

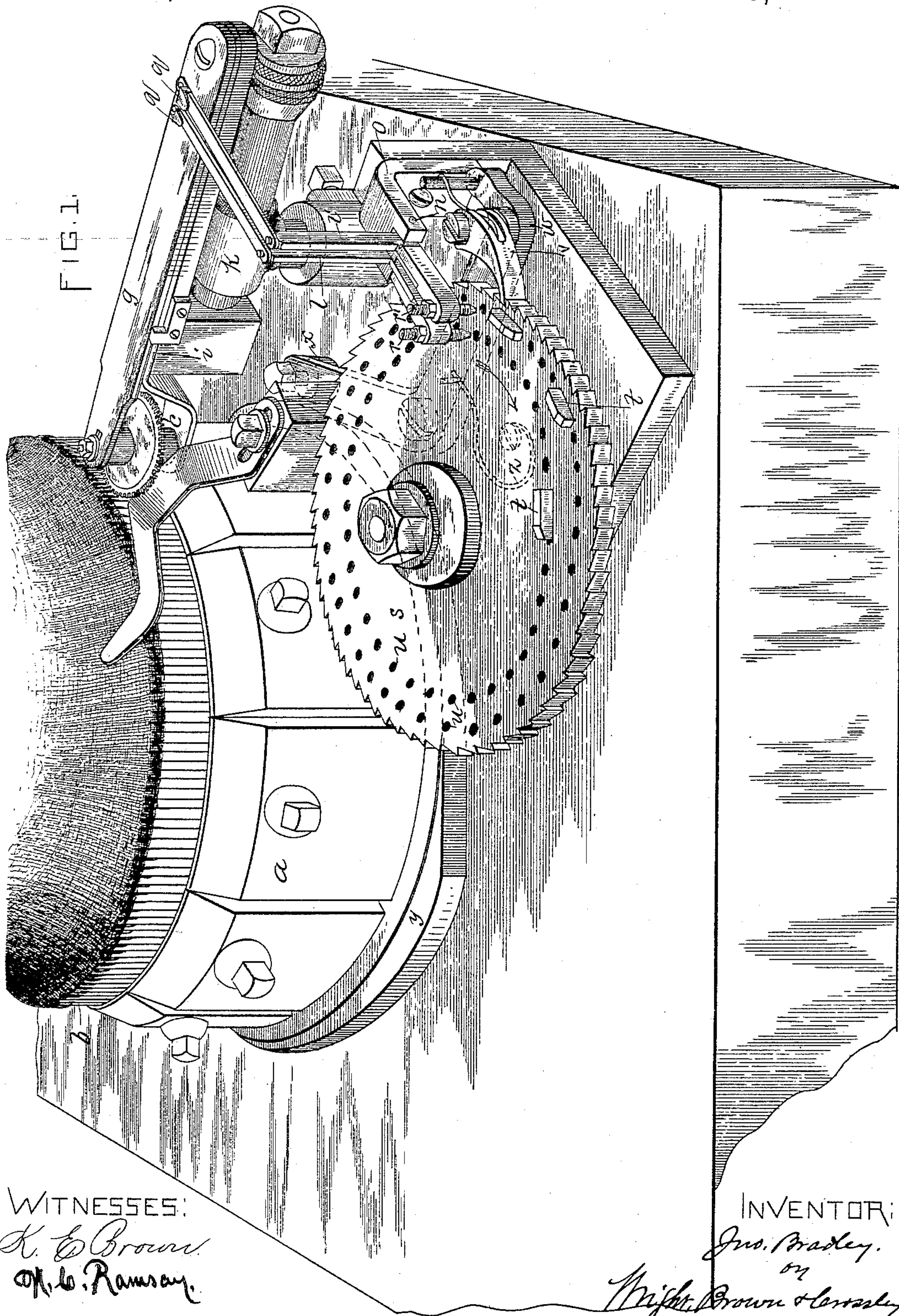
(No Model.)

2 Sheets—Sheet 1.

J. BRADLEY.
COLLARETTE KNITTING MACHINE.

No. 442,167.

Patented Dec. 9, 1890.



(No Model.)

