

(No Model.)

T. F. LEMASSENA.

HORSE COLLAR MOLD.

No. 314,589.

Patented Mar. 31, 1885.

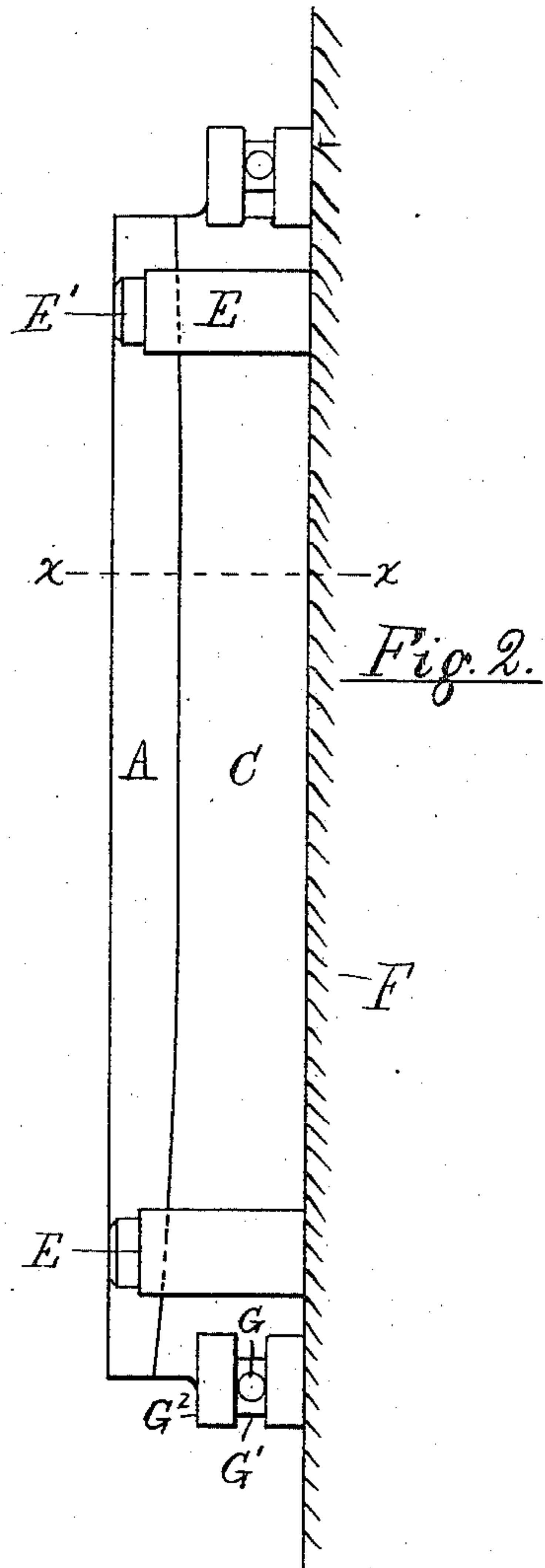
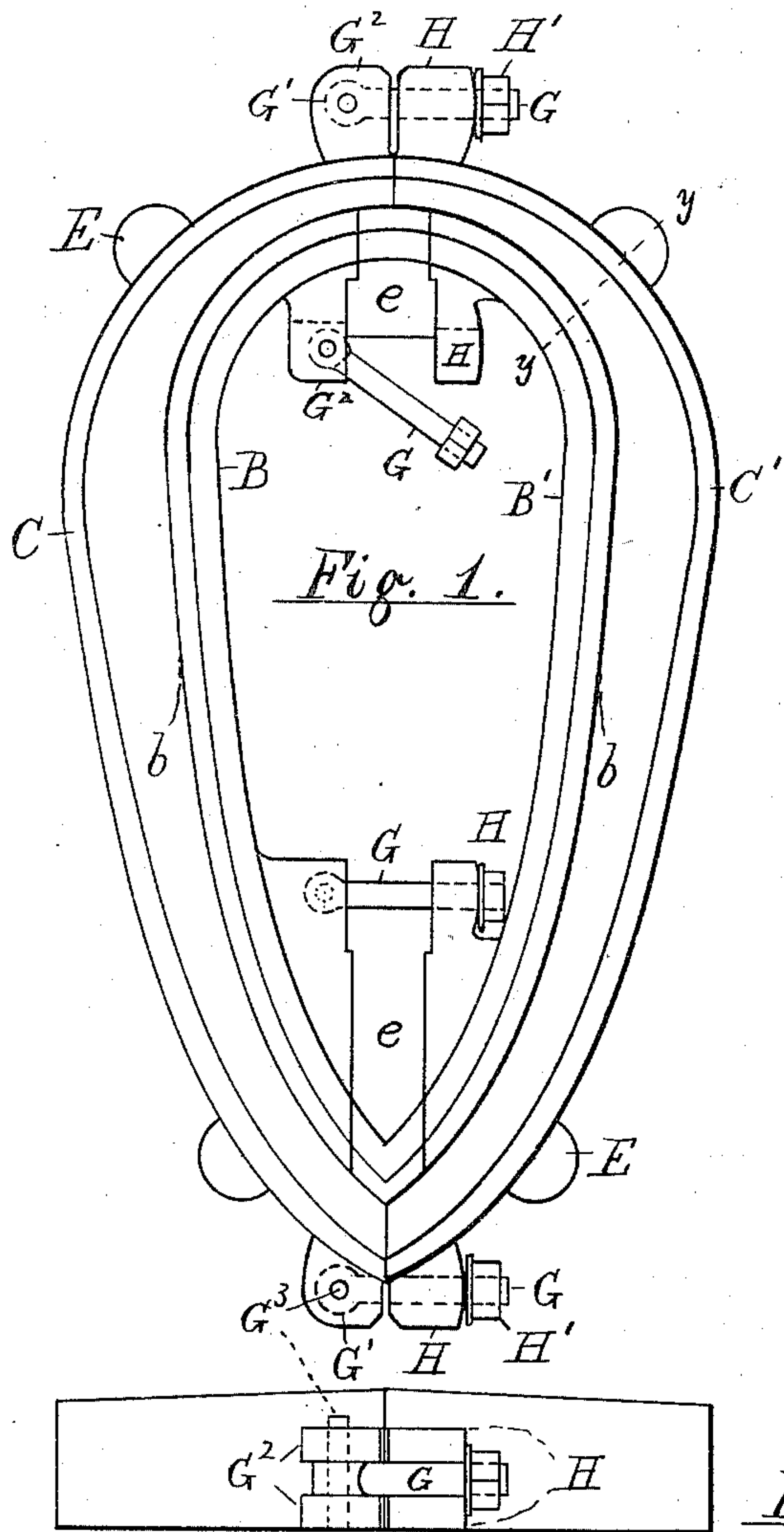
