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E. L. POST.

CLUTCH FOR LEATHER STRETCHING MACHINES.

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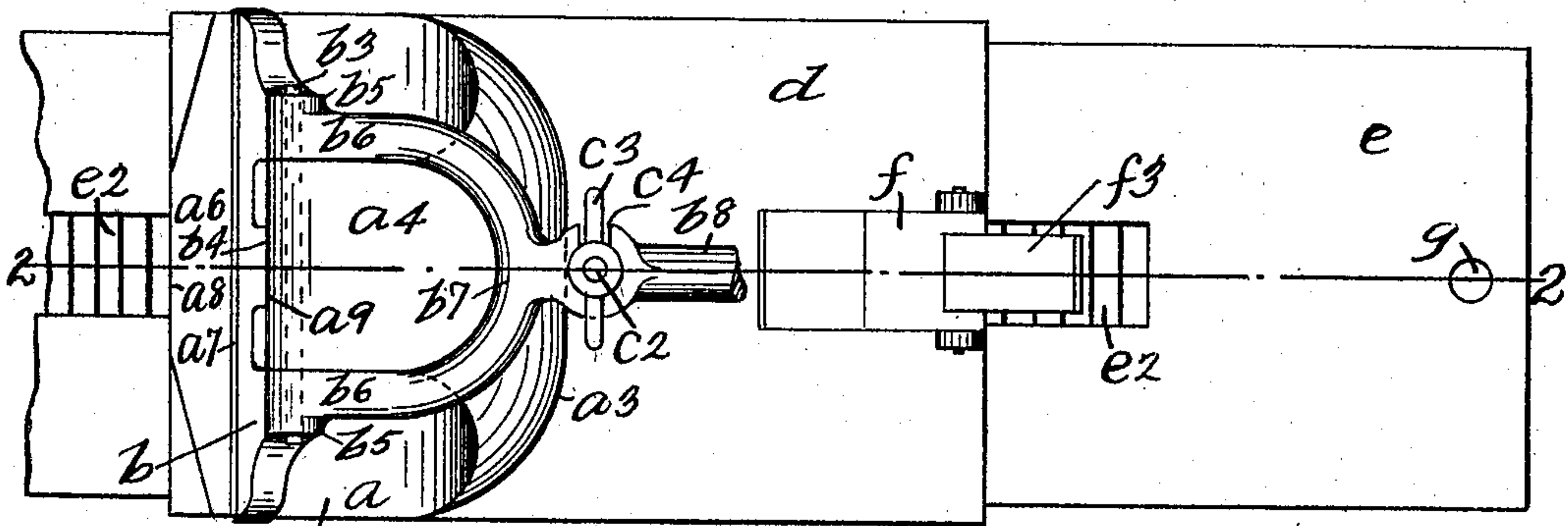


Fig. 1.