2 Sheets—Sheet 2.

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FIG. 2.

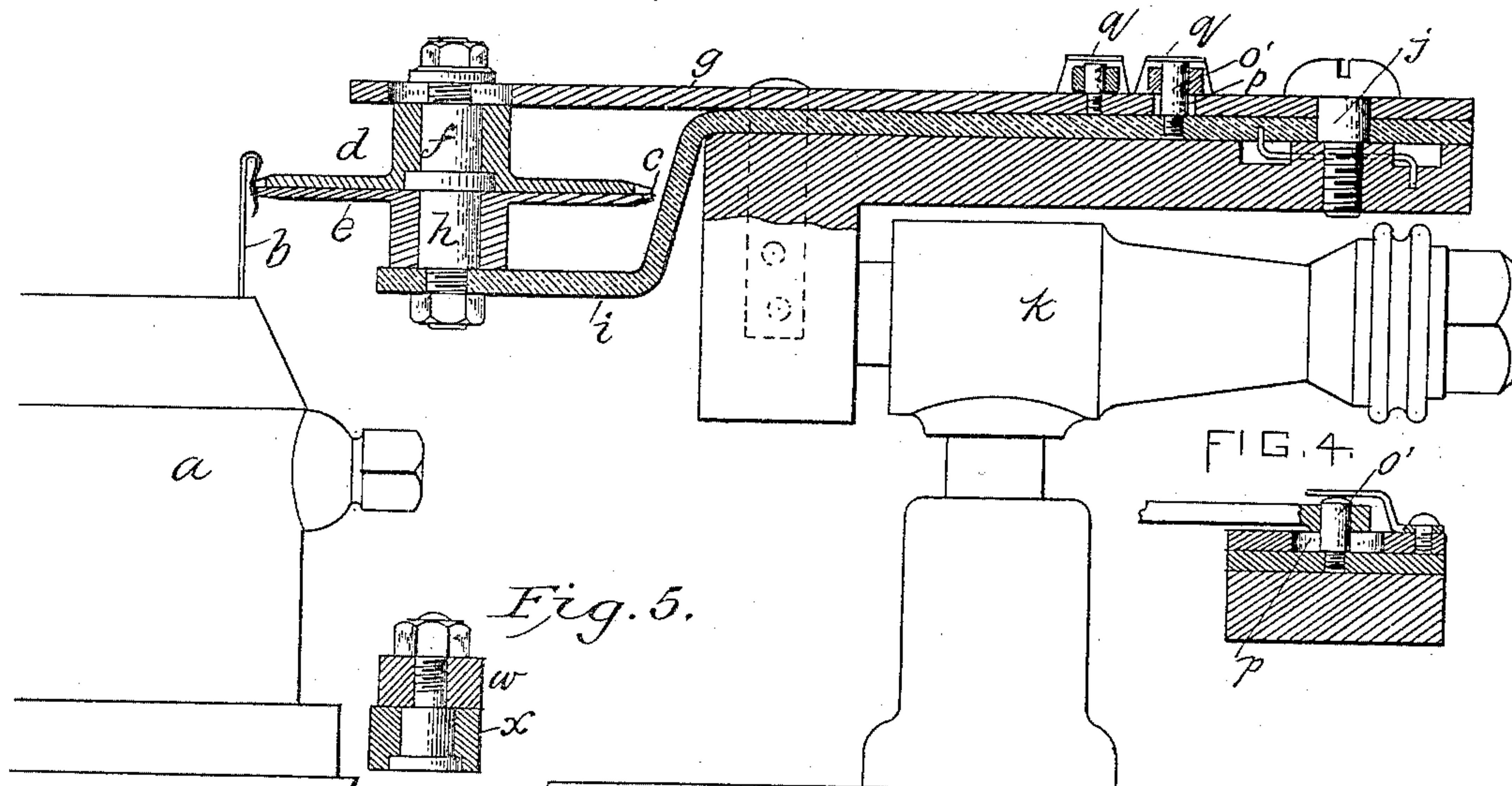


FIG. 4.