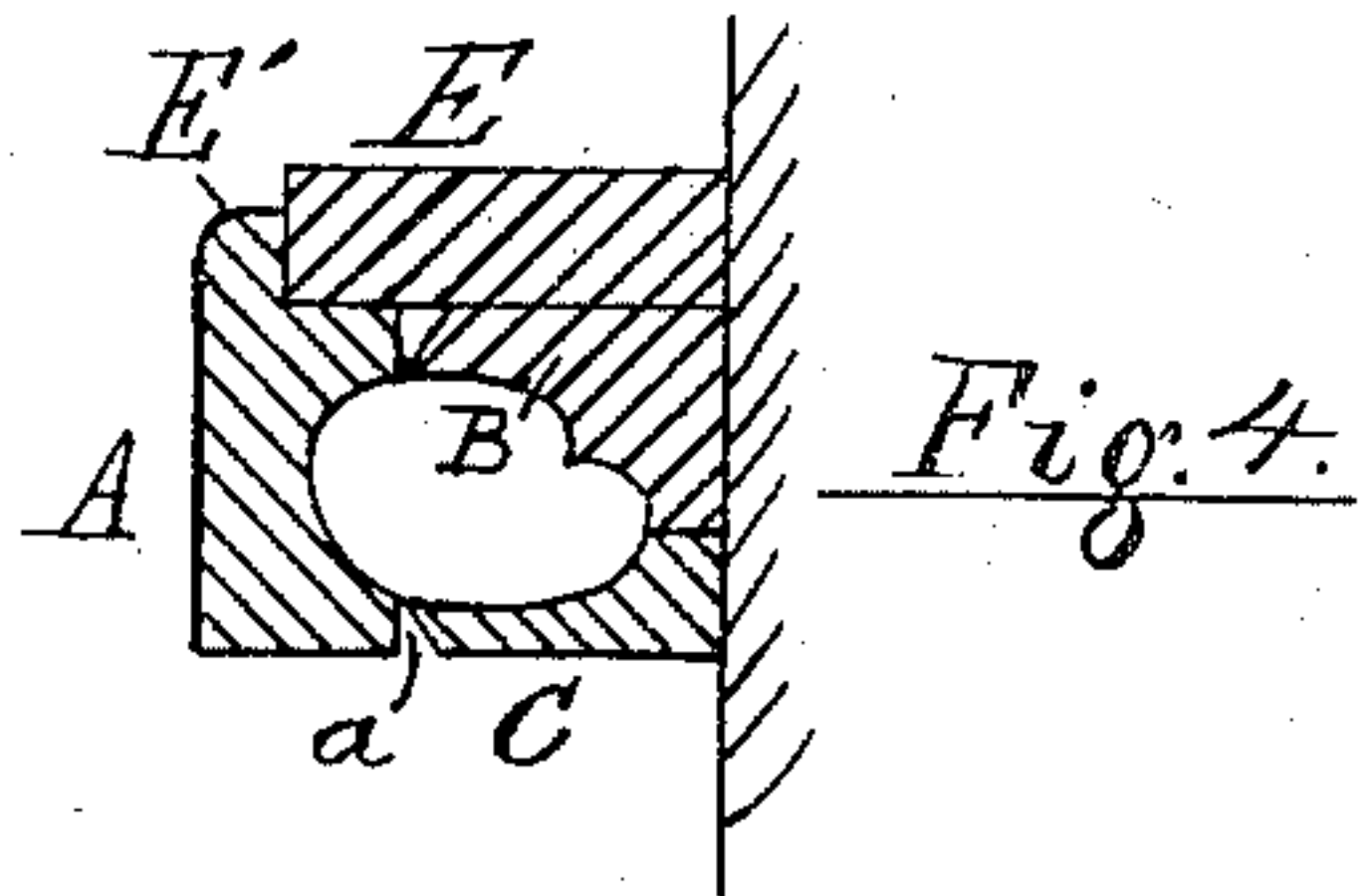
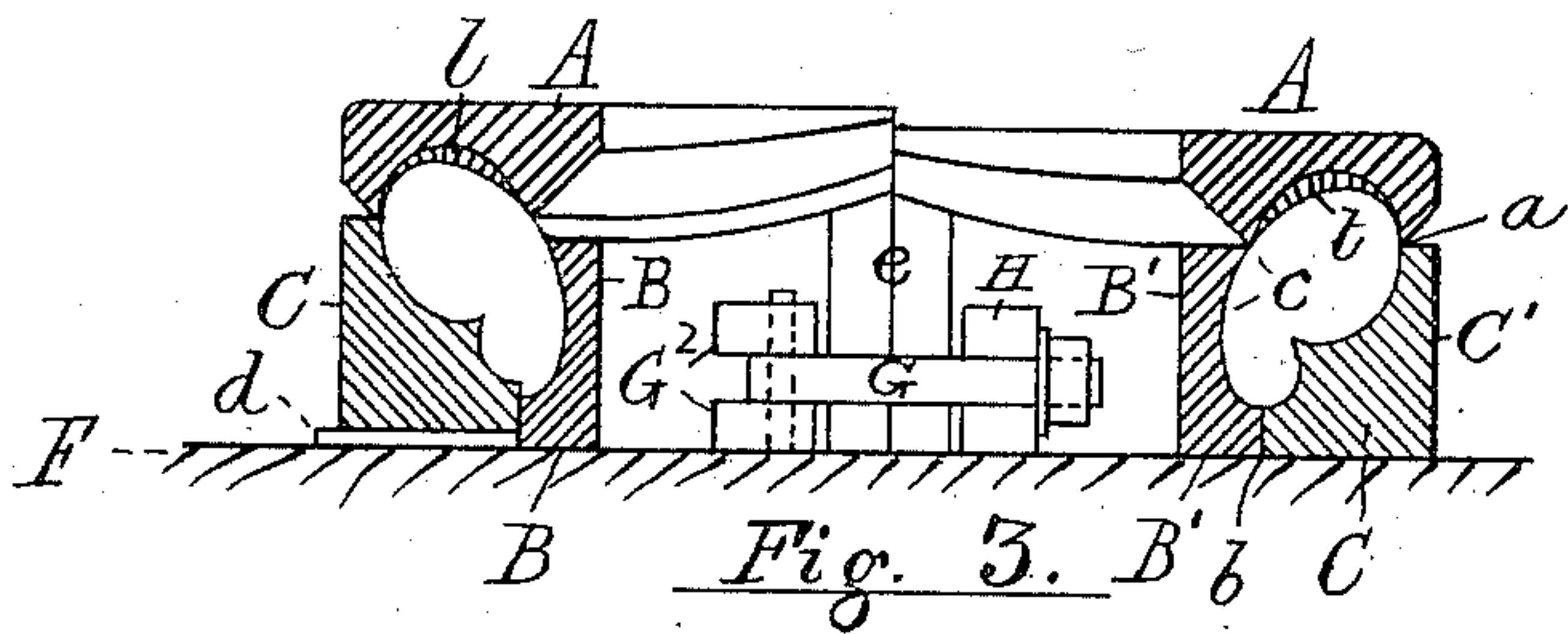