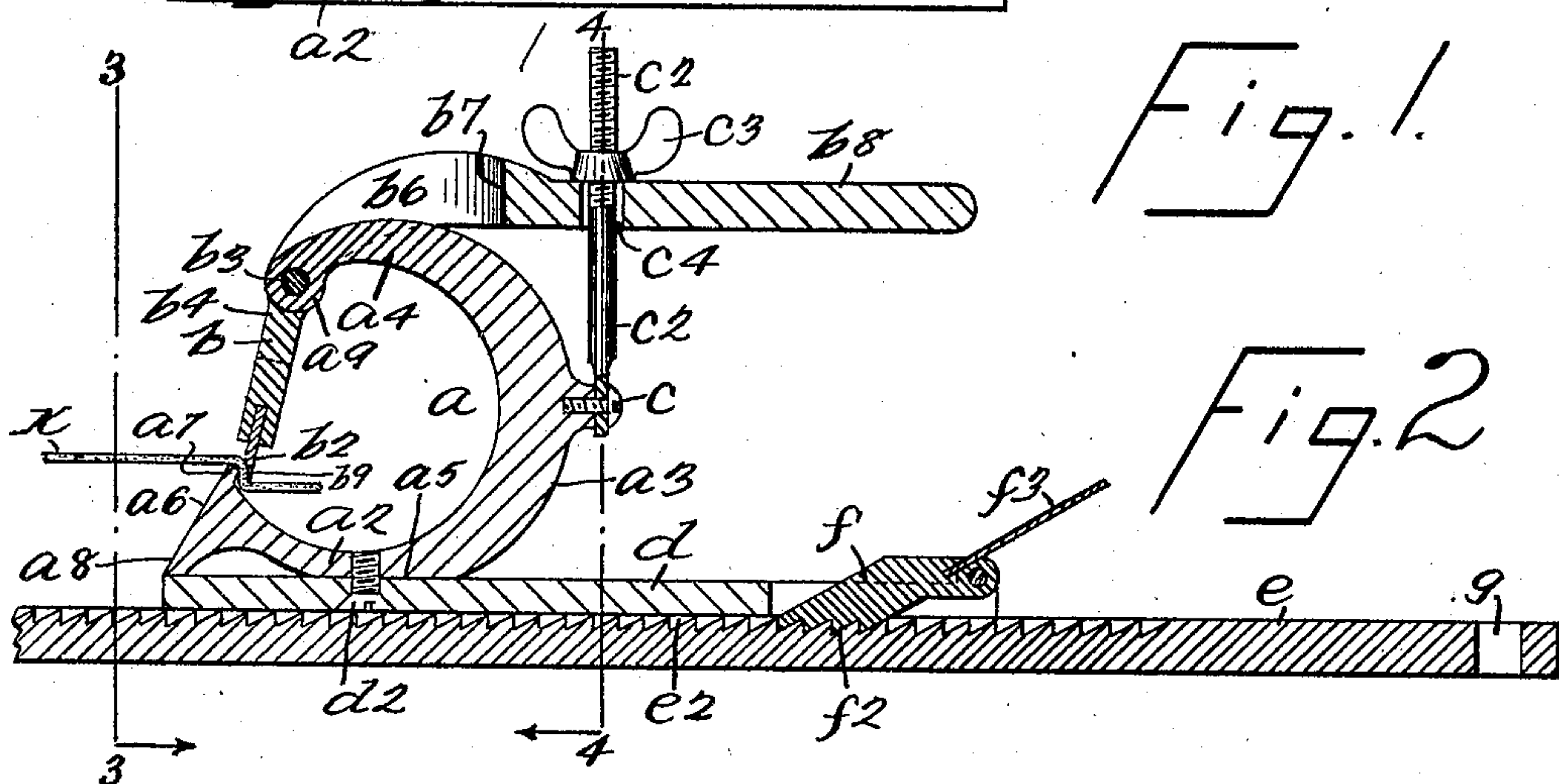
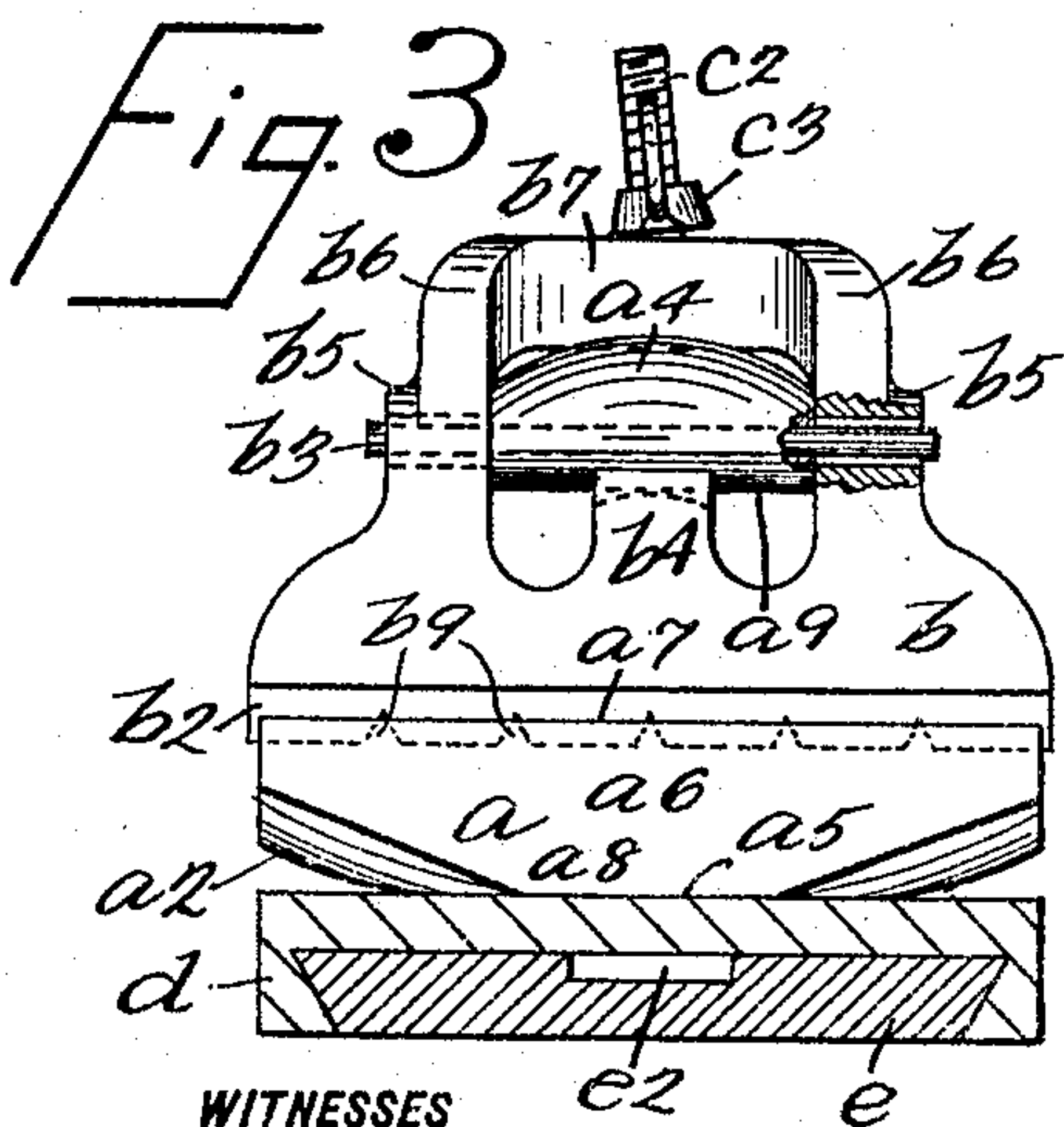
