

(No Model.)

J. H. CHAMBERS.
DEVICE FOR SECURING TEMPERING KNIVES IN THE PUGGING SHAFTS
OF BRICK MACHINES.

No. 356,571.

Patented Jan. 25, 1887.

Fig. 1.

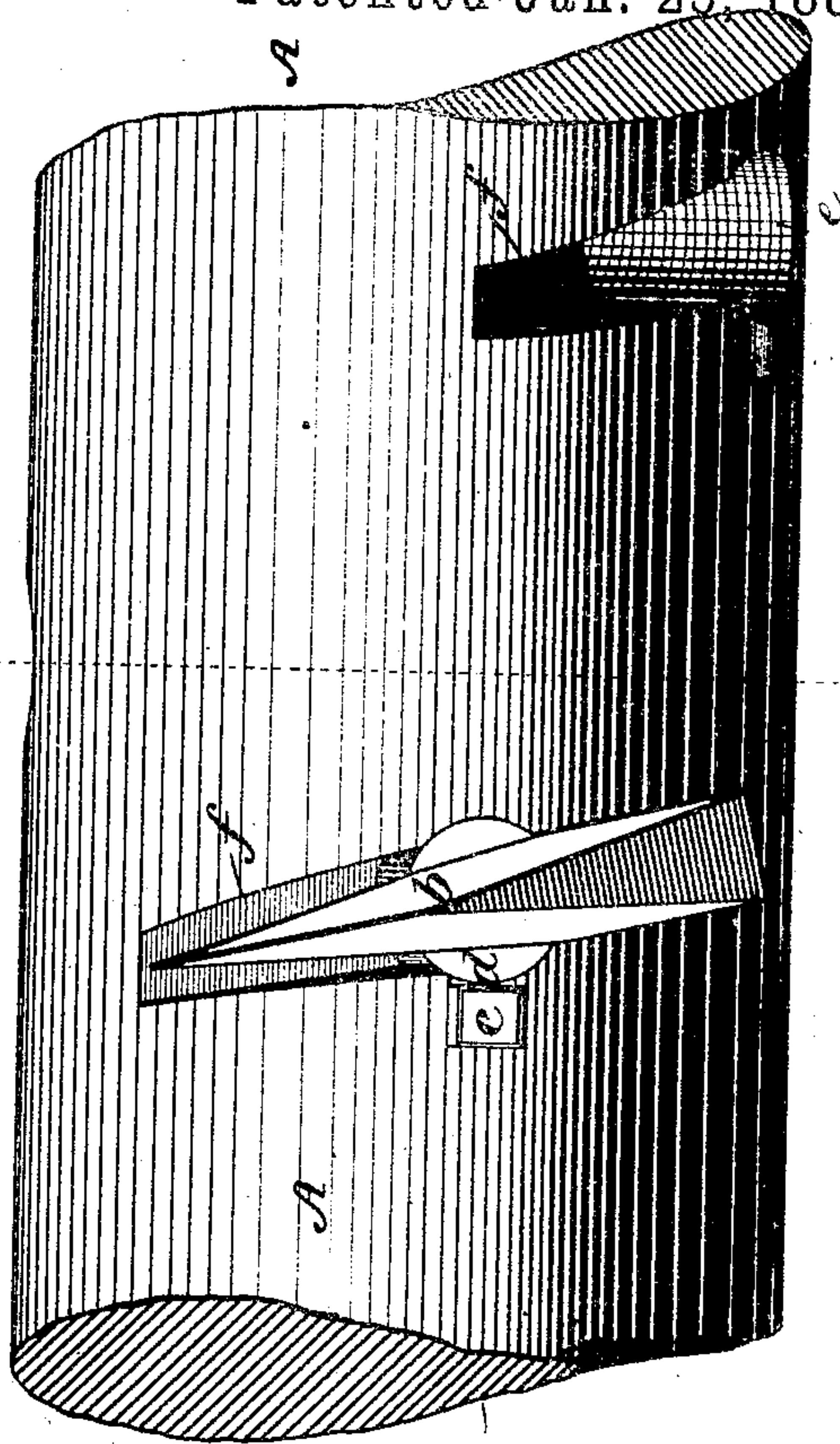
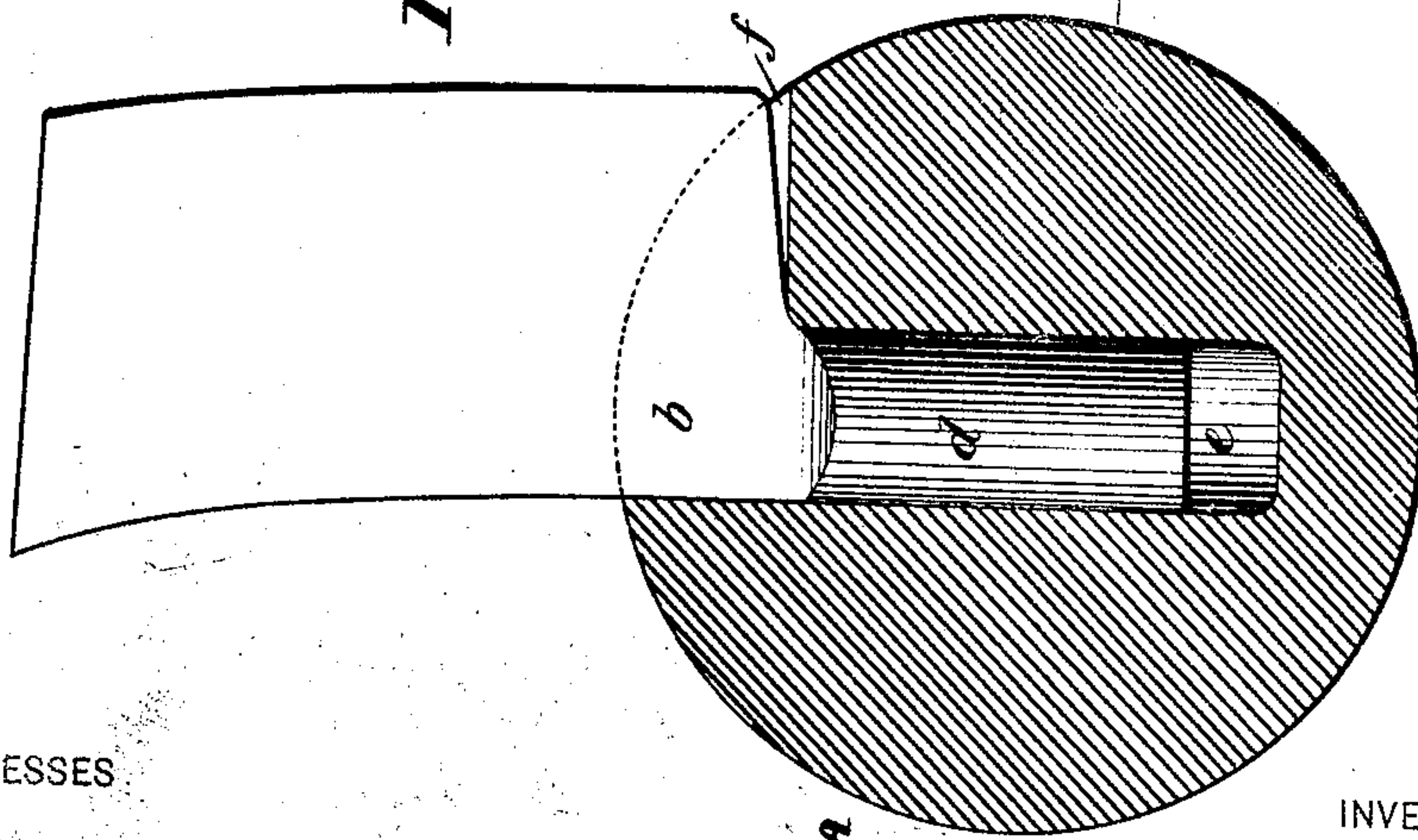


