

A. KOSSEL.
 ANVIL FOR STEAM HAMMERS.
 APPLICATION FILED MAY 22, 1908.

945,786.

Patented Jan. 11, 1910.
 2 SHEETS—SHEET 1.

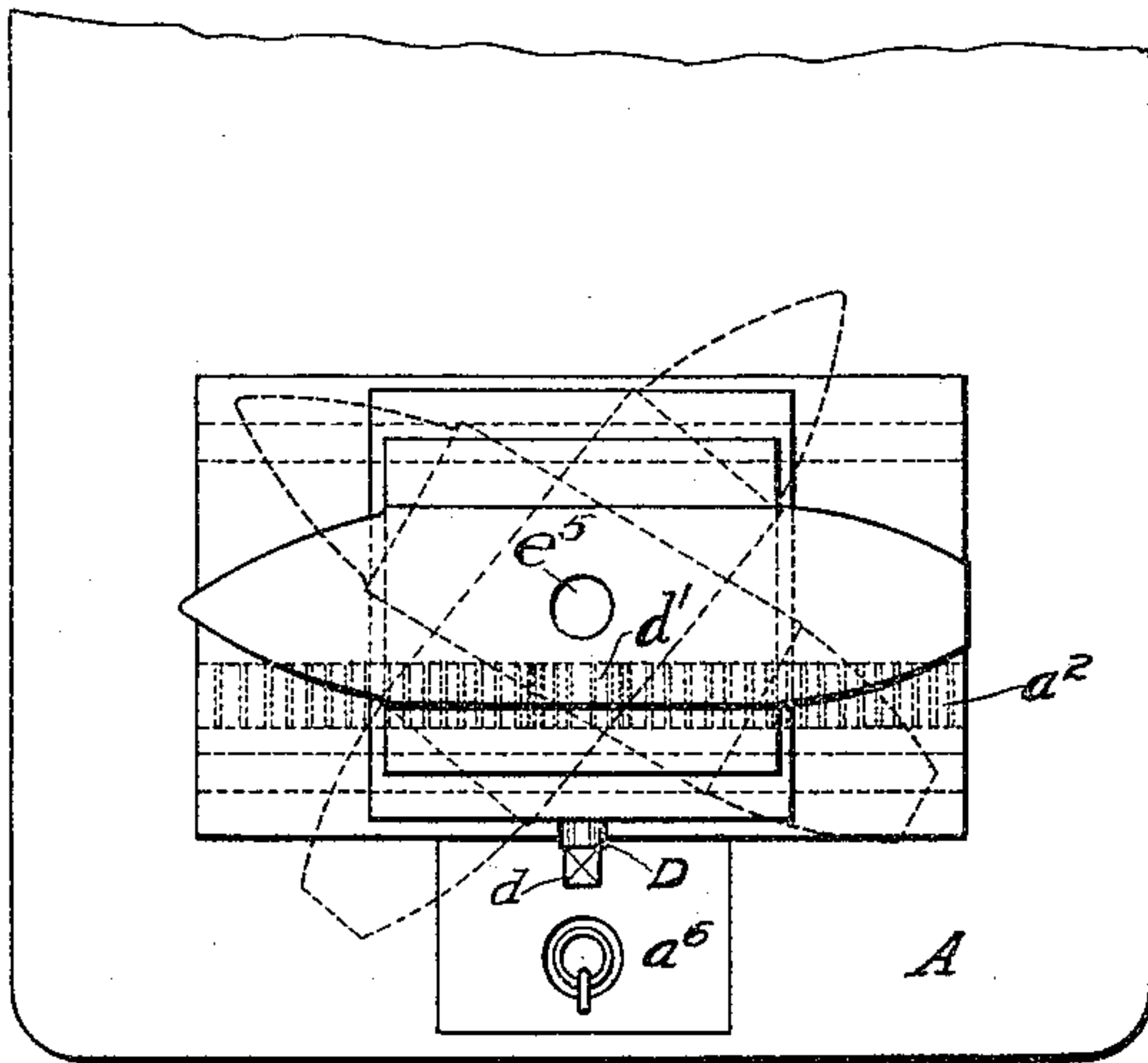


Fig 3.