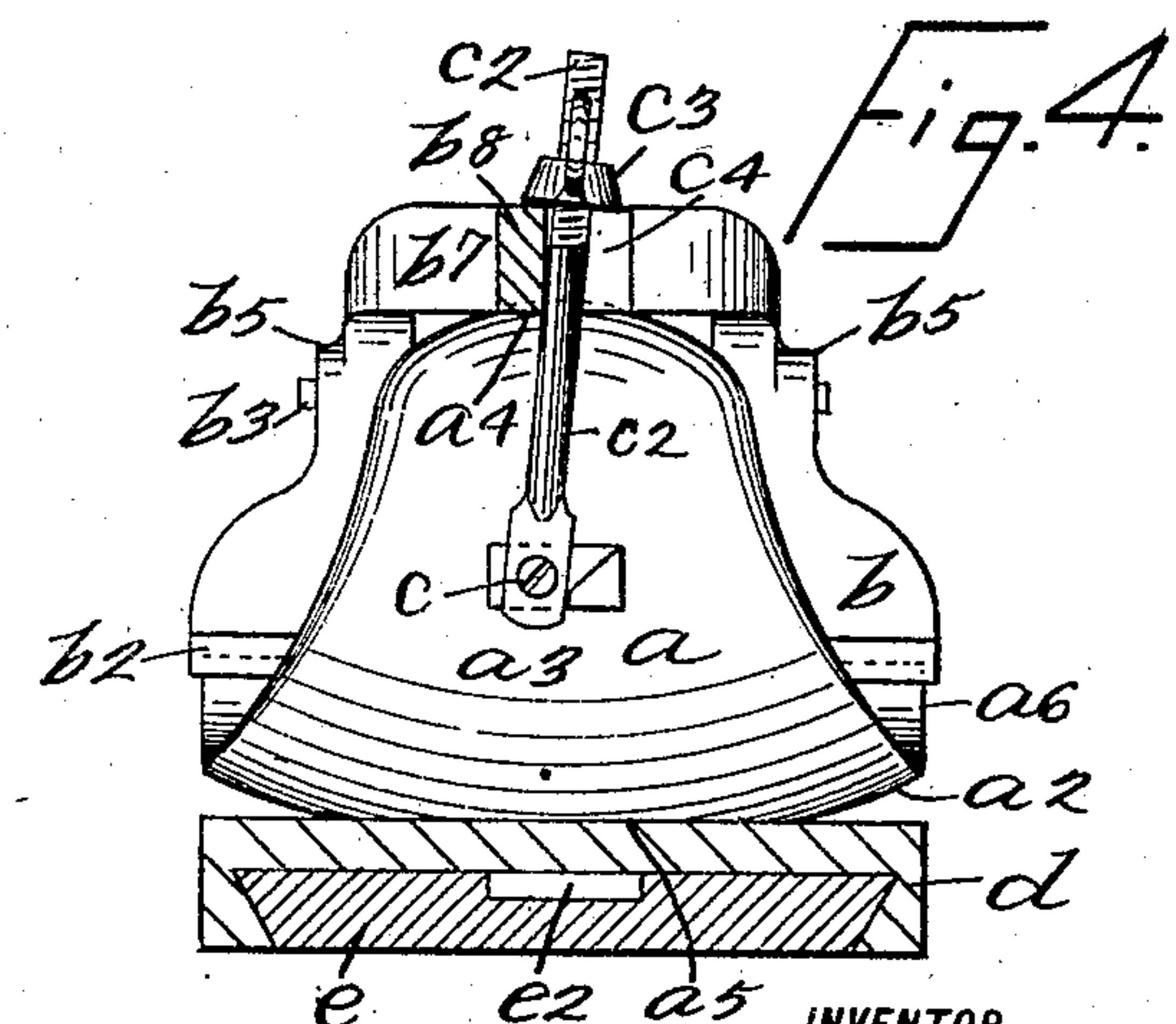


