

No. 629,809.

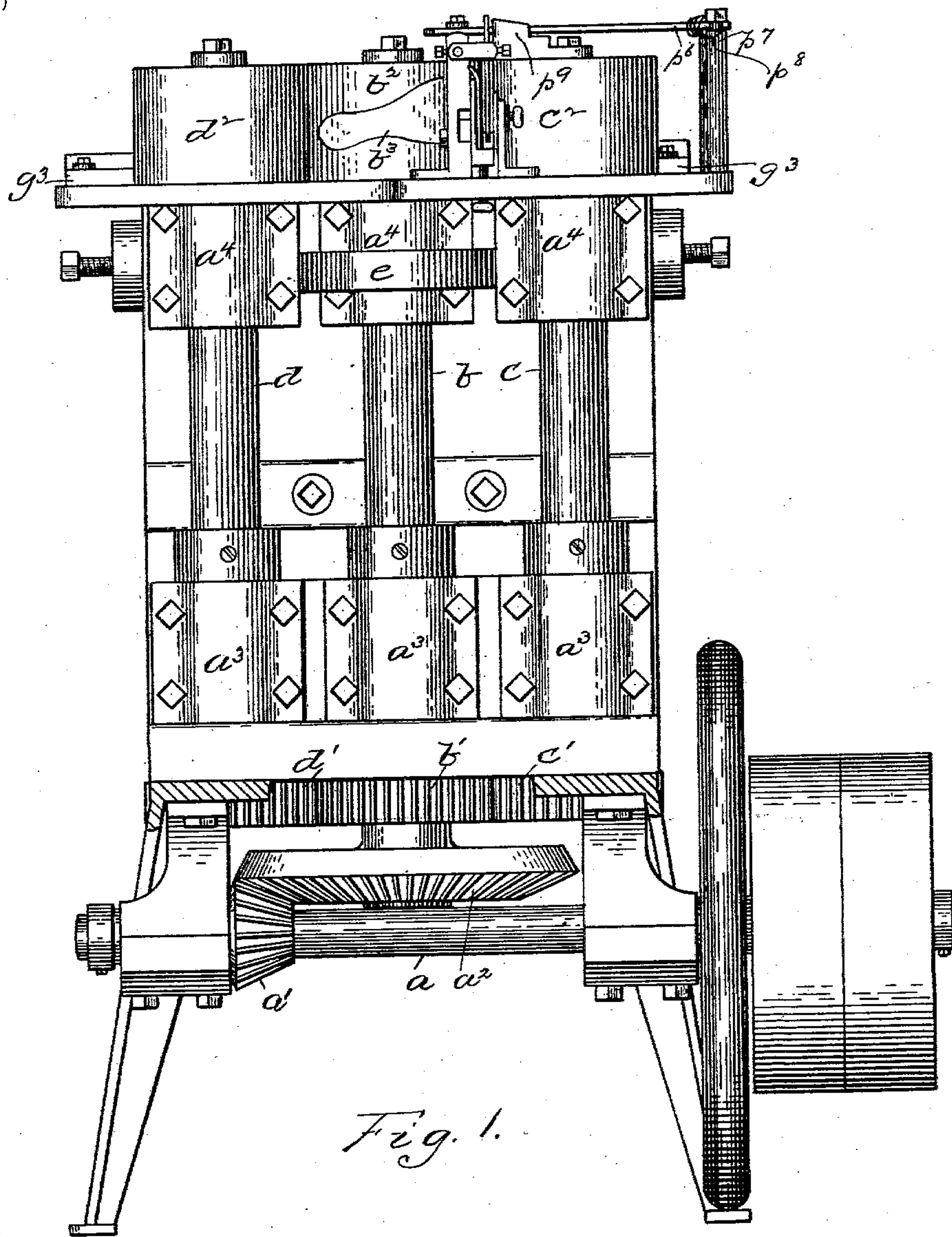
Patented Aug. 1, 1899.

W. F. O'BRIEN & D. S. KEITH.
MOLDING MACHINE FOR SHANK STIFFENERS.

(Application filed Oct. 31, 1898.)

