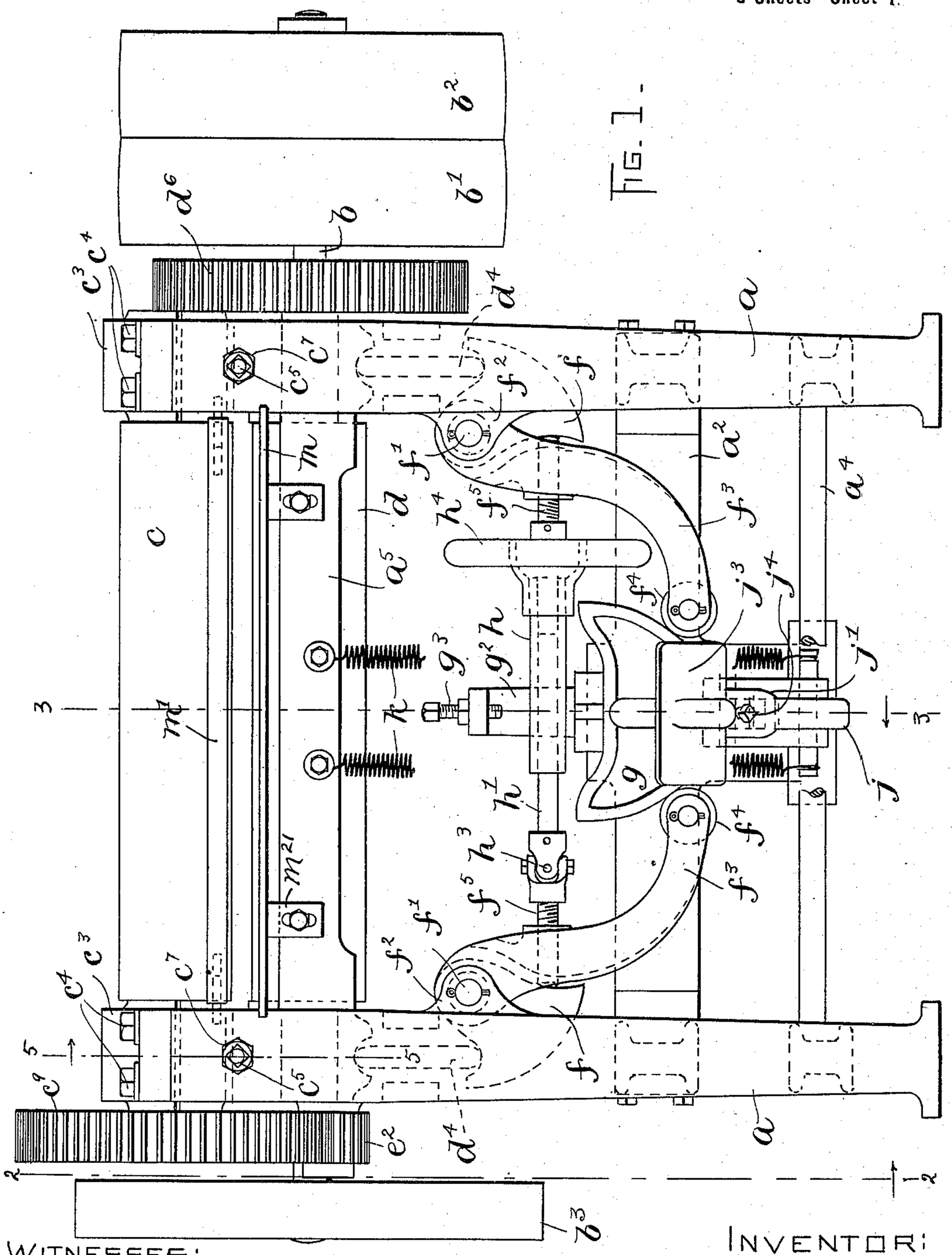
No. 638,862. Patented Dec. 12, 1899.

S. J. BRISSETTE.

LEATHER ROLLING MACHINE.