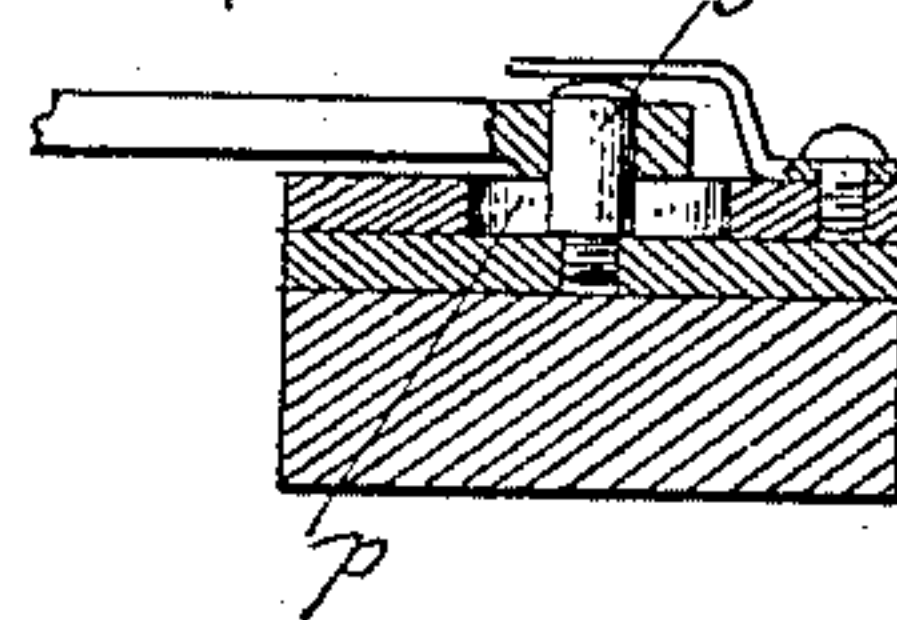
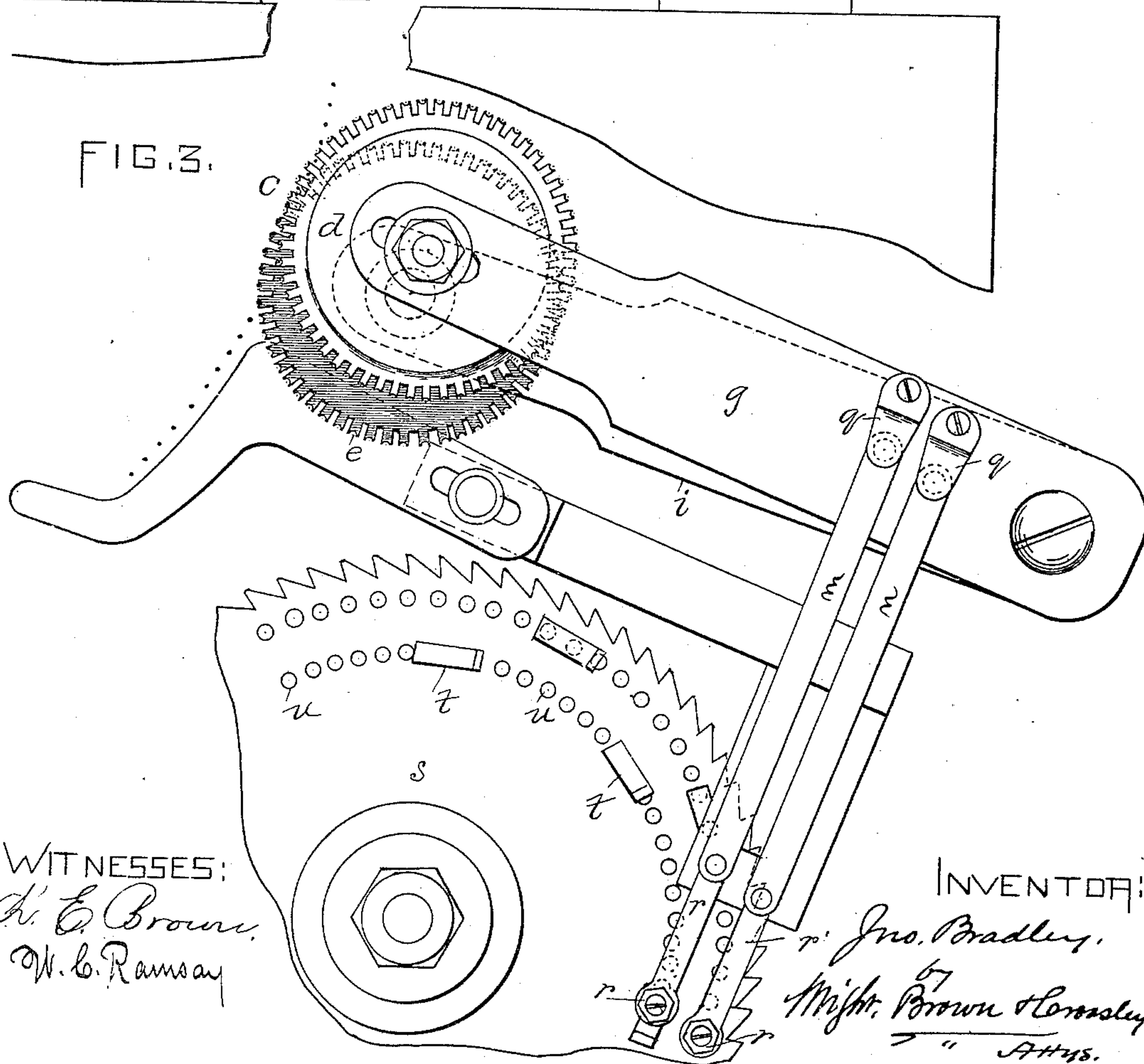