Fig. 2.



WITNESSES

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CLUTCH FOR LEATHER-STRETCHING MACHINES.

No. 824,139.

Specification of Letters Patent.

Patented June 26, 1906.

Application filed October 7, 1905. Serial No. 281,745.

To all whom it may concern:

Be it known that I, EZRA L. POST, a citizen of the United States, residing at Wallingford, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Clutches for Leather-Stretching Machines, of which the following is a specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention is an improvement on clutches for leather-stretching machines such as are shown and described in Letters Patent of the United States granted to me October 11, 1904, No. 772,054, and October 11, 1904, No. 772,055; and the object of this invention is to provide an improved clutch of this class with improved means for connecting the same with the machine; and a further object of the invention is to provide an improved clutch of class specified which is so formed that it will securely hold the leather to be stretched without cutting, tearing, or otherwise injuring the leather, and which will not allow the leather to slip therethrough, and which may be easily and conveniently connected with the machine in connection with which it is used, and which may also be quickly, easily, and conveniently adjusted to any desired position on its support or on the holder with which it is connected.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which the separate parts of my improvement are designated by suitable reference characters in each of the views, and in which—

Figure 1 is a plan view of a clutch of the class specified embodying my invention and showing a holder with which it is connected and by means of which it is secured when in use to the machine in connection with which it is used; Fig. 2, a longitudinal section on the line 2 2 of Fig. 1; Fig. 3, a front view of the clutch with parts in section, and Fig. 4 a back view thereof.

In the practice of my invention I provide a clutch comprising a main body portion a , which is substantially segmental in longitudinal section and comprises a bottom part a^2 , a back part a^3 , and a top a^4 , which forms a forwardly-directed arm, to the forward end of which the movable jaw b is pivoted. The bottom part a^2 of the main body portion a of the clutch is flat on its under side, as shown at a^5 , and said bottom part a^2 is extended for-

wardly and curved upwardly to form the stationary jaw a^6 , having an upwardly-directed transverse lip a^7 , which constitutes the operative member of the stationary jaw proper, and said stationary jaw is also extended downwardly to form a transverse bearing member a^8 in the same horizontal plane as the flat bottom surface a^5 of the bottom part a^2 of the body portion a of the clutch.