(Application filed Feb. 25, 1899.)

(No Model.) 3 Sheets—Sheet 1.



WITNESSES:
A. D. Harrison
P. W. Pezzetti.

INVENTOR:
Samuel J. Brissette
by Wright, Brown & Quinby
Attys.

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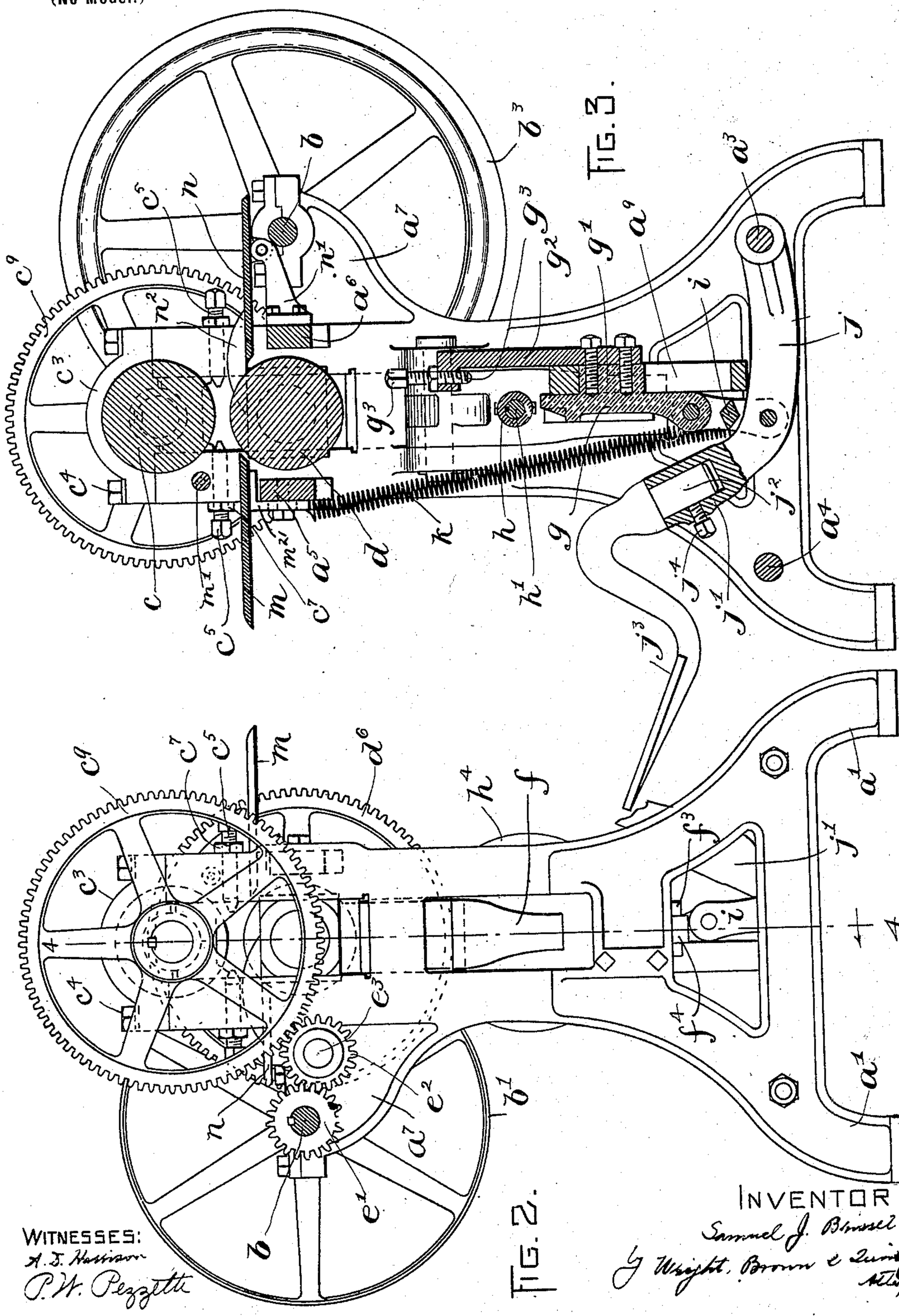

FIG. 2.