Fig. 5.

Attest.

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Inventor.

Thos. F. Lemassena, per
Thos. S. Crane, Atty.

UNITED STATES PATENT OFFICE.

THEODORE F. LEMASSEN, OF NEWARK, NEW JERSEY, ASSIGNOR TO LILLIAN LEMASSEN, OF SAME PLACE.

HORSE-COLLAR MOLD.

SPECIFICATION forming part of Letters Patent No. 314,589, dated March 31, 1885.

Application filed January 6, 1885. (No model.)

To all whom it may concern:

Be it known that I, THEODORE F. LEMASSEN, a citizen of the United States, residing in Newark, Essex county, New Jersey, have invented certain new and useful Improvements in Horse-Collar Molds, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

10 This invention consists in an improved construction for a sectional mold adapted for shaping a horse-collar from a mass of plastic or yielding material, as hereinafter fully set forth.

15 Heretofore horse-collar molds have been made with top and bottom sections and removable side sections adapted to form the hame-crease, and I do not therefore claim such combination herein, but restrict my present application to the specific improvements herein shown and described, which render such molds capable of performing several functions not possible with previous constructions.

25 My improvements enable me to subject the material to a preliminary pressing in the same mold as that used for giving the final shape, and to prevent the formation of ridges or flaps at the joints of the mold, and to thereby press the mold closer together, and to obtain the correct form more perfectly. The absence of the ridges at the joints of the mold also avoids the labor of trimming them off and concealing the scars left behind.

