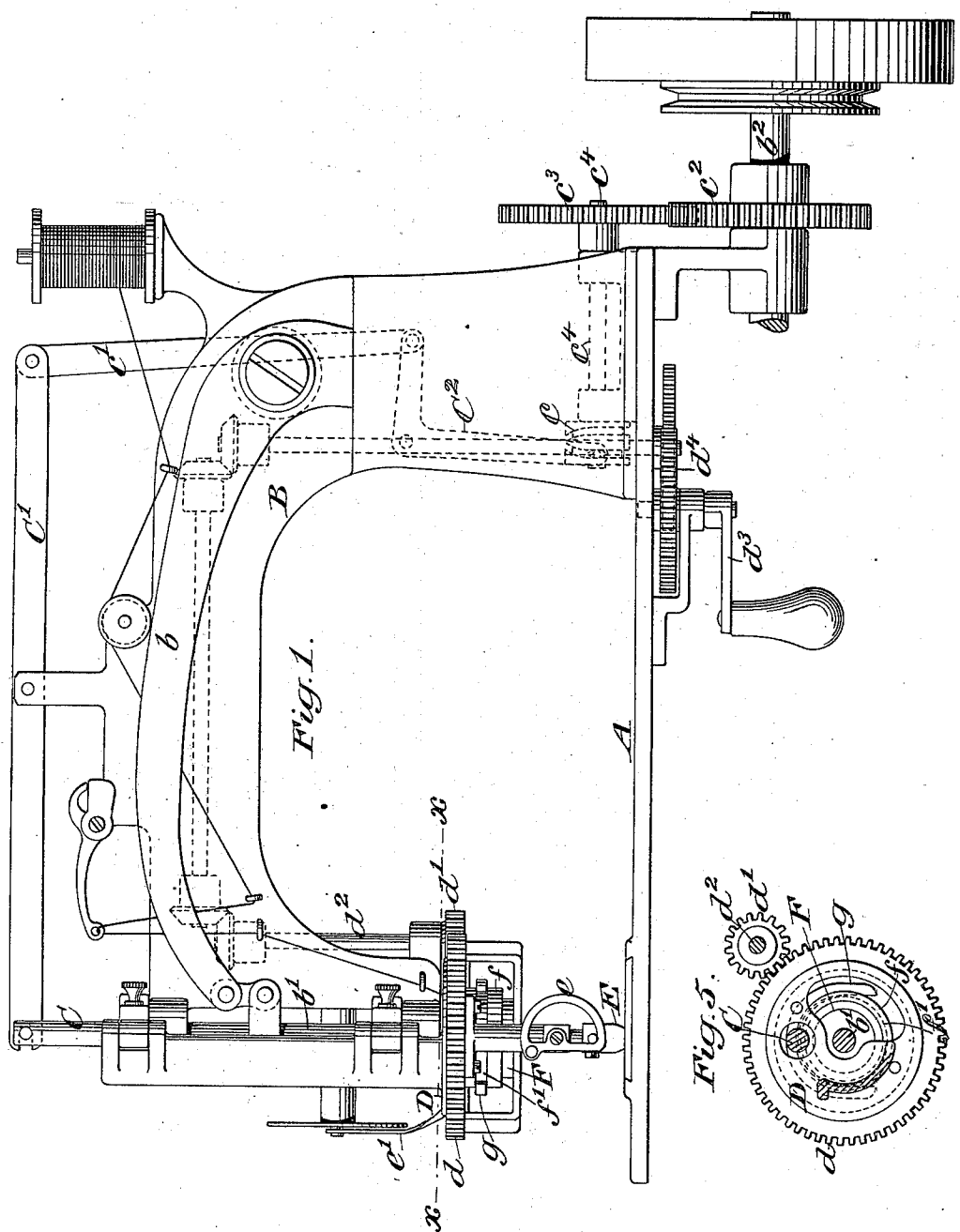
(No Model.)

2 Sheets—Sheet 1.

G. W. WEISS.
SEWING MACHINE.

No. 552,559.

Patented Jan. 7, 1896.



Witnesses:
O. Sundgren
George Barry.

Inventor:
George W Weiss
by attorneys
Brown & Seward.