WITNESSES:
A. D. Harrison
P. H. Pezzetti

INVENTOR
Samuel J. Brissette
by Wright, Brown & Quinby
Attys

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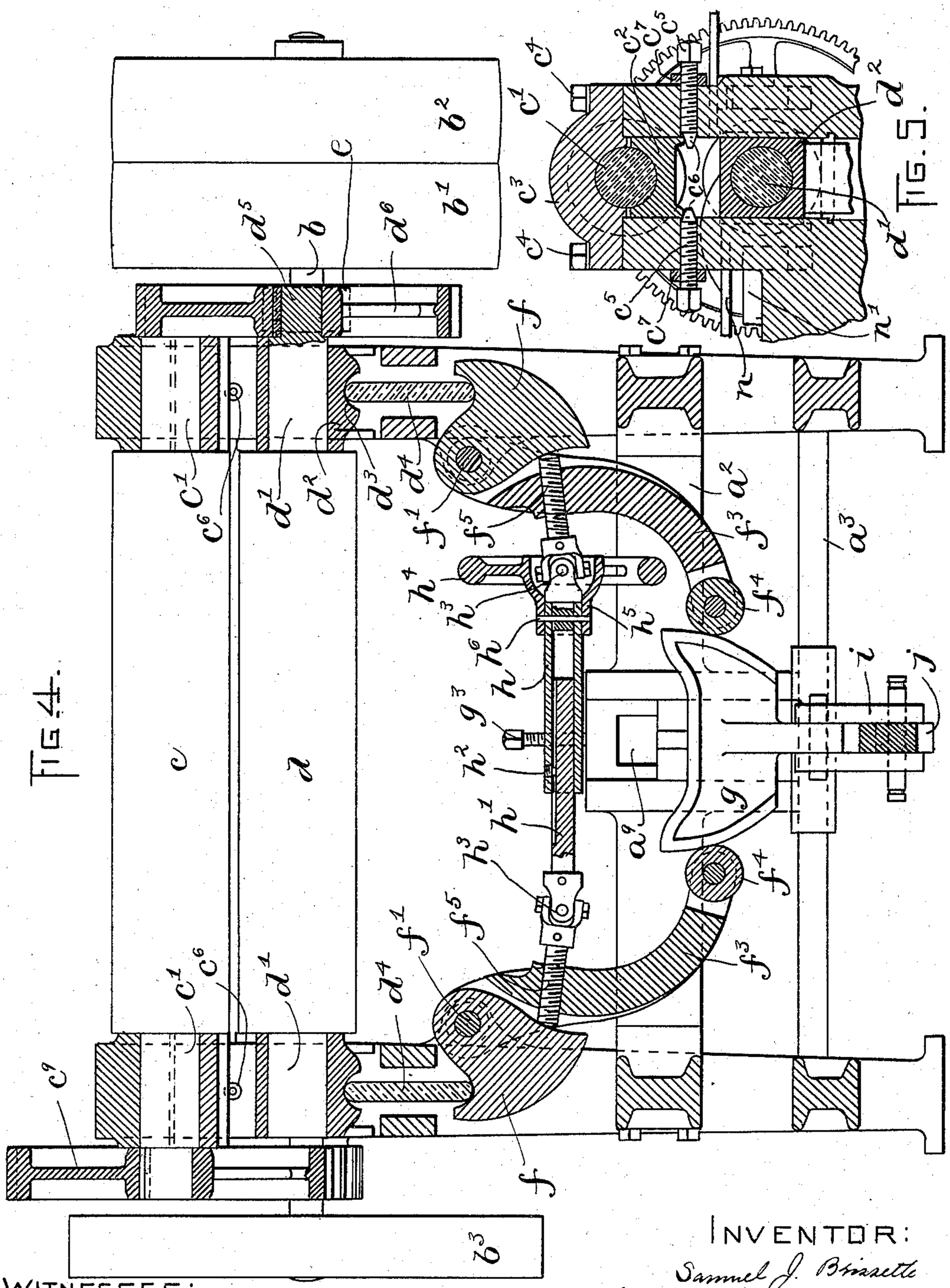

FIG. 4.

