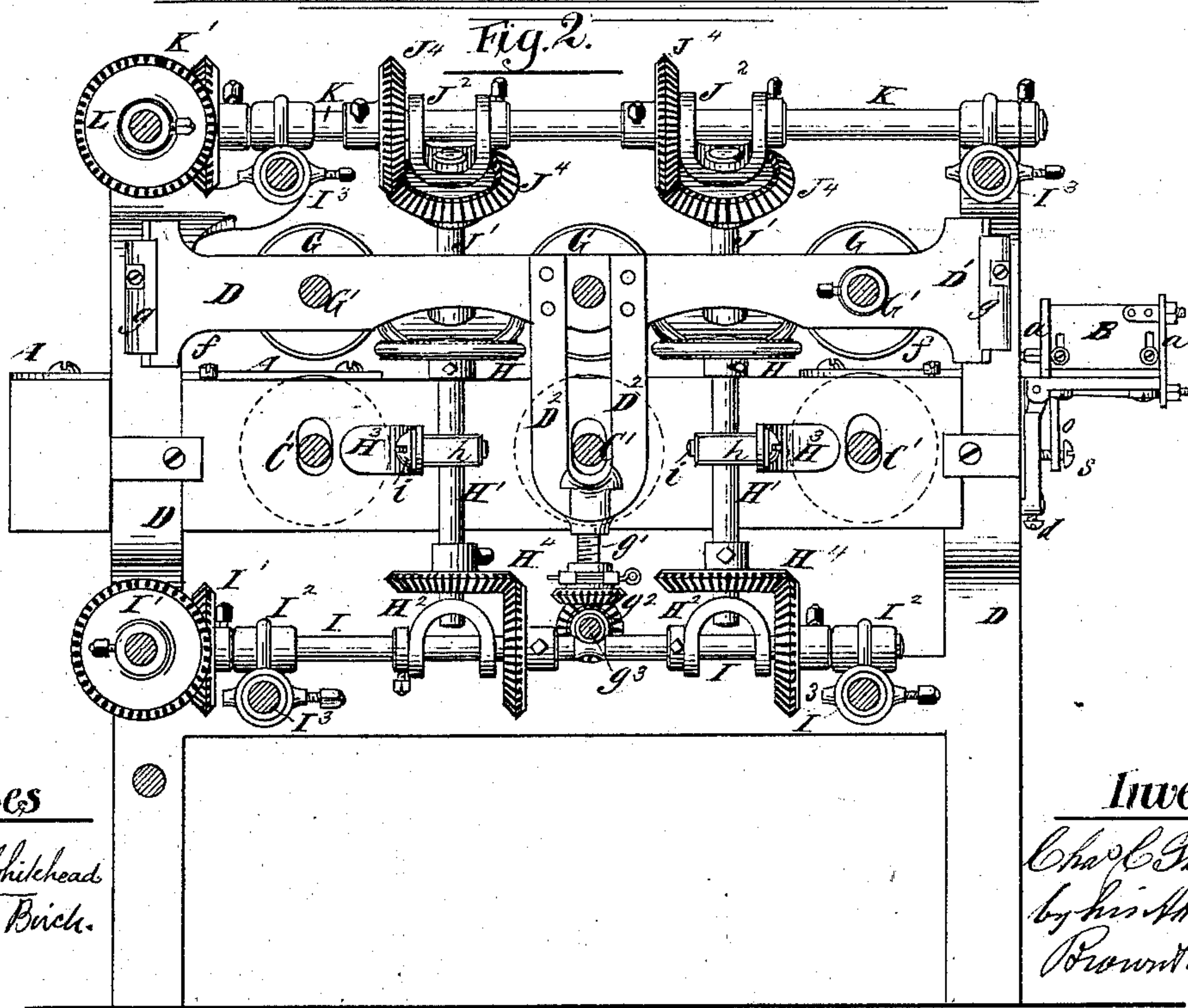
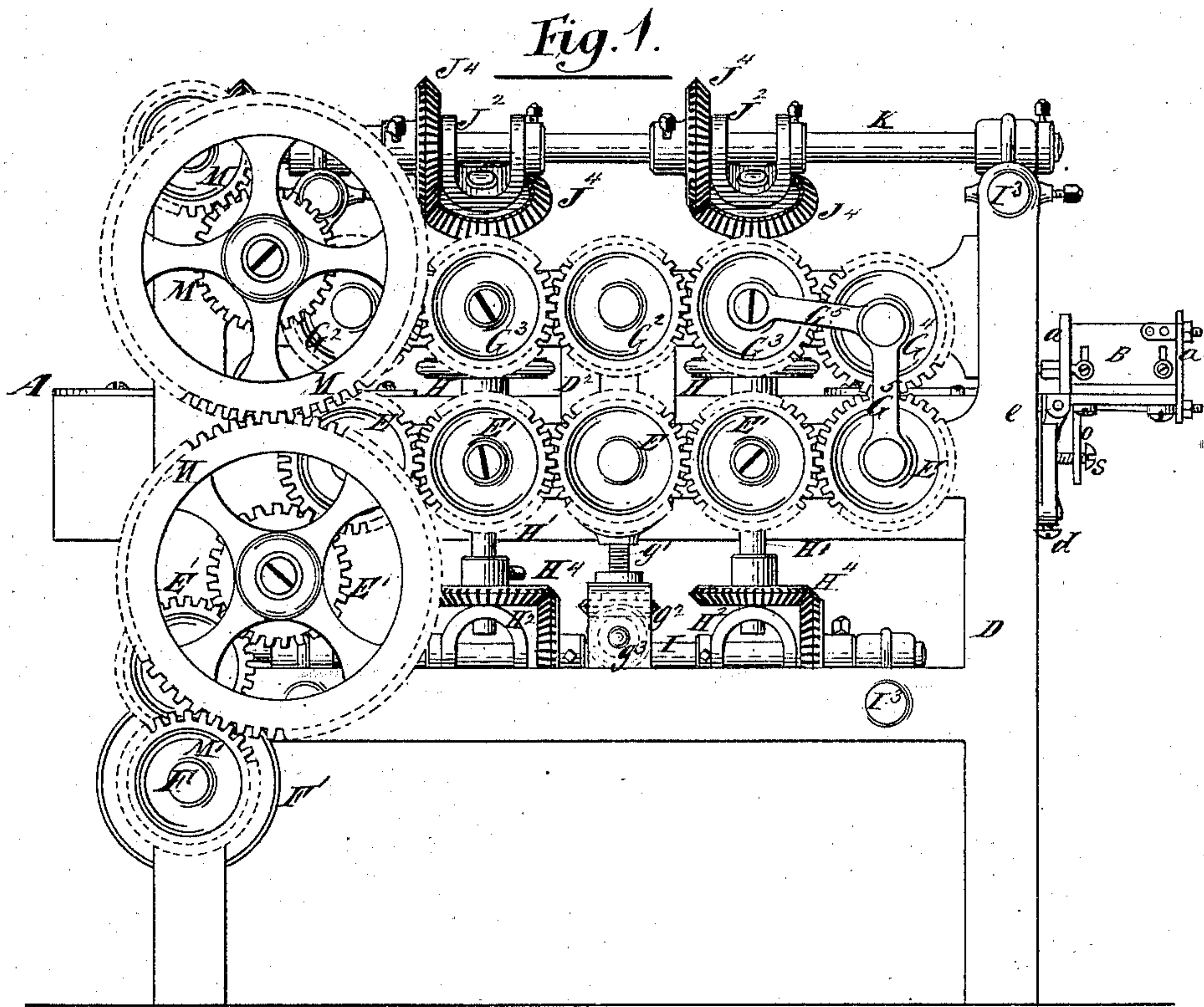