(No Model.)

2 Sheets—Sheet 1.



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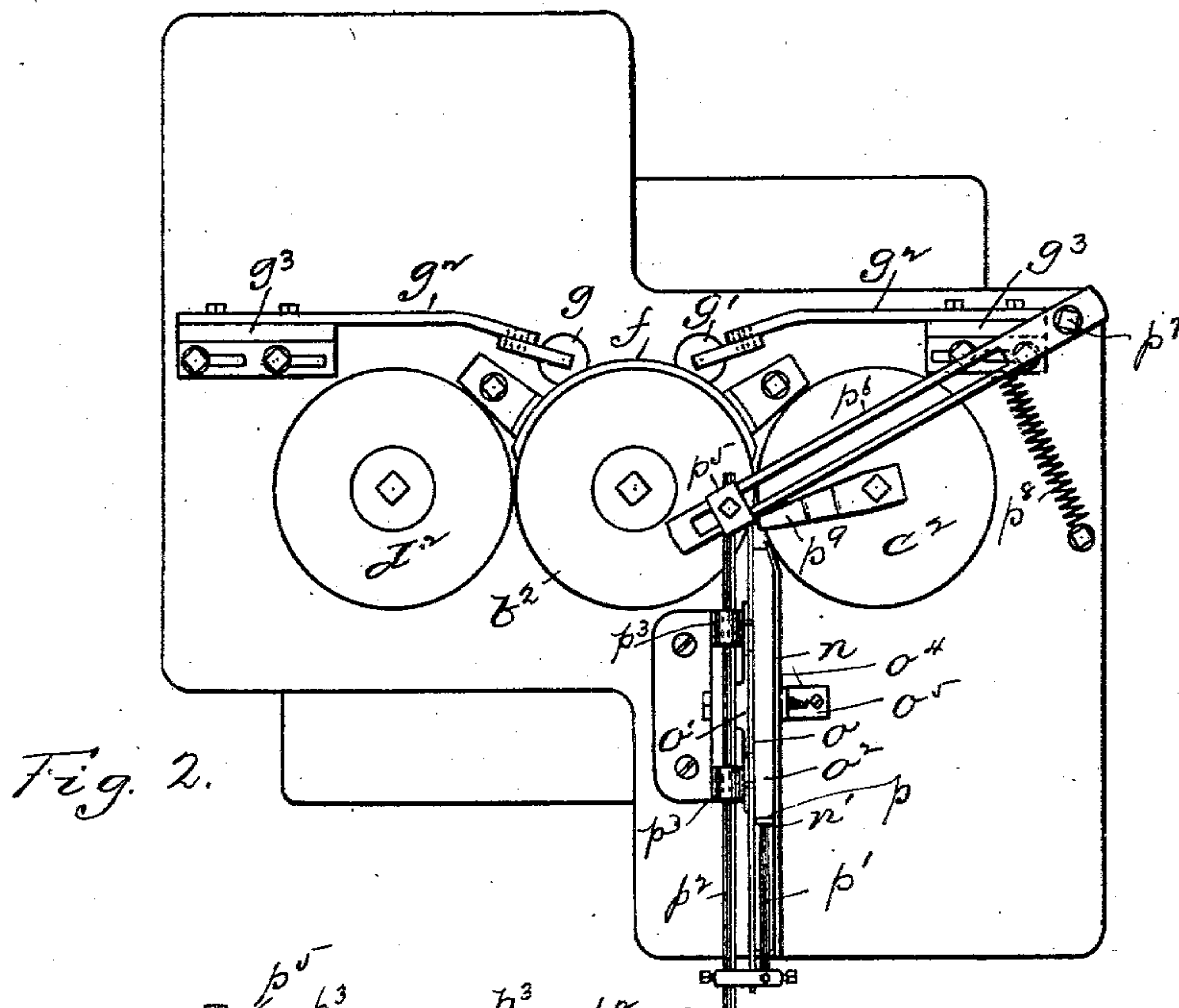


Fig. 2.