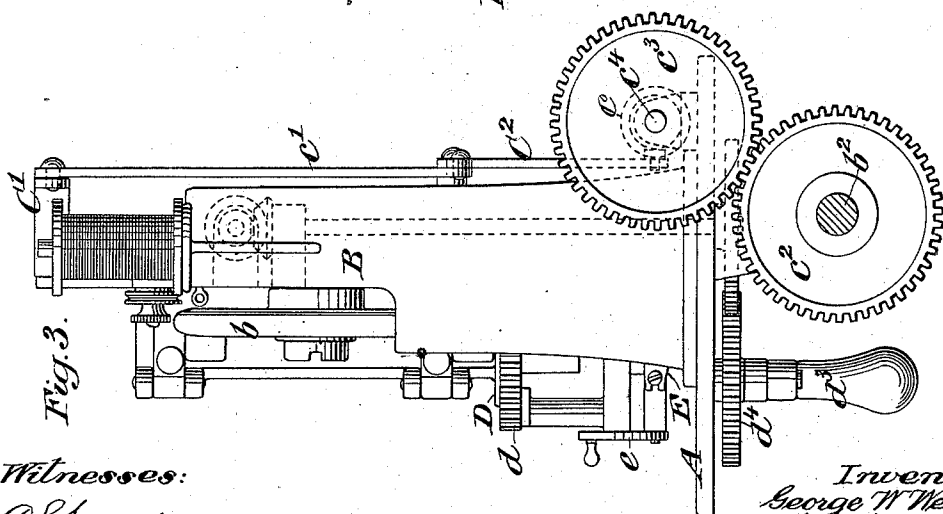
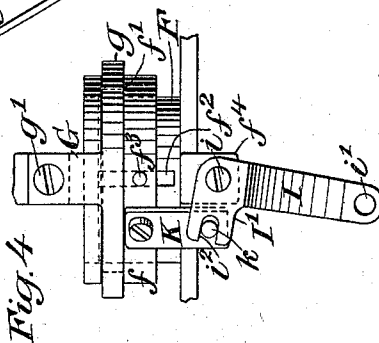
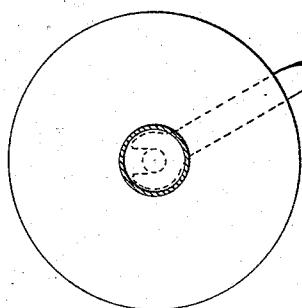
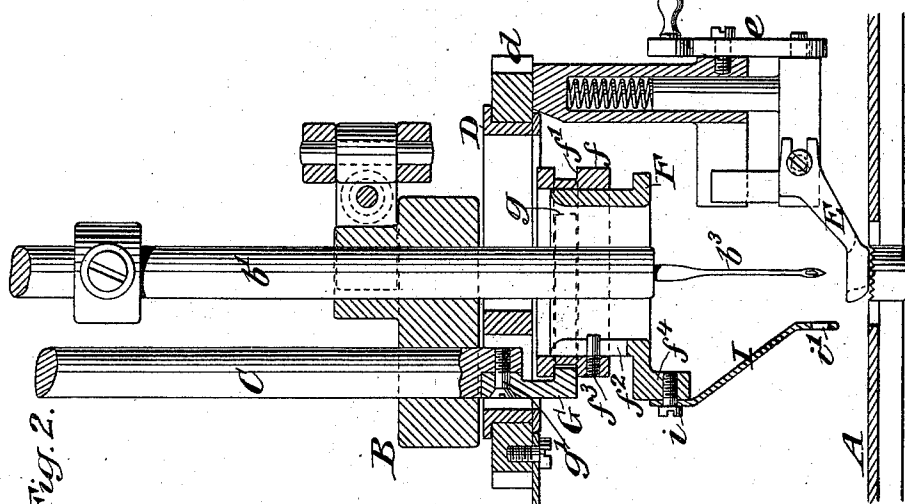
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UNITED STATES PATENT OFFICE.

GEORGE W. WEISS, OF BROOKLYN, ASSIGNOR OF THREE-FOURTHS TO
JOHN STEWART, OF NEW YORK, N. Y.

SEWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 552,559, dated January 7, 1896.

Application filed October 15, 1894. Serial No. 525,899. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. WEISS, of Brooklyn, in the county of Kings and State of New York, have invented a new and useful
5 Improvement in Sewing-Machines, of which the following is a specification.

My invention relates to an improvement in sewing-machines in which a universal-feed machine is adapted to form stitches intermediate of successive beads on a string by swaying
10 the string of beads laterally from side to side in advance of the needle.

The particular machine which I have chosen to illustrate my invention is of the type commonly known as the "Cole universal-feed machine," although the mechanism to which
15 my present invention particularly refers may be adapted with slight modifications to machines of other types.

In the accompanying drawings, Figure 1 is a view of the machine in side elevation. Fig. 2 is an enlarged view in end elevation, partly
20 in section, at the needle end of the machine. Fig. 3 is an end view, partly in section, from the opposite end of the machine. Fig. 4 is a view in detail in side elevation of the bead-operating finger and the means for operating
25 it, and Fig. 5 is a horizontal section through line *x x* of Fig. 1.