30 In the drawings, Figure 1 is a plan of the inner and outer lower sections of the mold. Fig. 2 is an edge view of the entire mold. Fig. 3 is a transverse section of the same on line *xx* in Fig. 2. Fig. 4 is a similar section of one side of the mold, taken at line *yy* in Fig. 1; and Fig. 5 is an end view.

40 My improved mold is shown herein constructed with one annular section, A, embracing the greater part of the front of the collar, two inner bottom sections, B B', embracing the inner side of the back, and two outer bottom sections, C C', each embracing one-half of the hame-crease and of the outer side of the back. In Fig. 3 the edges of the section A are beveled to an acute corner, where they come in contact with the sections B B' and C C', and stops E are provided to prevent dam-

age to such corners by excess of pressure, as the mold is commonly made of cast-iron, and not intended to actually press upon the opposed surface. The lower sections are each fitted to one another closely at the top and bottom of the collar, at which points I provide the joint with hinged bolts G G, formed with an eye, G' at the head, which eye is pivoted to one section by ears G² and a pin, G³. Two lugs, H, are formed upon the opposite section, and the joint is drawn closely together by swinging the end of the bolt G between these lugs and screwing up the nut H' upon the end of the bolt. The bolts and lugs for the sections B B' are placed inside of the same, as shown in Fig. 1, while the bolts and lugs for the sections C C' are placed outside of the latter, thus affording the means to clamp or unclamp each pair of sections together independently of the other pair.

As shown in Fig. 3, the parting of the mold at *a* is made at so high a point from its base that the inner walls of the sections B B' extend partly over the front of the collar, as appears at *c* in Fig. 3, and the collar cannot therefore be removed from these sections unless the latter be contracted in some way. To effect such contraction, gibs *e* are inserted in the joints of the sections, and are shaped at their inner ends to form the walls of the mold at its extreme inner ends. When such gibs are adjusted in place, as shown in Fig. 1, the bolts G touch their outer ends and retain them in their operative position. Any other means than the bolts may be used to thus retain the gibs—as a steady pin or key—for when the outer sections, C C', are locked together around the inner sections the latter are held immovably, and need no fastenings whatever during the molding operations.

This mold is used in any suitable screw or lever or hydraulic press as follows: I place the sections B B' upon the bed of the press, which is merely indicated at F in Figs. 2, 3, and 4, and then fit the two sections C C' around them and lock them together by the bolts G and nuts H', the outer sections fitting accurately at their lower edges with the lower edge of the section B B' at *b*, and thus forming a cavity with closed bottom and open top for the reception of the material, as leather scraps mixed with cem-

ent. Having placed a suitable quantity of the material in the mold, I apply the top section, A, and subject the whole to sufficient pressure to shape the collar in the desired degree. When the upper section closes upon the lower ones, any surplus material is expelled beneath the edges of the section A, and is nearly or quite cut off by the beveled edges of the section shown at *a a* in Fig. 3. If the mold is applied in this manner to shape the crude material, it is obvious that it cannot be used to apply a final shaping pressure to the collar after it is dried, as the collar shrinks materially in losing its moisture, and would not fill the mold if replaced therein. It has therefore been requisite heretofore to provide a smaller or finishing mold for such final shaping, as the collar is liable to warp or wrinkle as well as to shrink in the process of drying; and the second part of my invention consists in means for adapting the same mold to apply a primary, an intermediate, and a finishing pressure to the same collar. To give the primary pressure, I provide lifting-plates *d*, of suitable shape, fitted to lie upon the bed of the press beneath the sections C C', and to raise them as well as the stops E out of their normal position a small amount, and slightly increase the capacity of the mold. With the parts thus adjusted I mold and press a collar and then remove it from the mold and dry it partially. The sections C C' require to be unlocked and separated to remove the collar, which is partly misshapen from the displacement of the sections C C'. The gibs *e e* are also withdrawn, and the sections B B' pressed together until the collar is withdrawn and dried, when the gibs are readjusted and said sections are clamped together again. I then remove the plates *d*, secure the sections C C' in place with the partially-dried collar in the mold, and subject it to an intermediate pressure, which compresses and hardens the material and shapes it much more perfectly than if it had been pressed hard when in a softer state. The collar is then thoroughly dried, and to fit the mold to press it in its wholly shrunken condition I provide the whole or any desired part of its interior with a suitable lining adapted to diminish its cavity, and to thus fit the shrunken collar and shape it finally. Such lining is shown at *l* in Fig. 3, and may be made of sheet-iron, copper, or japanned leather having a polished surface next the collar, and is so shaped as to give the final desired form to the exterior of the collar.