(No Model.)

3 Sheets—Sheet 1.

C. C. STUART.
Machine for Preparing Moldings for Gilding.
No. 237,337. Patented Feb. 1, 1881.



Witnesses

Louis M. Whitehead
Thomas E. Birch.

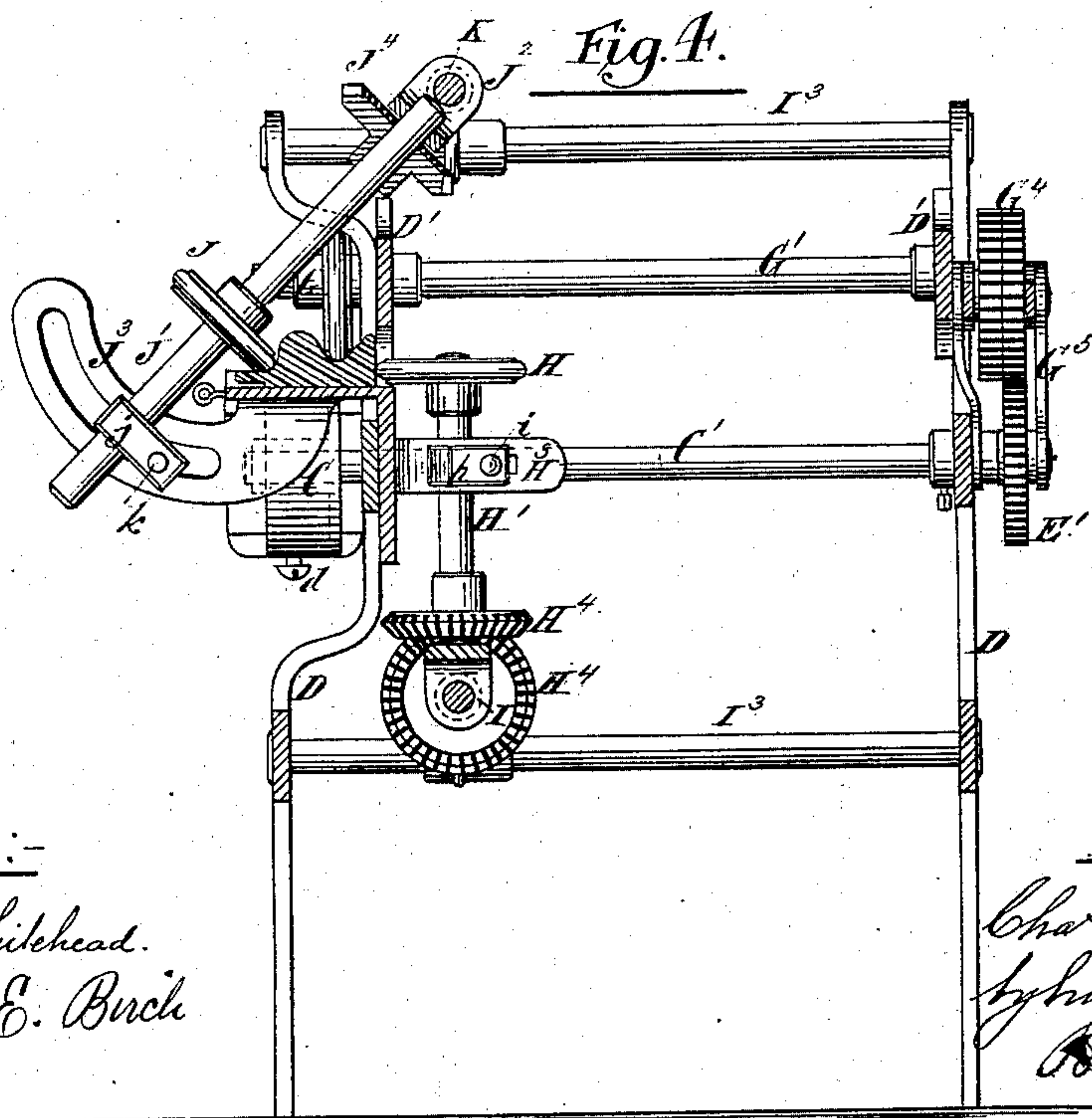
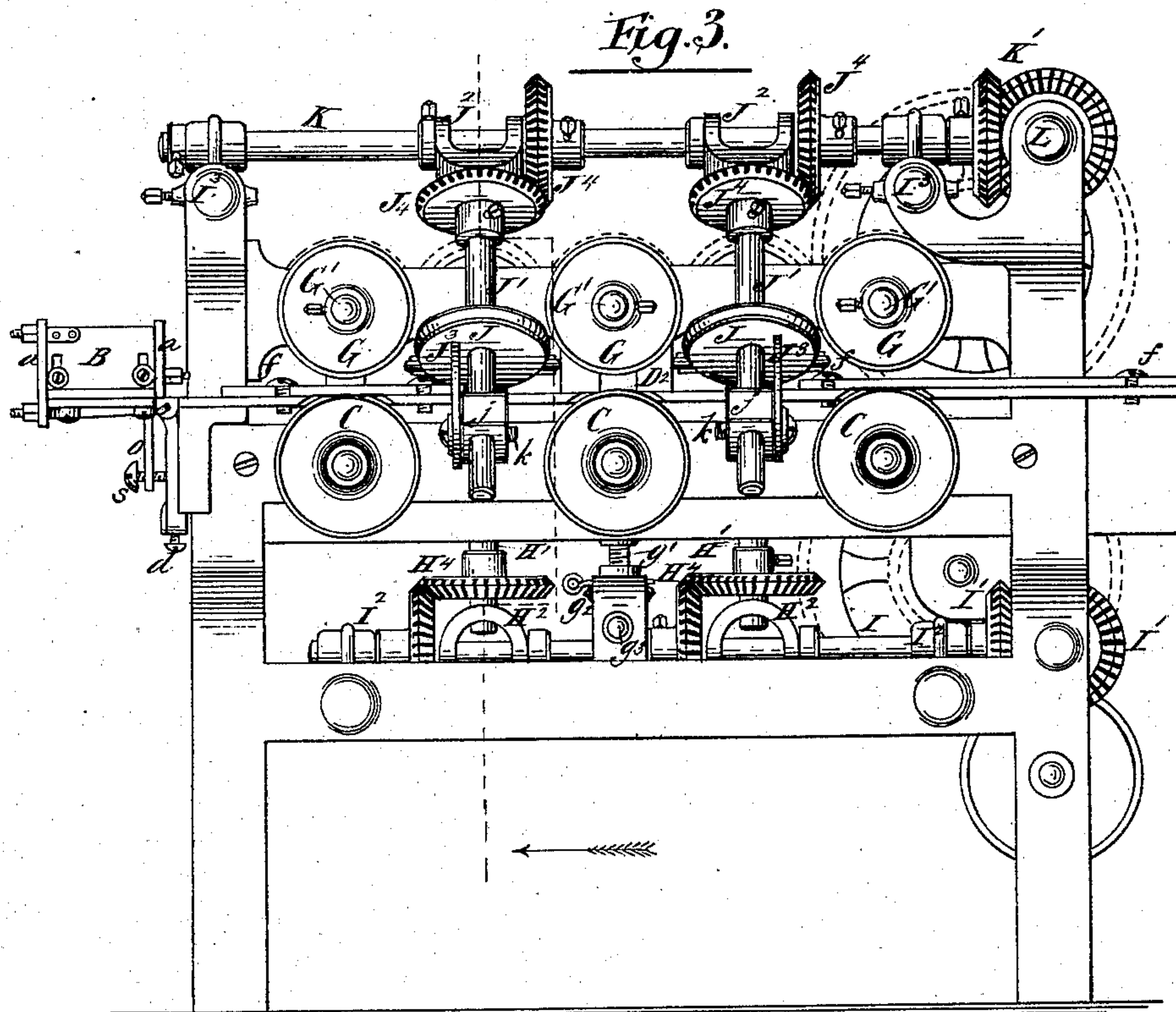
Inventor:

C. C. Stuart
by his Attorney
Barnett Brown

(No Model.)