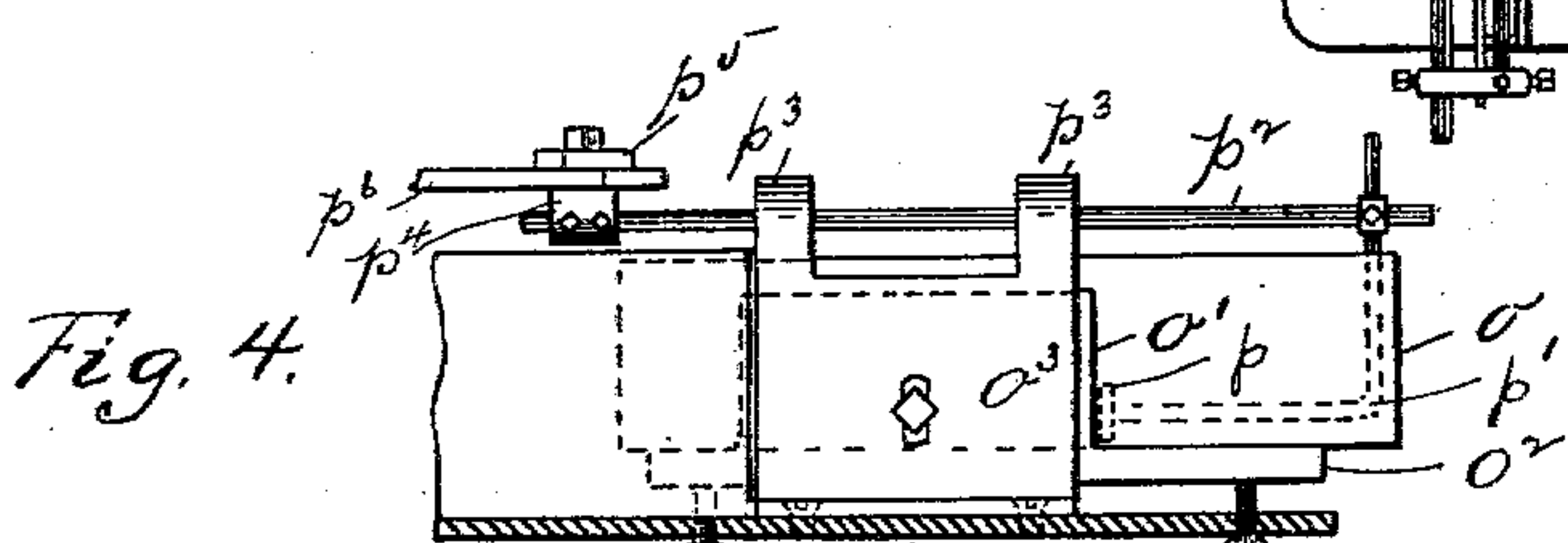


Fig. 4.