To avoid lining the entire mold, its interior may be recessed out only at certain parts and a lining fitted only thereto, as shown in Fig. 3. The collar is then somewhat deformed when first molded, but is correctly shaped at last, and such method entirely obviates the necessity and cost of an expensive finishing-mold.

Were the mold parted at a point nearer its base, the contraction of the sections B B' and

the provisions of the gibs *e e* might be avoided; but in such case the operator would have to first pile the material for the whole collar into a cavity but little more than half of the need-ful capacity, and would have no guide as to the required quantity, nor the proper form in which to arrange the material, while the construction shown herein enables me to make the parting-line as high as may be desired, and to thus enlarge the capacity of the lower mold-sections to embrace nearly all the material and form of the collar, leaving the upper section, A, with very little function except to compress the material already shaped and included in the other sections. The operator is also enabled to paste the material inside the mold more correctly when so large a part of the form is included, and to build up the remaining portion more correctly when it projects from the top of the mold so little, as is evident from the sections shown in Figs. 3 and 4.

To avoid the use of dowel-pins to guide the top of the mold when applied, I form the stops E as guides projecting from the outside sections upward in contact with the sides of the top section, and form the latter with ears E', to rest upon the top of such guides, which thus act as stops when the parts are pressed together. The guides and ears E' may be reversed, and will operate just the same if applied to the parts opposite from those shown.

It is obvious that the outer bottom sections may be used with a solid inner section, as the parts B B' may be made in one piece, if the parting or division is made at the widest part of the collar. I do not, therefore, limit myself in all cases to the precise construction shown in the drawings.

I have not claimed the special construction of the cutting-edges shown herein at *a a*, nor the lining-pieces *l*, as I have claimed the same in a separate patent application, No. 143,153, pending simultaneously herewith. It will be seen that the division of the bottom sections in the manner described enables me to withdraw the sections from the collar while lying on a plane surface like the bed F, and that the newly-made and tender collar is therefore much less liable to be injured in its removal from the mold than if the inner bottom section were solid. My construction may therefore be said to enable me to remove the inner and outer sections from the collar in the same plane instead of in different directions, as heretofore.

I therefore claim my improvements as follows:

1. The combination, in a horse-collar mold, of the top section, A, the inner bottom section formed in two pieces, B B', and the outer bottom section formed in two parts and provided with fastenings, substantially as shown and described.

2. The combination, in a horse-collar mold, of inner sections, B B', and outer bottom sections, C C', constructed and adapted to with-

draw from the collar in the same plane both internally and externally, as and for the purpose herein shown and described.

3. The combination, in a horse-collar mold, of the top section, A, the inner bottom sections, B B', provided with the removable gibs *e e*, and the outer bottom sections, C C', provided with fastenings, substantially as shown and described.

10 4. The combination, in a horse-collar mold, of the top and bottom sections provided with the cutting-edges *a a*, as described, the stops E, arranged to guide the parts of the mold when pressed together, and the ears E' E', ar-
15 ranged to touch the stops when the mold is

properly closed, substantially as and for the purpose set forth.

5. The combination, with the divided sections of a horse-collar mold, of the bolt G, pivoted to one section and having a nut fitted to lugs upon the opposite section and operating to clamp the sections together, as and for the purpose set forth.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

THEODORE F. LEMASSENA.

Witnesses:

THOS. S. CRANE,
L. LEE.