FIG. 3.



WITNESSES:
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INVENTOR:

Jno. Bradley,
by
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UNITED STATES PATENT OFFICE.

JOHN BRADLEY, OF CHELMSFORD, MASSACHUSETTS, ASSIGNOR TO THE
BYFIELD MANUFACTURING COMPANY, OF SAME PLACE.

COLLARETTE-KNITTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 442,167, dated December 9, 1890.

Application filed November 25, 1889. Serial No. 331,441. (No model.)

To all whom it may concern:

Be it known that I, JOHN BRADLEY, of Chelmsford, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Collarette-Knitting Machines, of which the following is a specification.

My invention, in general, has relation to means for producing fancy-stitch work on spring-beard-needle knitting-machines, and in particular the invention has reference to "collarette-knitting machines", so called, which are designed to produce trimmings for knit underwear.

It is the object of the invention to produce improved means for throwing "figured" presser-wheels into and out of operation in connection with the needles, which means shall be simple in construction, economic of manufacture, and certain and efficient in operation, and which shall at the same time be so organized as to effect the knitting of a variety of patterns.

The invention comprehends the employment of a plurality of figured pressers capable of being moved into and out of operation in connection with the needles, so that the effect of plain pressing may be accomplished at predetermined intervals, as well, also, as a variety of "tuck" or figured pressing, the movement of the pressers being secured by a mechanism peculiar, though simple, in construction and organization, all as is herein-after fully and particularly set forth.

Reference is to be had to the annexed drawings and letters of reference marked thereon, forming a part of this specification, the same letters designating the same parts or features, as the case may be, wherever they occur.

Of the drawings, Figure 1 is a perspective view of the invention, shown in connection with a spring-beard-needle knitting head or cylinder, the ordinary appliances for operating in connection with the needles to produce a knit fabric being, for the sake of clearness, omitted. Fig. 2 is a sectional side elevation tending to show the construction of the presser-supports, their relation one to another, and also a part of the means whereby the pressers may be moved. Fig. 3 is a plan view of the

pressers, their supports, and operating means. Figs. 4 and 5 are sectional details hereinafter more particularly described.