It will be observed that the bottom part a^2 of the body portion of the device, together with the stationary jaw a^6 and the parts a^7 and a^8 , is of considerable width, while the back part a^3 of the body portion a of the clutch is tapered inwardly and upwardly, as shown in Figs. 1 and 4, and extended forwardly to form the forwardly-directed arm a^4 , to which the movable jaw b is pivoted. The movable jaw b is of the same transverse width as the stationary jaw a^6 and is provided at its bottom edge with a downwardly-directed lip member b^2 , which operates in connection with the upwardly-directed lip member a^7 of the stationary jaw a^6 and bears on the top back portion of the said upwardly-directed lip member a^7 of the stationary jaw, so as to securely hold a sheet or hide of leather x when the latter is placed in the clutch. In the form of construction shown the lip member b^2 preferably consists of a separate piece set into the movable jaw.

It will be observed that the part b^2 of the pivoted jaw b does not bear on the top of the part a^7 of the jaw a^6 , but bears on the back of said part, and this forces the leather x downwardly into the space back of the lip member a^7 of the stationary jaw a^6 , as clearly shown in Fig. 2, and this forms a tight and secure clamp which prevents the slipping of the leather, and in practice the operative edge of the lip member b^2 of the stationary jaw is beveled, so that it may be forced into the leather, but is not made sharp enough to cut or tear the leather, and I also in practice form the edge of the lip member b^2 of the movable jaw into separate operative parts by means of recesses b^9 in the edge of the part b^2 , as clearly shown in Fig. 3.

The movable jaw b is pivoted to the front end of the arm a^4 of the main portion a of the clutch by a bolt or similar device b^3 , which passes through a transverse head a^9 at the front end of the arm a^4 , and the jaw b is provided centrally with an upwardly-directed member b^4 , which bears on the central portion of the head a^9 of the arm a^4 , and said

jaw b is also provided with upwardly-directed journal members b^5 , through which the rod or bolt b^3 passes, and the holes in the journal members b^5 of the jaw b are elongated vertically, as shown in section in Fig. 3, so as to permit of a slight vertical rocking movement of the jaw b at the opposite ends thereof in the operation of the clutch, said jaw turning on the part b^4 , which bears on the head a^9 of the arm a^4 , in order to accomplish this result, and the object of this rocking movement of the jaw is to enable said jaw to accommodate itself to the different positions of the clutch and to the thickness of the leather at different points.

The journal members b^5 of the clutch are provided with backwardly-directed arms b^6 , connected to form a yoke b^7 , with which is connected a backwardly-directed arm b^8 , by means of which the movable jaw b may be manipulated by hand, and pivoted to the convex back of the part a^3 of the main portion a of the clutch, as shown at c , is a rod c^2 , the free end of which is threaded and provided with a thumb-nut c^3 , and in the right-hand side of the arm b^8 , adjacent to the yoke b^7 , is a transverse recess c^4 , adapted to receive the rod c^2 , and said rod is free to swing in a transverse vertical plane. The rod c^2 is preferably pivoted at one side of the vertical center of the part a^3 of the body portion a of the clutch and to the left side thereof, as shown in Fig. 4, this arrangement being desired in order to facilitate the operation of said rod as hereinafter described.

In practice I also secure the clutch to a base-plate d , this connection being made by means of a pivot screw, bolt, or similar device d^2 passing upwardly through the base-plate d and into or through the bottom part a^2 of the body portion a of the clutch, or said screw, bolt, or similar device d^2 may be passed downwardly through said parts, and the downwardly-directed member a^8 of the stationary jaw a^6 also rests on the base-plate d . The base-plate d of the clutch is mounted on a connecting-plate, bar, or arm e , on which the clutch and base-plate d are longitudinally movable, and the connection between the base-plate d of the clutch and the plate, bar, or arm e is made as shown in Figs. 3 and 4, this connection being an ordinary tongue-and-groove connection, the part e being countersunk in the bottom of the part d . The plate, bar, or arm e is also provided centrally and longitudinally of the top thereof with a plurality of ratchet-teeth e^2 , which are directed backwardly, and pivoted in the rear end of the base-plate d of the clutch is a dog or pawl f , having teeth f^2 , adapted to engage the teeth e^2 , and said dog or pawl is provided with a backwardly-directed handle member f^3 , by which it may be disengaged from the teeth f^2 , and as thus constructed the clutch may be conveniently moved backwardly, but cannot

be moved forwardly without raising the pawl or dog f .