3 Sheets—Sheet 2.

C. C. STUART.
Machine for Preparing Moldings for Gilding.
No. 237,337. Patented Feb. 1, 1881.



Witnesses:-

Louis M. F. Whitehead.
Thomas E. Birch

Inventor:-

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by his Attorneys
Brown & Brown

(No Model.)

3 Sheets—Sheet 3.

C. C. STUART.

Machine for Preparing Moldings for Gilding.
No. 237,337. Patented Feb. 1, 1881.

Fig. 5.

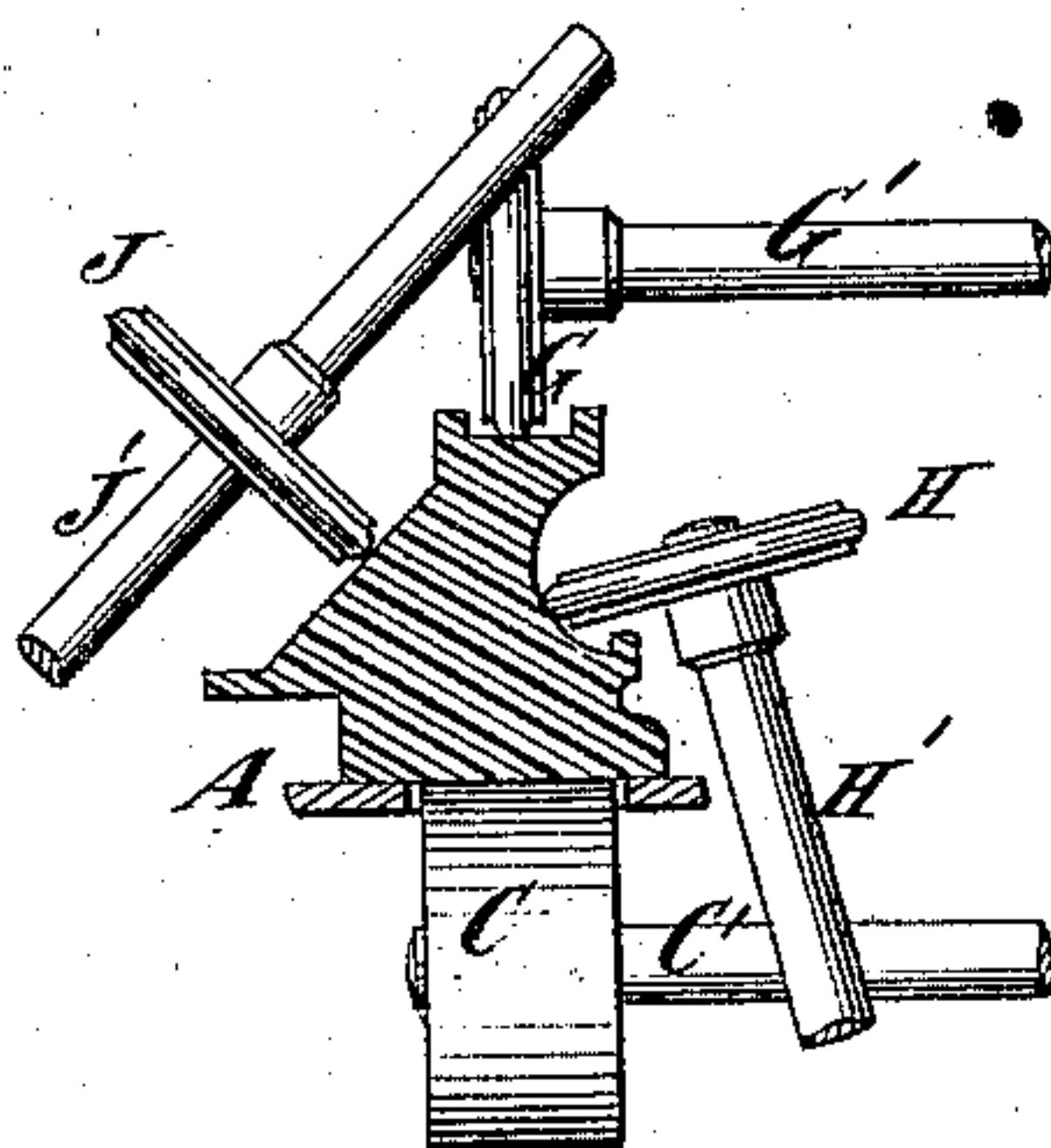
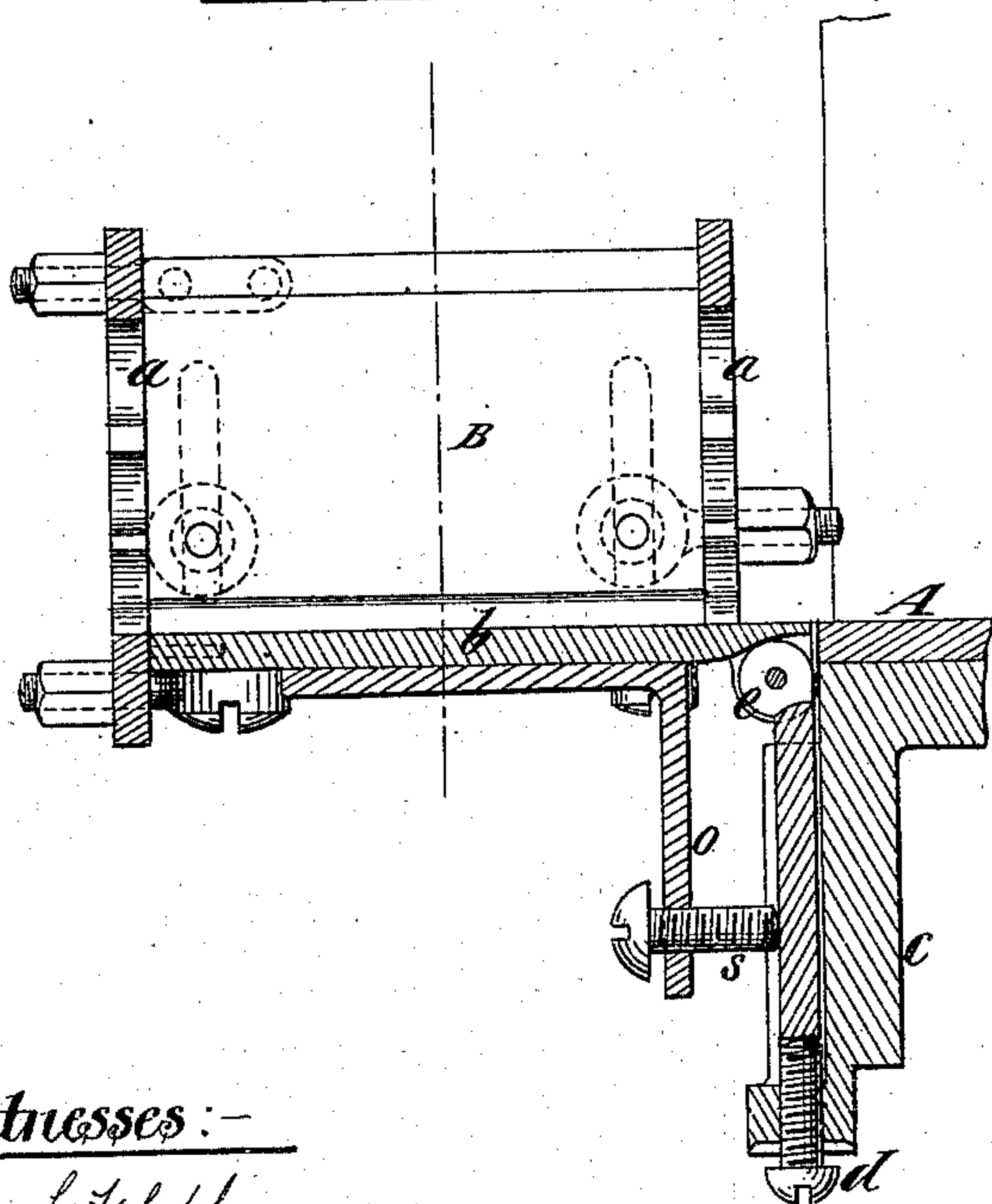