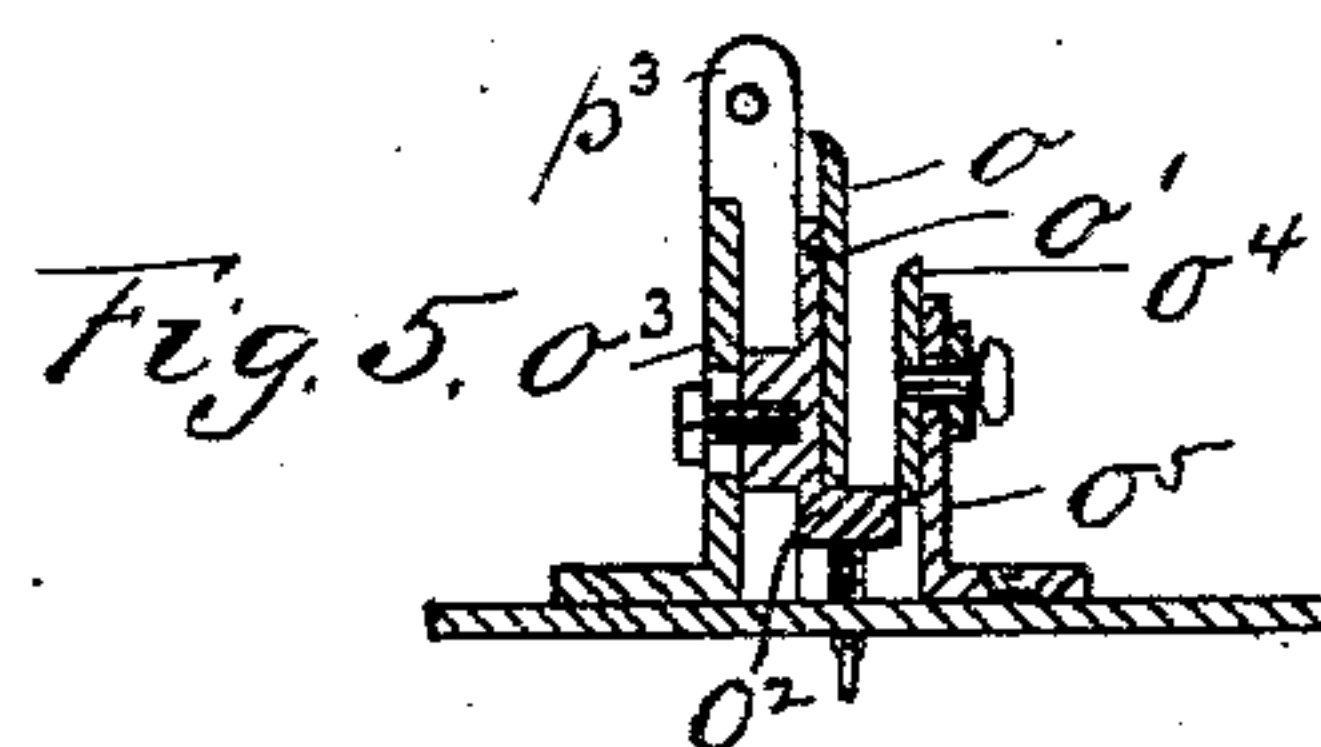


Fig. 5.