The bed of the machine is denoted by A, the overhanging supporting-arm by B, the vibrating arm for operating the needle-bar by *b*, the needle-bar by *b'*, and the operating-shaft by *b''*. These parts, as well as the rotary
30 presser-foot and supply-spool carrier D, with their actuating-gear *d* in mesh with the pinion *d'* on the spindle *d''*, controlled by intermediate bevel-gear from a crank *d'''* for rotating the drive gear-wheel *d''*, are quite
35 similar in their structure and arrangement to that of the Cole universal-feed machine hereinbefore referred to, with the exception that the crank *d'''* for operating the rotary
40 presser-foot and supply-carrying barrel is in the present instance located underneath the bed A, instead of above it, as is common in the type of machine referred to. The presser-foot E, its lifting-cam *e*, and the supply-spool
45 support *e'* are also constructed and arranged in a manner quite similar to that common to the Cole universal-feed machine referred to.

My present invention is particularly directed to the introduction of a longitudinally-reciprocating drive-bar under the control of
55 the drive-shaft of the machine for transmitting to a bead-carrying arm a reciprocating movement transversely across the path in which the string of beads is fed, no matter how the direction of the path of the beads may vary. To this end I provide the hollow
60 guide-tube F, through which the thread is fed down to the presser-foot and which is made to rotate, together with the presser-foot and supply-spool carrier, with a vertically-reciprocating sleeve *f*, having an annular
65 groove *f'*, adapted to receive the forked end *g* of a connecting-bar G, which is secured to the lower end of a longitudinally-reciprocating drive-bar C, in the present instance by a screw *g'*. The sleeve *f* is provided with
70 a vertically-elongated slot *f''* in its wall, in which a guide-pin *f'''*, projecting inwardly from the sleeve *f*, is received for the purpose of permitting the sleeve *f* to reciprocate vertically on the tube F while being carried in
75 a horizontally-rotary movement around with the tube.

To a depending lug *f''''*, on the tube F and on the side of the needle opposite that from which the presser-foot E is suspended, a
80 guide-arm I is pivoted, as at *i*. From its pivotal connection the arm I depends, slanting toward the needle *b''*, its free end extending downwardly into a position slightly above the normal position of the presser-foot when
85 it is in operation. The lower end of the arm I is provided with an eye *i'*, through which a string of beads is to be passed before coming into engagement with the presser-foot beneath the needle. The upper end I' of the
90 arm I extends away from the pivot *i* at an angle to the arm I, forming the arm in the end of an angle-lever. The end I', which is made shorter than the arm I, in order to give the latter a more extended throw, has a pin-and-slot connection with a bar K, fixed to
95 and depending from the sleeve *f*. In the present instance the bar K is provided with a pin *k*, which works in a slot *i''* in the end of the portion I' of the arm I. The reciprocating drive-bar C is connected to one end of
100 a vibrating lever C', supported on the over-

hanging arm B of the machine, the opposite end of said lever C' being connected by a link c' with one arm of an angle-lever C², the opposite arm of said angle-lever being engaged with a switch-cam c on a short shaft c⁴, carrying a gear c³ in mesh with a drive-gear c² on the drive-shaft b² of the machine.

In operation the movements of the reciprocating bar C are so timed with respect to the movement of the needle that the guide-arm I will be rocked back and forth across the path in which the string of beads is being fed between each two consecutive beads on the chain, so as to cause the needle b³ to descend upon opposite sides of the string intermediate of two successive beads to fasten the beads to the material which they are to ornament.

It will be observed that whatever be the position of the presser-foot, which in the type of machine referred to is caused to keep the same relative position to the path of feed, no matter how the direction of feed be varied, the arm I will be caused to keep the same relation to the presser-foot—*i. e.*, it will at all times be in such position that its laterally-

vibrating movement will be transversely across the path of feed.

What I claim is—

The combination with a sewing machine having a universal feed, a rotary carrier for the presser foot, a reciprocating needle and means for operating them, of a vertically reciprocating sleeve fixed to rotate with the presser foot carrier, a depending guide arm pivotally secured to the rotary presser foot carrier and provided with a laterally extending branch arm connected with the aforesaid reciprocating sleeve to vibrate the lower end of the guide arm as the sleeve is reciprocated, and a vertically reciprocating drive bar having a swiveled engagement with the reciprocating sleeve for reciprocating it while permitting it to rotate freely, and mechanism connecting the said reciprocating drive bar with the main shaft for operating it, substantially as set forth.

GEORGE W. WEISS.

Witnesses:

FREDK. HAYNES,
IRENE B. DECKER.