Fig. 6.

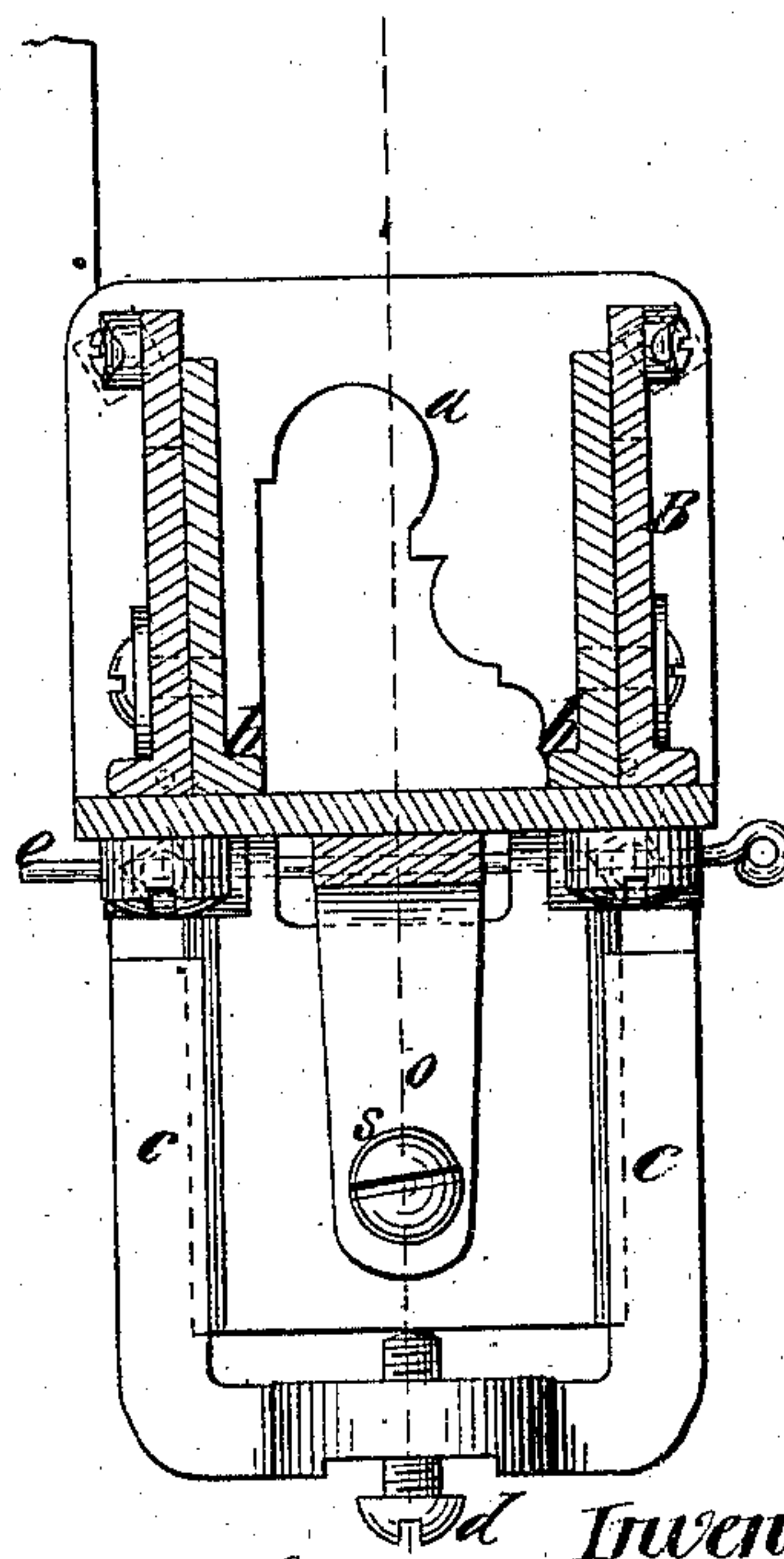


Witnesses :-

Louis M. Whitehead.

Thomas E. Birch.

Fig. 7.



Inventor:—

Charles Stuart
by his Attorneys
Brown & Brown

UNITED STATES PATENT OFFICE.

CHARLES C. STUART, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO
FRANK T. PEMBER, OF SAME PLACE.

MACHINE FOR PREPARING MOLDINGS FOR GILDING.

SPECIFICATION forming part of Letters Patent No. 237,337, dated February 1, 1881.

Application filed June 22, 1880. (No model.)

To all whom it may concern:

Be it known that I, CHARLES C. STUART, of the city of New York, in the county and State of New York, have invented certain new and useful Improvements in Machinery for Preparing Moldings for Gilding, of which the following is a specification.

My invention relates to machinery in which the composition necessarily applied to moldings for frames, &c., before gilding them is applied by forcing or feeding the moldings through a box containing the plastic composition, certain of my improvements relating to the construction and arrangement of the box through which the moldings are fed, while others relate to the mechanism employed for feeding the moldings forward through the box.

One of my improvements consists in the combination, in a machine for preparing moldings, of a bed over which the moldings are fed forward, a composition-box attached to the end of the bed, and means for lowering or raising the box relatively to the bed. The box is preferably hinged to the bed, so that the forward end of the box may tip or tilt upward to accommodate itself to the movements of a molding. I preferably employ devices whereby the tilting or tipping movement of the box may be readily regulated, and so hinge the box that it may be readily detached from the bed when it is desired to prepare a different form of molding, so that the work of changing the templets and cleaning one box may be performed while another box is in the machine and the latter is at work.

Another of my improvements consists in the combination, in a machine for preparing moldings, of a bed and bed-rolls, which aid in feeding the moldings forward, and means whereby the bed and composition-box may both be adjusted together vertically relatively to the bed-rolls.

Another of my improvements consists in the combination, in a machine for preparing moldings, of a bed and a novel arrangement of bed-rolls, top rolls, back rolls, and front or face rolls, between which the molding is grasped and fed forward through the composition. The shafts supporting the top rolls may be adjusted bodily upward or downward, while the

shafts supporting the front or face rolls and the back rolls are adapted to swing radially, so as to expand or contract the space between the rolls and permit the introduction of a larger or smaller molding between them.

Other improvements consist in novel details of construction and arrangement of parts, whereby the various adjustments of the several feed-rolls may be effected, whereby they may be held in position when so adjusted, and whereby motion may be properly and conveniently imparted to them.

In the accompanying drawings, Figure 1 represents a side view of a machine embodying my improvements. Fig. 2 represents a vertical section thereof upon a plane parallel with Fig. 1. Fig. 3 represents a side view of the side opposite to that shown in Fig. 1. Fig. 4 represents a transverse vertical section through the machine, showing the manner in which the feed-rolls operate upon a molding. Fig. 5 represents a diagram view, showing the feed-rolls and their shafts adjusted for a different form of molding. Fig. 6 represents a longitudinal section through the composition-box and appurtenances, and Fig. 7 represents a transverse section of such box.

Similar letters of reference designate corresponding parts in all the figures.

A designates the bed of the machine, upon which the moldings are fed forward to the composition-box B, secured to the end thereof.

In the method of preparing moldings which I prefer to employ, the composition-box B is furnished at each end with a templet, *a*, conforming to the shape of the molding, and is supplied with composition under pressure, according to a former invention of my own, for which were granted Letters Patent No. 206,149, dated July 16, 1878. The composition which I employ is of a well-known kind, it being composed of glue, gilder's whiting, and china-clay. My improvements are, however, not limited to such a box.