In practice the plate, bar, or member e serves as a means for connecting the clutch with the operative parts of a leather-stretching machine as shown and described in United States Letters Patent No. 772,054, hereinbefore referred to, and in practice a number of these clutches are employed as shown and described in the patent referred to, and the operation will be the same as that described in said patent. The clutches are first connected with the operative parts of the machine, and the ends of a sheet of leather or hide of leather are connected with said clutches as shown and described in said patent, and in this operation, with the improved form of clutches described and claimed in this application the arms b^8 on the movable jaws b of the various clutches are lifted so as to insert the ends of the sheet or hide of leather between the movable and stationary jaws. The arms b^8 are then depressed so as to cause the movable jaws b to securely hold the leather, and the rods c^2 are then swung into position and the nuts c^3 are turned down so as to hold the movable jaws until a strain of the leather-stretching machine is thrown onto said jaws. At this time the rods c^2 by reason of the fact that they are pivoted at one side of a vertical line are automatically dropped out of the recesses c^4 in the arms b^8 of the movable jaws b , and whenever desired the said arms may be raised in order to release said movable jaws.

It will also be observed that by means of the manner in which the base-plates d of the clutches are connected with the plates, bars, or arms e the clutches may be easily and conveniently adjusted to any desired point on the parts e , and the pawl or dog f will securely hold said clutches at any point on the parts e notwithstanding any amount of strain that may be applied to said clutches in the operation of stretching the leather.

The object of tapering the back part a^3 of the body portion a of the clutch upwardly and forwardly, as shown and described, is to accomplish two results: first, to form the arm a^4 , to which the jaw b is pivoted, and, second, to provide means whereby a party manipulating the clutch in the operation of connecting it with a sheet or hide of leather may see into the body portion of the clutch back of the jaws a^6 and b , and thus be enabled to properly adjust the jaws with relation to the end of the sheet or hide of leather.

The plate, arm, or bar e is provided in one end with an aperture g , by which it is pivoted to the operative parts of the leather-stretching machine as shown and described in United States Letters Patent No. 772,054, hereinbefore referred to, and said plate, arm, or bar is free to swing in a horizontal plane on the machine, and the clutch which is piv-

oted to the base-plate *d* by the screw, bolt, or similar device *d*² is also free to swing in a horizontal plane on said base-plate, and these two horizontal movements—that of the clutch and that of the arm or plate *e*—facilitate the operation of the clutch and enable it to adjust itself to all positions in the operation of the machine.

It will also be apparent that the use of a clutch constructed as herein described is not limited to any particular class of leather-stretching machines, and clutches made in this manner may be employed in connection with various forms of leather-stretching machines, as well as in connection with a machine similar to that shown and described in Letters Patent of the United States No. 772,054, hereinbefore referred to.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A clutch for use in connection with leather-stretching machines, said clutch comprising a body portion segmental in vertical longitudinal section, the bottom portion thereof being provided with a forwardly-directed stationary jaw having an upwardly-directed transverse lip member, and with a top forwardly-directed arm having a transverse head to which is pivoted a movable jaw having a downwardly-directed lip member which bears when in operation on the back portion of the upwardly-directed lip member of the stationary jaw, said movable jaw being provided with a central pivot member which bears on the head of said arm and the opposite ends thereof being vertically movable, substantially as shown and described.

2. A clutch for use in connection with leather-stretching machines, said clutch comprising a body portion segmental in vertical longitudinal section, the bottom portion thereof being provided with a forwardly-directed stationary jaw having an upwardly-directed transverse lip member, and with a top forwardly-directed arm having a transverse head to which is pivoted a movable jaw having a downwardly-directed lip member which bears when in operation on the back portion of the upwardly-directed lip member of the stationary jaw, said movable jaw being provided with a central pivot member which bears on the head of said arm and the opposite ends thereof being vertically movable, and provided with a backwardly-directed yoke-arm, substantially as shown and described.