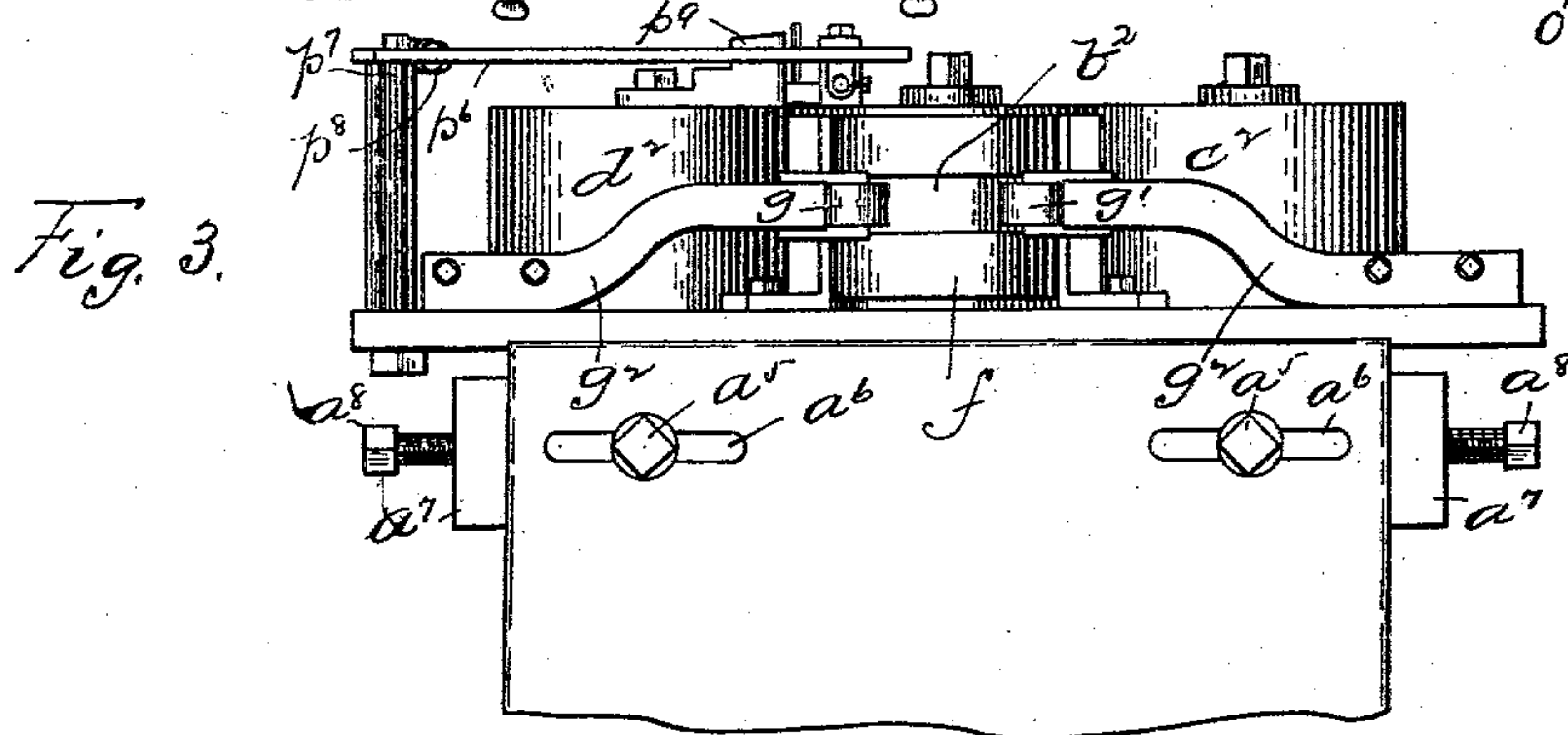


Fig. 3.

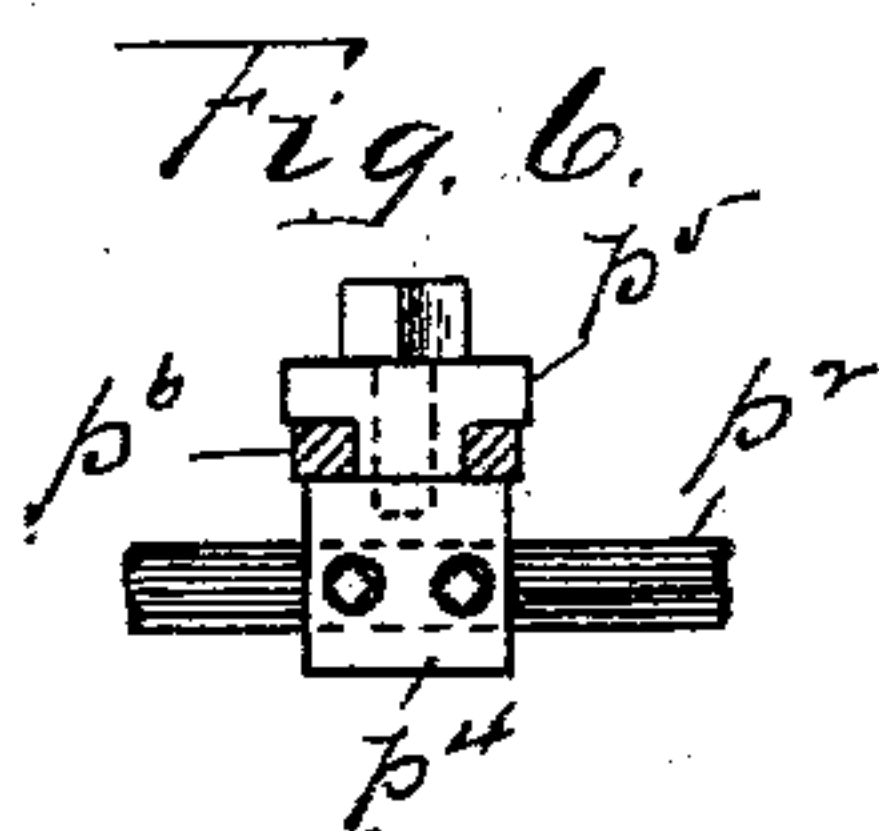


Fig. 6.