As will be clearly seen in Fig. 7, the composition-box is constructed with two ribs, *b*, upon the sides of its bottom, and to enable a narrow molding to be passed between these ribs and upon the bottom of the box without having any composition applied to its under sur-

face, or a wide molding to be passed upon the ribs, composition being applied to a portion of its under surface, it is necessary that the box B be adjustable, so as to bring either the ribs or the center portion of the bottom in coincidence with the bed A. In the present instance the said box B is secured to a frame or holder, *c*, and may be adjusted upward or downward by means of a set-screw, *d*.

10 In preparing thin moldings there is a great tendency for them to spring up at the end as they pass through the box B, and such buckling or springing up would necessarily cause a small amount of composition to be deposited upon them, as it will nearly all be removed by the templet *a* in the farther or outer end of the box. To obviate this difficulty I hinge the box so that it may tilt or tip in the same proportion as the molding, and insure its proper relation thereto. This, in the present example of my invention, is provided for by hinging the support or frame *c*, which carries the box, by a pin, *e*, to the bed A, and I also employ means (here shown as consisting of an arm, *o*, projecting from the box and a set-screw, *s*) whereby the box may be held in a tilted position relatively to the bed. This mode of connection also affords convenient provision for the removal of the box when it is desired to clean it and change the templets for others of different form, or to renew them when worn out. Such changing or renewing of the templets consumes considerable time, and when a removable composition-box is used this may all be done while the machine is at work, using another composition-box. In a machine having a fixed composition-box any changing or adjusting of the templets necessitates a stoppage of the machine.

40 In order to produce the proper feed of the moldings, I employ bed-rolls, top rolls, back rolls, and front or face rolls, between which the molding passes and by the positive rotation of which it is fed along.

45 The bed-rolls C are here shown as three in number, mounted upon shafts *C'*, which are supported in fixed bearings in a frame, D, and having broad surfaces which bear upon the base or widest side of the molding. In some instances these rolls should be narrow and project sufficiently through the bed A to enter grooves in the moldings, while in other cases they need project but very slightly, and have broad surfaces. In order to conveniently vary the projection of the bed-rolls C above the bed, I make the said bed adjustable vertically by means of screws *f*. (Shown best in Figs. 3 and 4.)

60 The mechanism here shown for driving the shafts *C'* of the rolls C consists of gear-wheels E E E, mounted on the ends of the said shafts, and receiving motion through transmitting-wheels *E'* from a gear-wheel or pinion upon a driving-shaft, F, to which motion is imparted by a belt passing over pulleys *F'*, placed thereon.

Above the bed-rolls C, and adapted to bear

upon the top of the moldings, are top rolls, G, (here shown as three in number,) mounted upon shafts *G'*, which have bearings in a frame, D', which may be adjusted vertically in guides *g* upon the frame D, so as to raise or lower all the top rolls together. The raising and lowering of the frame D' may be effected by means of screws *g'*, which engage with stirrups *D*² depending from the frame, and which are rotated through bevel-gears *g*² by a shaft, *g*³, arranged transversely to the machine and adapted to be turned by a crank or otherwise. This adjustment provides for setting the bed and top rolls at a proper distance apart to accommodate any desired molding. Motion in this example of my invention is imparted to two of the top rolls in the following manner; but the roll nearest the composition-box runs free, being rotated simply by frictional contact with the molding:

G² designates gear-wheels mounted to the shafts *G'* of the rolls G, and deriving motion through transmitting-wheels *G*³ *G*³ *G*⁴ from the wheels E, which impart motion to the bed-rolls C. The wheels *G*³ *G*³ are attached to the shafts *G'* *G'*, mounted in bearings in the frame D', and move up and down therewith; but the wheel *G*⁴ is held by means of links *G*⁵ in a fixed position relatively to the wheels *G*³ and E, and therefore it provides for imparting the motion from the shafts of the bed-rolls, which are mounted in fixed bearings, to the shafts of the top rolls, which have bearings in the movable frame D'. It will be understood that the use of this roll *G*⁴ renders it impossible to drive the shaft *G'* of the roll nearest the composition-box by a gear-wheel, *G*², attached to the shaft, as in the case of the other top rolls.

The back rolls, H, are mounted upon shafts *H'*, which are approximately vertical in position, and which are shown as mounted in swiveled bearings at their lower ends and in sliding bearings at their upper ends, so as to permit the radial movement of the shafts for the purpose of effecting the adjustment of the rolls toward and from the molding transversely to the line of travel of the molding and to the bed. The shafts *H'* are rotated, by means of bevel-gear wheels *H*⁴, by a shaft, I, which derives its motion, through bevel-gear wheels *I'*, from the driving-shaft, F as shown clearly in Fig. 2. The shaft I is supported in bearings *I*², which are mounted upon and clamped to stretchers *I*³, forming part of the frame of the machine, by means of set-screws, so as to provide for their longitudinal adjustment upon said stretchers. The bearings *H*², for the lower ends of the shafts *H'*, are swivel-bearings adapted to turn readily upon the shaft I, so as to permit the swinging or transverse movement of the rolls H upon the upper ends of the said shafts. The bearings *h*, for the upper portions of the shafts *H'*, are adapted to slide in slotted guides or brackets *H*³, and to be fixed in any position, when once adjusted, by means of set or clamping screws *i*.