FIG. 5.

Witnesses:
A. J. Harrison.
P. W. Pezzetti.

Inventor:
Samuel J. Brissette
by Wright, Brown & Quinby
Attys.

UNITED STATES PATENT OFFICE.

SAMUEL J. BRISSETTE, OF LYNN, MASSACHUSETTS, ASSIGNOR TO GEORGE A. EMERSON AND WILLIAM R. SAMPSON, OF SAME PLACE.

LEATHER-ROLLING MACHINE.

SPECIFICATION forming part of Letters Patent No. 638,862, dated December 12, 1899.

Application filed February 25, 1899. Serial No. 706,801. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL J. BRISSETTE, of Lynn, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Leather Rolling or Pressing Machines, of which the following is a specification.

This invention has relation to leather rolling or pressing machines, and has for its object to provide certain improvements therein for enhancing their efficiency, rendering them adaptable for all thicknesses of leather or other material, and increasing their working capacity.

To these ends the invention consists of a machine provided with certain features of construction and relative arrangement of parts, all as illustrated upon the drawings and now to be described in detail.

Reference is to be had to the accompanying drawings, and to the letters 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 represents a front elevation of a machine embodying my invention. Fig. 2 represents an end elevation of the machine. Fig. 3 represents a transverse section through the machine looking from the opposite end. Fig. 4 represents a vertical longitudinal section. Fig. 5 represents a transverse section through one of the end standards and shows the bearing-blocks for the rolls.

Referring to the drawings, which show one embodiment of the invention, a a indicate end standards which are formed in their upper ends with guides to receive the bearing-blocks for the rolls, which I shall subsequently describe. The said end standards, as shown in Figs. 2 and 3, are formed at their lower ends with legs or supports a' a', and they are connected by a cross-brace a^2 and suitable tie-rods a^3 a^4 at their lower portions and with braces a^5 a^6 at their upper portions, as indicated in Fig. 3. Brackets a^7 are formed on the end standards to receive the initial driving-shaft b, which is mounted in suitable bearings therein. On one end of said shaft are placed fast and loose pulleys b' b^2, and upon its other end is mounted the balance or fly wheel b^3.

The rolls, which are equal in diameter, are indicated at c and d, respectively, the former being practically vertically stationary, while the latter is adapted to be moved from a position of clearance to a position of pressure, and vice versa, and is likewise adapted to be adjusted for stock of different thicknesses. The roll c is provided with trunnions c' c', which rest upon bearing-blocks c^2, placed in the guides in the upper ends of the standards. A cap c^3 is secured by bolts c^4 to the top of each standard, and each holds the trunnion therebeneath in the bearing-block. The bearing-blocks are adapted to move vertically in the guideways formed in the standards and are normally supported by adjusting-screws c^5, which are passed transversely through the standards and are provided with conical ends c^6, upon which the bearing-blocks rest, as shown in Fig. 5. The displacement caused by rotating the screws c^5 is comparatively slight, but it is sufficient to compensate for wear in the bearings. Lock-nuts c^7 are employed to hold the screws c^5 against rotation after they have been properly set. By removing the caps c^3 the roll c may be removed without disturbing the position of the bearing-blocks c^2. The roll d is likewise formed with trunnions d', which project into vertically-movable bearing-blocks d^2, adapted to slide in the guideways formed in the end standards. The lower portions of said blocks d^2 are concave or socketed, as shown at d^3, and rest upon plates d^4, arranged vertically in the end standards. The means by which the plates d^4 d^4 are supported will be hereinafter described, it being sufficient at this time to state that said plates are vertically movable to raise and lower the roll d toward and from the roll c. One of the trunnions d' is longitudinally extended, as at d^5, to receive a gear-wheel d^6, with which intermeshes a pinion on the driving-shaft b, said pinion being indicated at e in Fig. 4. The trunnion c', which is at the opposite end of the roll c, is extended to receive a similar gear-wheel c^9, which is rotated by a pinion e' on the opposite end of the shaft b and an idler e^2 on a