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UNITED STATES PATENT OFFICE.

WILLIAM F. O'BRIEN AND DARIUS S. KEITH, OF WHITMAN, MASSACHUSETTS.

MOLDING-MACHINE FOR SHANK-STIFFENERS.

SPECIFICATION forming part of Letters Patent No. 629,809, dated August 1, 1899.

Application filed October 31, 1898. Serial No. 695,051. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM F. O'BRIEN and DARIUS S. KEITH, of Whitman, county of Plymouth, and State of Massachusetts, have
5 invented an Improvement in Molding-Machines for Shank-Stiffeners, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like
10 parts.

This invention has for its object to improve and simplify the construction of a machine for molding shank-stiffeners which are used in the construction of boots and shoes; and
15 the invention consists in the combination of a roll recessed to receive the shanks, two presser-rolls located at opposite sides of said shank-receiving roll and adapted to be operated successively upon the shank to thereby
20 twice compress it, and a guide or guides interposed between said presser-rolls to assist the shank in retaining its position on the shank-receiving roll and in passing from one presser-roll to the other.

Figure 1 shows in front side elevation a machine for molding shank-stiffeners embodying
25 this invention; Fig. 2, a plan view of the machine shown in Fig. 1; Fig. 3, a rear side elevation of the head of the machine, showing particularly the rolls; Figs. 4, 5, and 6, details
30 of the feeding device.

The main shaft *a*, having its bearings in the framework, has fixed to it a beveled gear *a'*, which engages a beveled gear *a''*, secured
35 to an upright shaft *b*, and said shaft *b* has fixed to it a toothed gear *b'*, which engages two toothed gears *c'* *d'*, secured, respectively, to upright shafts *c* and *d*, set substantially in parallelism to the shaft *b*. The shafts *b*, *c*,
40 and *d* respectively turn in the lower bearings *a''*, secured to the framework, and in upper bearings *a''*, also secured to the framework, although said upper bearings are preferably made adjustable—that is to say, the upper
45 bearing of the shaft *b* may be rigidly secured to the upright frame and the upper bearings of the shafts *c* and *d* may be made adjustable toward and from the bearing of the shaft *b*, so that the shafts *c* and *d* may be adjusted, if
50 necessary, toward and from the shaft *b*. As a

simple way of adjusting said upper bearings they may be made as boxes, each having at its rear side a bolt *a''*, (see Fig. 3,) which passes through a slot *a''* in the framework, and an ear *a''* may be cast on the upright frame, through
55 which an adjusting-screw *a''* passes, which bears upon or against said box.

A strong spring *e* is placed about the upper bearing-box *a''* for the shaft *b*, which bears at
60 its ends upon or against the upper bearing-boxes *a''* on the shafts *c* and *d*, so as to hold said bearing-boxes firmly against their adjusting-screws *a''*.

A roll *b''* is secured to the upper end of the shaft *b*, it having its cylindrical face recessed
65 to present shank-receiving openings *b''*.

A roll *c''* is secured to the upper end of the shaft *c*, which is formed with a plane cylindrical face and bears against or upon the said
70 shank-receiving roll *b''*. A roll *d''* is secured to the upper end of the shaft *d*, which, like the roll *c''*, is formed with a plane cylindrical face and is adapted to also bear against the shank-receiving roll *b''*. The three rolls *b''*,
75 *c''*, and *d''* will be arranged in line, the shank-receiving roll *b''* being located between the rolls *c''* and *d''*, which latter serve as presser-rolls.

A curved guide *f* is secured to the table or bed-plate of the machine, which is set quite
80 close to the shank-receiving roll *b''*, and said guide *f* is made to embrace that portion of said roll between the two presser-rolls *c''* *d''*, so that a shank which has passed between the rolls *b''* and *c''* will be guided or directed in
85 such manner so as to thereafter pass between the rolls *b''* and *d''*, being thus twice acted upon and compressed.