The front or face rolls, J, are fixed upon

shafts J', which are mounted in swiveled bearings at one end—in this case the upper ends—and in sliding bearings at the other end—in this case the lower ends. The bearings J², which support the upper ends of the shafts J', are made to turn upon a shaft, K, extending at right angles to the shafts J', and mounted in bearings supported and adjustably clamped upon the upper stretchers I³, in a manner similar to that in which the shaft I, previously referred to, is supported and adjustably clamped upon the lower stretchers I³, and providing for a similar radial movement of said shafts. The bearings j, for the lower ends of the shafts J', are fixed to slotted arc-shaped brackets or guides J³, to which they may be secured by means of set or clamp screws k.

The motion for driving the shafts J' is transmitted, through bevel-gear wheels J⁴, from the shaft K, which derives its motion, through other bevel-wheels, K', from a shaft, L, extending transversely to the machine, and receiving motion through a train of wheels, M, from a pinion or wheel, M', upon the driving-shaft F. The mechanism here shown is very desirable, but may be changed or altered in any way desired to suit other circumstances.

The bed-rolls C seldom work upon any prepared surface, and when they do it is a wide flat surface. These rolls need not therefore be covered with any material, rubber or leather, but be plain metal rolls. As the rolls G, H, and J, however, work upon small members of the molding with prepared surfaces, they should all be covered with rubber to give them a more positive hold on the molding, and to prevent injury to the molding from undue pressure of the roll. This arrangement of rolls having a positive motion, and arranged on all sides of the molding, produces a positive and powerful feed, which is very advantageous, especially in machines in which the composition is applied under pressure in the composition-box.

Any or all the rolls may be made longitudinally adjustable on their shafts, and this, together with the bodily vertical adjustment of the top rolls and the swinging adjustment of the back rolls and front or face rolls, provides for adapting the machine to feed any molding, however complicated and numerous its members.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, in a machine for preparing moldings, of a bed over which the moldings are fed forward, a composition-box attached to the bed, and means for lowering and raising it relatively to the bed, substantially as and for the purpose specified.

2. The combination, in a machine for preparing moldings, of a bed over which the moldings are fed forward and a composition-box hinged to the bed and adapted to tip or tilt relatively thereto, substantially as specified.

3. The combination, in a machine for pre-

paring moldings, of a bed over which the moldings are fed forward, a composition-box hinged to the said bed, and a screw for adjusting the box into and holding it in a tilted or inclined position relatively to the bed, substantially as specified.

4. The combination, in a machine for preparing moldings, of a bed over which the moldings are fed forward, a composition-box attached to the said bed, and means for securing the box in place, and at the same time affording provision for its convenient detachment from the bed, substantially as specified.

5. The combination, in a machine for preparing moldings, of a bed over which the moldings are fed forward, a composition-box attached to the said bed, feed-rollers working through openings in said bed, which aid in feeding the moldings, and means for raising or lowering the bed and box relatively to the feed-rolls, substantially as and for the purpose specified.

6. The combination, in a machine for preparing moldings, of a bed over which said moldings are fed to the composition-box, and a system of feed-rollers the shafts of which are adjustable at various angles relatively to the transverse line of the face of the bed, substantially as and for the purpose specified.

7. The combination, in a machine for preparing moldings, of a bed over which said moldings are fed to the composition-box, and a system of feed-rollers, feed-roller shafts which are adjustable at various angles relatively to the transverse line of the face of the bed, and feed-rollers adjustable lengthwise of the said shafts, substantially as specified.

8. The combination, in a machine for preparing moldings, of one or more bed-rolls, one or more top rolls, and one or more back rolls, between which the molding is inserted, and all of which have a positive motion imparted to them, with means whereby the top rolls and the back rolls may be adjusted transversely to the line of travel of the molding and held in place when so adjusted, substantially as and for the purpose specified.

9. The combination, in a machine for preparing moldings, of one or more bed-rolls, one or more top rolls, one or more back rolls, and one or more front or face rolls, all having a positive motion imparted to them, and means whereby top, back, and face or front rolls may be separately adjusted transversely to the line of travel of the molding and held in place when so adjusted, substantially as specified.

10. The combination, in a machine for preparing moldings, of one or more bed-rolls, one or more top rolls, one or more back rolls, and one or more face or front rolls, shafts supporting said rolls and having a positive motion imparted to them, swiveled bearings for the ends of the shafts of the back and face or front rolls remote from said rolls, and permitting the radial adjustment of said shafts and rolls, sliding bearings for said shafts near said

rolls, and means for clamping the sliding bearings after such radial adjustment, substantially as specified.

11. The combination of the bed-rolls C and
5 shafts C', the top rolls, G, and shafts G', the vertically-adjustable frame D', comprising bearings for the shafts G', the back rolls, H, and the radially-adjustable shafts H', and the face
10 shafts J', all substantially as and for the purpose specified.

12. The combination of the bed-rolls C, the shafts C', and the gears E and E', the top rolls, G, the shafts G', the gears G² G³, and the vertically-movable frame D', and the gear-
15 wheel G' and links G⁵, for holding it in engagement with the wheels G³ and E, all substantially as specified.

CHAS. C. STUART.

Witnesses:

FREDK. HAYNES,
A. C. WEBB.