stud-shaft e^3, as shown in Fig. 2. The pinions e', e^2, and e are all of the same size, and as the gears d^6 and c^9 are of the same size it will be seen that the rolls c and d will be rotated in unison and that their peripheral speed will be the same.

The roll d and the pinion e are in substantially the same horizontal plane as the shaft b, so that the movement of the roll d in a plane tangential to the gear d^6 does not tend to separate the pinion e therefrom, and hence when the shaft b is rotated by a belt on the fast pulley b' the rolls c and d will be rotated at their proper speed to feed the material therethrough and press it to the desired extent.

The mechanism for raising and lowering the vertically-movable roll d will now be described.

The plates or supports d^4, heretofore referred to, rest at their lower ends in sockets in arms $f\,f$, which are fulcrumed upon studs f', secured in brackets f^2 on the end standards a, as shown in Figs. 1 and 4. Likewise pivoted upon the studs f' are two curved arms f^3 f^3, which project toward the median line of the machine and are equipped at their lower ends with rollers f^4, which bear against a downwardly-tapering cam g. Passed through the upper portions of the arms f^3 are oppositely-threaded adjusting-screws f^5 f^5, and by rotating them both in the same direction they are fed forward or backward, as the case may be, their ends bearing against the arms f to adjust them relatively to the arms f^3. The ends of the screws f^5 f^5 are connected by an extensile shaft and by universal joints. Said shaft comprises the sleeve h and a grooved shaft h' telescoping therein, there being a screw-pin h^2 passed through the sleeve and extending into the groove in the shaft, whereby they are held against rotation relatively to each other. The ends of the extensile shaft are connected to the heads of the screws by universal joints h^3. Inasmuch as these joints are well known, I have not illustrated them in detail.

A hand-wheel h^4, formed with a hub h^5, is secured to the sleeve h by a pin h^6, and by rotating it the screws f^5 are simultaneously adjusted to secure an adjustment of the roll c, said adjustment or movement being supplemental to the movement of the roll caused by the foot-treadle, which I shall now describe.

The cam g, previously referred to, is provided with a block g', which slides in vertical guides a^9, formed on the cross-brace a^2, and secured to said block g' is an arm g^2, which holds the cam in place and is provided with a set-screw g^3 to limit the downward movement of the cam, said screw being passed through the bent upper end of the arm and being adapted to strike against the upper portion of the guide-bars a^9. The lower portion of the cam g is connected by a double link i with a lever j, fulcrumed on the tie-rod a^3. The end of the lever j is bent upwardly to escape the tie-rod a^4 and is formed with a socket j' to receive the cylindrical shank j^2 of a treadle j^3, the foot-receiving portion of said treadle being arranged at an angle, as shown in Fig. 3. Said screw j^4 is employed to secure the shank j^2 in the socket j'. The treadle is normally held in its elevated position by a pair of springs $k\,k$, secured to the foot-lever and to the cross-brace a^5, as shown in Fig. 3. After the rolls have been properly adjusted for a certain size of material or stock the edge of the latter is inserted between the rolls and the foot-treadle is depressed to draw the cam g downwardly. The cam forces the ends of the levers f^3 outward to swing the arms f around their studs f', and thereby raise the bearing-blocks d^2 through the medium of the vertical supports d^4, whereupon the roll d is moved to a position of pressure. The rolls may be easily adjusted for material of another thickness by turning the hand-wheel h^4 to adjust the arms f relatively to the arms f^3, as hereinbefore described. In the front of the rolls is a work-feeding table m, which is practically tangential to the roll d to support the work or stock before it has been subjected to the pressure of the rolls. It is mounted on brackets m^{21}, attached to the cross-brace a^5. A roller or bar m' is journaled in the standards above the table m to prevent the stock from curling when it is being drawn by the rolls.