3. A clutch for use in connection with leather-stretching machines, said clutch comprising a body portion segmental in vertical longitudinal section, the bottom portion thereof being provided with a forwardly-directed stationary jaw having an upwardly-directed transverse lip member, and with a top forwardly-directed arm having a transverse

head to which is pivoted a movable jaw having a downwardly-directed lip member which bears when in operation on the back portion of the upwardly-directed lip member of the stationary jaw, said movable jaw being provided with a central pivot member which bears on the head of said arm and the opposite ends thereof being vertically movable, and provided with a backwardly-directed yoke-arm, and a rod pivoted to the back of the body portion of the clutch and adapted to swing in a transverse vertical plane, said rod being provided at its free end with a thumb-nut, and said arm with a transverse recess adapted to receive said rod, substantially as shown and described.

4. A clutch of the class described, comprising a body portion consisting of a base, and a back provided with a forwardly-directed arm, the base being provided with a forwardly-directed jaw having a transverse upwardly-directed lip, a movable jaw pivoted to the head of said arm and provided with a downwardly-directed transverse lip which bears when in use on the back of the upwardly-directed lip of the stationary jaw, said movable jaw being provided with a backwardly-directed arm, and a rod pivoted to the back of the body portion of the clutch and adapted to swing in a transverse vertical plane, said arm being also provided with a transverse recess adapted to receive said rod, and said rod with a thumb-nut, substantially as shown and described.

5. A clutch of the class described, comprising a body portion consisting of a base, and a back provided with an upwardly and forwardly directed arm, said base being provided with a forwardly-directed stationary jaw, and a movable jaw pivoted in the head of said arm, said jaw being provided with a backwardly-directed yoke-arm, and devices operating in connection with said arm for holding said jaw in operative position, comprising a rod pivoted to the back of the body portion of the clutch and adapted to swing in a vertical transverse plane, said rod being provided with a thumb-nut at its free end and said arm with a transverse recess adapted to receive said rod, substantially as shown and described.

6. A clutch of the class described, comprising a body portion composed of a base, and a back having a forwardly-directed arm, said base being provided with a forwardly-directed stationary jaw, and a movable jaw pivoted to the head of said arm and operating in connection with the stationary jaw, said movable jaw being provided centrally with a pivot member which bears on said head and the opposite ends of said jaw being movable in a vertical plane, substantially as shown and described.

7. A clutch of the class described, comprising a body portion composed of a base, and a back having a forwardly-directed arm, said

base being provided with a forwardly-directed stationary jaw, and a movable jaw pivoted to the head of said arm and operating in connection with the stationary jaw, said movable jaw being provided centrally with a pivot member which bears on said head and the opposite ends of said jaw being movable in a vertical plane, said movable jaw being also provided with a backwardly-directed arm, substantially as shown and described.

8. A clutch of the class described, comprising a body portion composed of a base, and a back having a forwardly-directed arm, said base being provided with a forwardly-directed stationary jaw, and a movable jaw pivoted to the head of said arm and operating in connection with the stationary jaw, said movable jaw being provided centrally with a pivot member which bears on said head and the opposite ends of said jaw being movable in a vertical plane, said movable jaw being also provided with a backwardly-directed arm, and devices operating in connection with said arm to hold the movable jaw in operative position, substantially as shown and described.

9. A clutch of the class described, comprising a body portion which is segmental in vertical and longitudinal section and comprises a base and a back the opposite sides of which are curved inwardly and upwardly to form a forwardly-directed arm, said base being provided with a forwardly-directed stationary jaw, and a movable jaw pivoted in the forwardly-directed head of said arm and provided with a backwardly-directed arm by which it may be manipulated, the opposite

ends of the movable jaw being also vertically movable, substantially as shown and described.

10. A clutch of the class described, comprising a base portion provided with a stationary transverse jaw and an upwardly and forwardly directed arm provided with a pivoted jaw, said pivoted jaw being provided with a backwardly-directed arm, and a device pivoted to the upwardly-directed part of the base and operating in connection with said backwardly-directed arm to hold the pivoted jaw in operative position, substantially as shown and described.

11. A clutch of the class described, comprising a base portion having a transverse stationary jaw and provided rearwardly of said stationary jaw with an upwardly-directed member having a forwardly-directed arm, a movable jaw pivoted to said arm and operating in connection with the stationary jaw and provided with a backwardly-directed arm, and a device pivoted to the upwardly-directed member of the base portion and operating in connection with said backwardly-directed arm for holding the movable jaw in operative position, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of the subscribing witnesses, this 5th day of October, 1905.

EZRA L. POST.

Witnesses:

F. A. STEWART,
C. J. KLEIN.