The curved guide *f* has an opening through it to expose the shank-receiving roll *b''*, and
90 said opening is located substantially midway its height, and through said opening one or more small rolls may pass into engagement with the shank-receiving roll, bearing thereon with a yielding pressure. Two such rolls
95 are herein shown at *g'*, which are attached to or borne by arms *g''*, secured to upright supports or stands *g''*, erected on the table and held in place thereon preferably adjustably. These rolls *g'* assist in guiding and also in
100

pressing the shank-stiffeners and tend to keep the shanks in engagement with the shank-receiving roll.

The feeding device consists, essentially, of
5 a shank-receiver n , a plunger n' working in it, and an actuator for said plunger, and said feeding device is located at the front part of the machine and so as to feed the shanks into the bight of the rolls $b^2 c^2$.

10 The shank-receiver consists of a long narrow plate o , (see Figs. 2, 4, and 5,) attached to a plate o' , which is formed with a ledge or shoulder o^2 at the bottom, and said plate o' is adjustably secured to a stand o^3 , which is
15 erected upon the table. The plate o forms one side wall of the shank-receiver and the ledge or shoulder o^2 the bottom thereof. Another plate o^4 , which forms the other side wall of said shank-receiver, is attached to a stand
20 o^5 , which is erected on the table.

The plunger, which works in the shank-receiver, consists of a small plate p , of suitable size and shape to fit yet work freely in the shank-receiver, and a rod p' , to the forward
25 end of which it is attached, and said rod is bent, as shown by dotted lines, Fig. 4, and is adjustably secured to a rod p^2 , having its bearings in ears p^3 , formed or provided at the upper end of the stand o^3 , said rod p^2 being thereby free to slide horizontally and to
30 consequently move the plunger in and out in a corresponding direction. The rod p^2 has secured to its rear end a block p^4 , (see Fig. 6,) upon which is mounted a T-shaped block
35 p^5 , adapted to work in a slot formed in an arm or lever p^6 , pivoted at p^7 to the table, so that as said arm is vibrated the rod p^2 will be moved horizontally back and forth to move the plunger. The arm p^6 has attached to it
40 a spring p^8 , by which it is drawn forward and held in continuous engagement with a cam or projection p^9 , secured to the top of one of the rolls—as, for instance, to the top of the roll c^2 —and as said roll c^2 revolves said arm
45 p^6 will be vibrated. The cam p^9 is adjusted on the roll c^2 so as to operate the arm or lever p^6 to move the plunger at the proper time to present one of the shanks to the bight of

the rolls $b^2 c^2$ just as the recess in said roll b^2 arrives in proper position to receive the
50 shank which is thus fed forward.

We claim—

1. In a machine for molding shank-stiffeners, a revolving roll recessed to receive the shanks and two presser-rolls cooperating
55 therewith located one at each side of the shank-receiving roll, and means for carrying the shank from one presser-roll to the other, substantially as described.

2. In a machine for molding shank-stiffeners, a revolving roll recessed to receive the shanks and two presser-rolls cooperating
60 therewith, located one at each side of the shank-receiving roll, and a guide opposite said shank-receiving roll for directing the
65 shanks from the first to the second presser-roll, substantially as described.

3. In a machine for molding shank-stiffeners, a revolving roll recessed to receive the shanks and two presser-rolls cooperating
70 therewith, located one at each side of the shank-receiving roll and a guide opposite said shank-receiving roll for directing the shanks from the first to the second presser-roll and one or more rolls bearing upon said
75 shank-receiving roll between the first and second presser-rolls, substantially as described.

4. In a machine for molding shank-stiffeners, a revolving roll recessed to receive the shanks and two presser-rolls cooperating
80 therewith located one at each side of the shank-receiving roll, a guide opposite said shank-receiving roll for directing the shanks from the first to the second presser-roll and a feeding device constructed and arranged to
85 feed the shanks into the bight of the shank-receiving roll and first presser-roll at predetermined times, substantially as described.

In testimony whereof we have signed our names to this specification in the presence of
90 two subscribing witnesses.

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DARIUS S. KEITH.

Witnesses:

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