In the drawings, *a* designates the needle head or cylinder, and *b* spring-beard needles vertically arranged in the head, as usual. In the production of a fabric on a machine of this kind a yarn-guide, stitch-wheel, presser-wheel, and landing and knocking-over wheels are employed in a way so well known to knitting artisans as not to need description herein, and to avoid complication and confusion I have omitted all of the said devices from the drawings excepting the presser *c*, and instead of employing a plain-faced wheel, as is usually done, I make use of a plurality of figured pressers, which, when acting conjointly, produce the same result as a plain presser, but which singly are constructed so as to "mispress" the needles in different order. In the present instance I employ two such figured pressers *d e*, the former being supported by and adapted to be rotated upon a stud *f*, secured to the inner end of a lever *g*, and the latter being in like manner supported on a stud *h* on the inner end of a lever *i*. Both levers *g* and *i* are fulcrumed upon a stud *j*, attached to a star-box *k*, adjustable toward and from the needles, as is common with such devices in knitting-machines.

l l' are bell-crank levers fulcrumed at *n* on a bracket *o*, connected with the bed of the machine. The upper end of the lever *l* is connected by means of a link *m* with the lever *g*, and the lever *l'* is connected by means of a link *n* with the lever *i*. The links are pivotally connected with their respective levers *g i*, the pivot *o'* of the link *n* extending through a slot *p*, formed in the lever *g*, as is most clearly shown in Fig. 4. Clips *q*, secured to the lever *g* and extending over the pivot-pins of the links, serve to keep the latter in place on the said pins.

The ends of the horizontal portions of the bell-crank levers *l l'* are provided with vertical studs *r r'*, which are arranged to rest and ride upon the upper surface of a pattern-disk *s*, as also upon and over the pattern-blocks *t*, adapted to be secured to the disk *s* in the holes *u*, formed therein. The periphery of

the disk *s* is provided with ratchet-teeth, which are engaged by a spring-pressed pawl *v*, pivoted on the outer end of a lever *w*, fulcrumed on the bed of the machine, the inner end of said lever *w* being provided with a bowl or roller *x*, arranged to be acted upon by a cam *y* on the head or cylinder *a* as the latter is rotated. A spring *z* (shown by dotted lines in Fig. 1) serves to actuate the lever *w* in a direction contrary to that in which it is moved by cam *y*, the latter operation serving to move the pattern-disk *s* a distance corresponding to the length of one of its ratchet-teeth.

15 In operation, when plain knitting is to be performed, the pressers *d e* will act conjointly and as a plain presser; but when it is desired to produce tuck or fancy-stich work one of the pressers will be moved out of the way, so that but one can operate upon the needles, and this one will press certain of the needles and mispress others, and then both pressers may be again brought into action, as before, or they may be made to change places, so that the one previously in operation will be thrown out of action, and the one formerly out of action will be brought into operation and press and mispress the needles in a different order. When the vertical studs *r r'* are upon the face of the pattern-disk, the levers *g i* will be moved to a position which will bring both pressers into operation; but when a pattern-block *t* passes under a stud *r* or *r'* the bell-crank lever with which such stud is connected will be operated so as to move the presser-carrying lever, with which it is connected through the medium of a link-rod, in such manner as to throw its associated presser out of operation. By properly arranging the pattern-blocks on the pattern-disk the pressers can be thrown out of and brought into oper-

ation at any predetermined time or in any predetermined order.

It is obvious that by varying the color of the yarns employed in accordance with the changes made in the position of the pressers the effect of the fancy stitching may be heightened.

Changes may be made in the form and arrangement of parts comprising my improvements without departing from the nature or spirit of the invention.

Having thus explained the nature of my invention and described a way of constructing and using the same, I declare that what I claim is—

1. The combination, with the needle-cylinder and needles, of a plurality of pressers, levers pivoted at one end and each supporting a presser at the other, a rotary pattern-disk, a plurality of levers adapted to be acted upon by the said pattern-disk, and means connecting the latter levers with the presser-carrying levers, as set forth.

2. The combination, with the needle-cylinder and needles, of a lever pivoted at one end and supporting a presser-wheel at the other, a rotary pattern-disk, a bell-crank lever, and a link connecting one end of the said bell-crank lever with the said presser-supporting lever, the other end of the said bell-crank lever being arranged to be acted upon by the said rotary pattern-disk, as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 12th day of November, A. D. 1889.

JOHN BRADLEY.

Witnesses:

ARTHUR W. CROSSLEY,
KATHERINE E. BROWN.