Fig. 2.



WITNESSES

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UNITED STATES PATENT OFFICE.

J. HOWARD CHAMBERS, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO
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DEVICE FOR SECURING TEMPERING-KNIVES IN THE PUGGING-SHAFTS OF BRICK-MACHINES.

SPECIFICATION forming part of Letters Patent No. 356,571, dated January 25, 1887.

Application filed June 18, 1886. Serial No. 295,540. (No model.)

To all whom it may concern:

Be it known that I, J. HOWARD CHAMBERS, a citizen of the United States, residing at the city and county of Philadelphia, and State of Pennsylvania, have invented new and useful Improvements in Devices for Securing Tempering-Knives in the Pugging-Shafts of Brick-Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, of which—

Figure 1 is a side elevation of part of a pugging-shaft of a brick-machine in which my invention is embodied. Fig. 2 is a transverse section of said shaft on a line passing through one of the knives.

This invention relates to that class of brick-machines wherein the clay is tempered in a case and forced out therefrom through a suitable die by the aid of knives set at an angle upon a shaft contained within said case—such, for example, as in the well-known "Chambers brick-machines," as described in Cyrus Chambers, Jr.'s Letters Patent No. 275,467, dated April 10, 1883, and previous patents granted to him, and is an improvement in certain respects upon the device shown in the Letters Patent of said Cyrus Chambers, Jr., No. 297,675, dated April 29, 1884.

The invention consists in recessing the shaft for the reception of the blade portion of the knife adjacent to the shank, whereby the inner corner or edge of the blade is permitted to be brought to or below the surface of the shaft.

It also consists in making such recess for the reception of the lower part of the blade of the knife of a width and angle with the shaft, so that the sides of the recess constitute a limit to the maximum and minimum set that may be given to the knife.

It consists, further, in setting the body of the knife below the periphery of the shaft, so that the knife will be supported above its shank by the body of the shaft.

I will now proceed to describe the improved construction and the advantages derived therefrom, reference being had to the annexed drawings, in which—

A is the pugging-shaft, to which the tempering-knives *b* are secured by means of keys *c* impinging against the side of the shanks *d*, which latter are inserted in holes or sockets *e*.

In the shaft shown in the aforesaid Letters Patent of Cyrus Chambers, Jr., No. 297,675, the shanks of the tempering-knives are entered into corresponding holes in the shaft, and there held at the proper angle or set by keys, and the backs of the blades adjacent to the shaft are sustained by lugs projecting above the surface of the shaft, which lugs are so formed as to present as little obstruction as possible to the movement of the clay. The defects found to exist in that construction, which it is the object of my invention to obviate, are, that the aforesaid lugs or projections necessary to support the blade presented a very considerable frictional surface to the clay, the knives were apt to turn around too far broadside under the excessive strain and thus become broken, and the ends of the blades near the shaft projecting therefrom served to form a lodgment for the roots and stones in the clay, between the lower corner of the blade and the shaft. I do away with the said lugs and provide the shaft with recesses *f* in front of the blade-shank holes *e*, said recesses being of a depth to receive the lower end of the blade up to about the corner thereof, as seen in Fig. 2, and of an angle and width (see Fig. 1) that, while permitting the usual maximum and minimum scope of "setting" or pitch of the blades, present a lateral stop for the blade of the knife that will prevent the latter from being turned so far around under the stress of advancing the clay as to be liable to break.

It will be obvious that by this construction, first, the knives are supported above their shanks, (their weakest point,) and thus they are not so liable to be broken; second, the corners of the blades do not project, whereby roots, &c., cannot lodge between them and the shaft; third, the shaft presents a smooth unbroken surface, and thus there is less friction, and consequently less power is required to drive the same than heretofore, as the clay can slide upon the shaft much more freely than in any construction previously in use with which I am acquainted; fourth, the blades cannot be set by an ignorant or unskilled person at too great or too little pitch, but only between certain fixed limits.

Having thus described my invention, I claim as new and wish to secure by Letters Patent—

1. The improvement in pugging-shafts for brick-machines of the class recited, which consists in providing the same with recesses adjacent to the usual knife-shank holes adapted to receive a part of the blades of the tempering-knives, substantially as and for the purpose set forth.
2. The improvement in pugging-shafts for brick-machines of the class recited, which consists in providing the same with recesses adjacent to the knife-shank holes adapted to receive a part of the blades of the tempering-knives, said recesses being of such width, as described, so that their sides form a stop or limit for the maximum and minimum sets to

be given to the blades, substantially as and for the purpose specified.

3. In combination with the pugging-shaft, the knives having their shanks and the lower part of their blades set below the periphery of the shaft, whereby the knives are supported or re-enforced above their shanks by the shaft, substantially as and for the purpose specified.

In testimony whereof I have hereunto affixed my signature this 24th day of May, A. D. 1886.

J. HOWARD CHAMBERS.

Witnesses:

JAMES R. MAGUIRE,
HOWARD K. KING.