The work-receiving table, shelf, or support n is in the rear of the rolls, and it is pivoted at its outer end or edge to brackets n', projecting rearwardly from the cross-brace a^6. Fingers n^2, secured to or formed on the table, rest upon the bearing-blocks d^2 and support the table at its inner end or edge upon said blocks, so that when the roll d is moved or adjusted the table is also moved automatically, whereby its rear free edge always bears substantially the same relation to the said roll.

The machine which I have described is adapted for pressing stock of different thicknesses, whether thick or thin, with equal facility. It is easily adjusted, since the rotation of the hand-wheel h^4 raises or lowers not only the lower roll, but also the work-table n.

Having thus explained the nature of the invention and described a way of constructing and using the same, although without attempting to set forth all of the forms in which it may be made or all of the modes of its use, I declare that what I claim is—

1. A machine of the character described comprising presser-rolls, movable bearings for one of said rolls, two-part elbow-levers for moving said bearings to carry said roll to and from a position of pressure, the two parts of each lever being fulcrumed on the same axis and means for adjusting the parts of each lever relatively to each other.

2. A machine of the character described

comprising presser-rolls, movable bearings for one of said rolls, two-part elbow-levers for moving said bearings to carry said roll to and from a position of pressure, the two parts of each lever being fulcrumed on the same stud and means for simultaneously adjusting the parts of each lever relatively to each other.

3. A machine of the character described comprising presser-rolls, movable bearings for one of said rolls, bell-cranks for moving said bearings to carry said roll to a position of pressure, and a treadle-actuated cam adapted to engage and simultaneously operate both of said bell-cranks.

4. A machine of the character described comprising presser-rolls, movable bearings for one of said rolls, bell-cranks for moving said bearings to carry said roll to and from a position of pressure, stationary guides, a cam movable in said guides for actuating said bell-cranks, and a foot-treadle operatively connected to said cam.

5. A machine of the character described comprising presser-rolls, movable bearings for one of said rolls, two-part elbow-levers for moving said bearings to carry said rolls to and from a position of pressure, oppositely-threaded screws for adjusting the two parts of said levers, an extensile shaft connecting said screws, and a cam for engaging and actuating both of said levers.

6. A machine of the character described comprising presser-rolls, movable bearings for one of said rolls, two-part levers for moving said bearings to carry said rolls to and from a position of pressure, oppositely-threaded screws for adjusting the two parts of said levers, and universal joints connecting said screws.

7. A machine of the character described, comprising presser-rolls, movable bearings for one of said rolls, two-part elbow-levers for moving said bearings to carry said roll to and from a position of pressure, oppositely-threaded screws for adjusting the two parts of said levers, means including a hand-wheel for rotating said screws simultaneously, and a treadle for simultaneously actuating said levers to move said roll toward the other roll.

8. A machine of the character described comprising presser-rolls of which one is movable from a position of clearance to a position of pressure, and a work-table pivoted at its outer edge, and having its inner or free edge out of contact with but movable automatically with said last-mentioned roll.

9. A machine of the character described comprising presser-rolls of which one is movable from a position of clearance to a position of pressure, movable bearings for said roll, and a work-table pivoted at its outer edge and having its inner or free edge resting upon and movable automatically with said bearings.

10. A machine of the character described comprising presser-rolls of which one is movable from a position of clearance to a position of pressure, movable bearings for said roll, and a table pivoted at its outer edge, and having at its ends at the inner or free edge, projections lying upon and moving with said bearings, the said inner edge of said table being out of contact with the movable roll.

In testimony whereof I have affixed my signature in presence of two witnesses.

SAMUEL J. BRISSETTE.

Witnesses:

GEORGE A. EMERSON,

MINNIE F. SWARTHOUT.