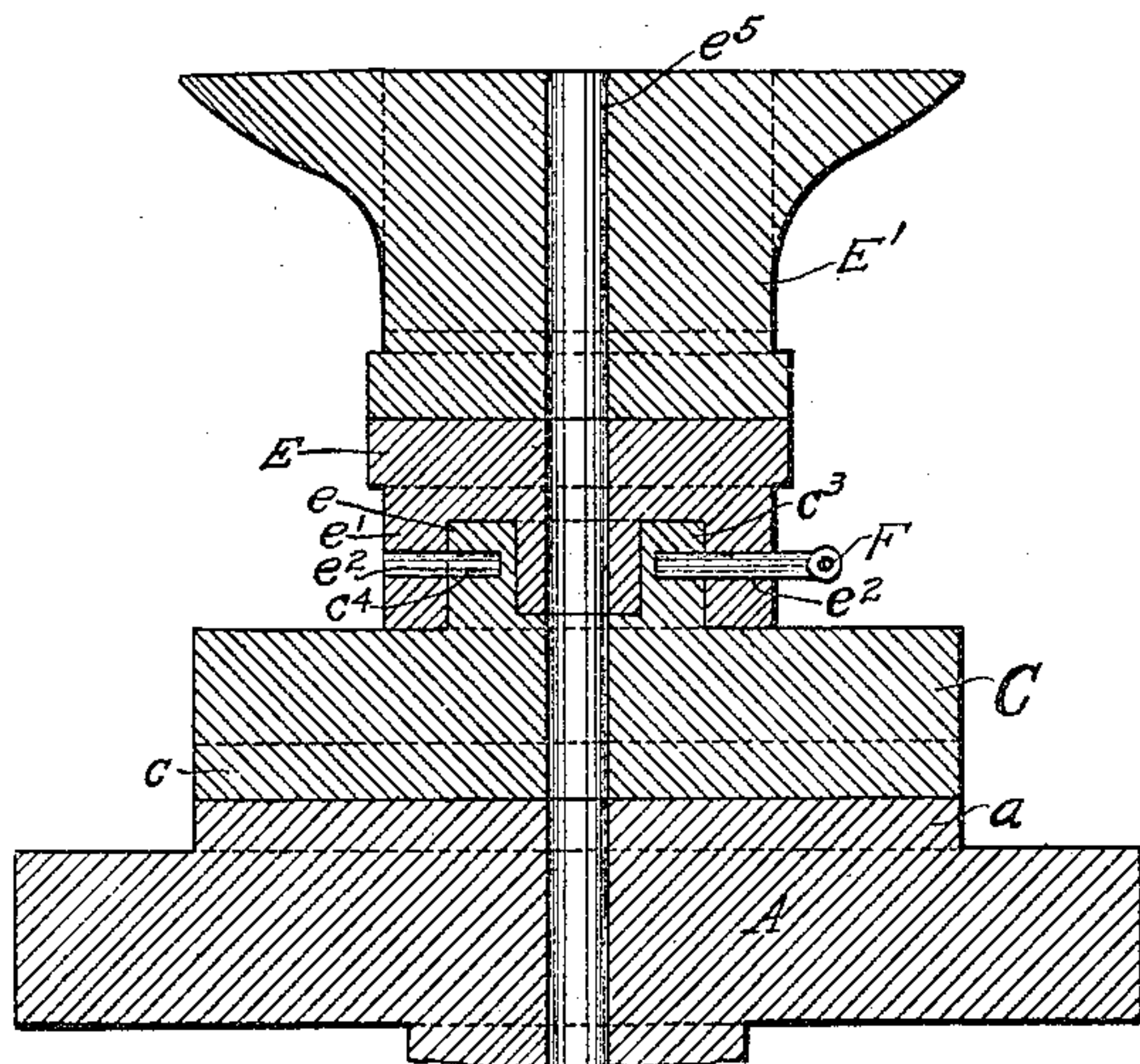


Fig 2.

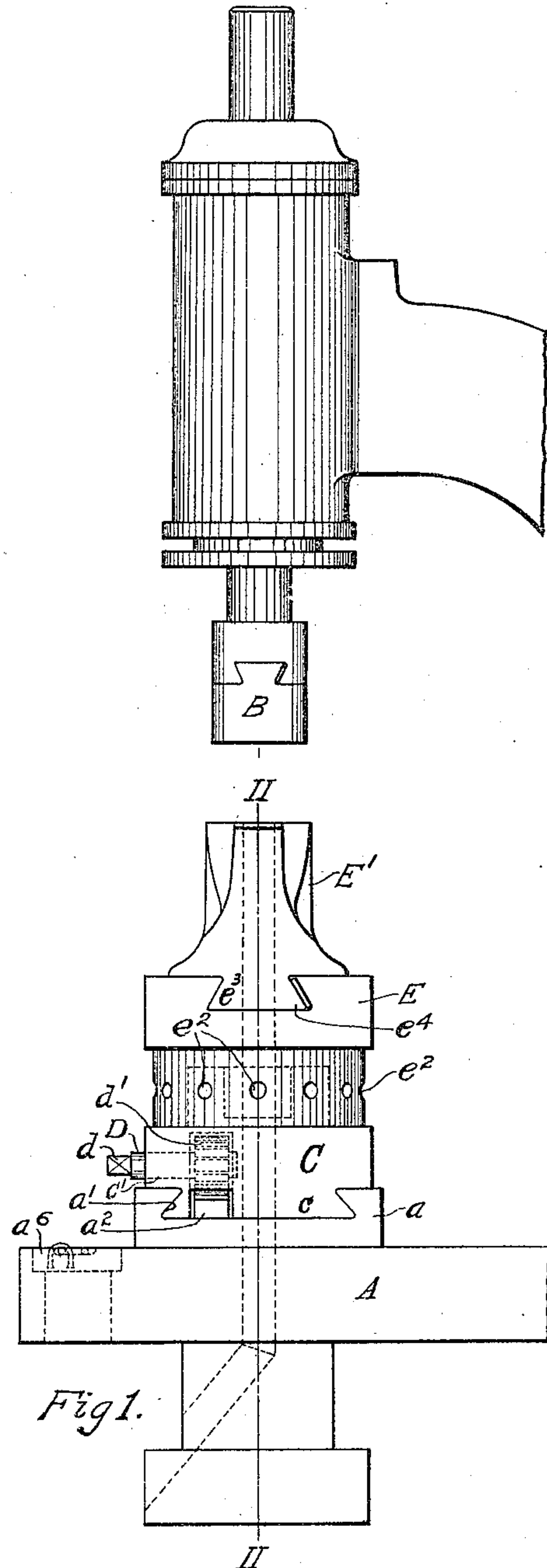


Fig 1.

Witnesses.
 Jennie E. Gary.
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Inventor:
 Andrew Kossel
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2 SHEETS—SHEET 2.

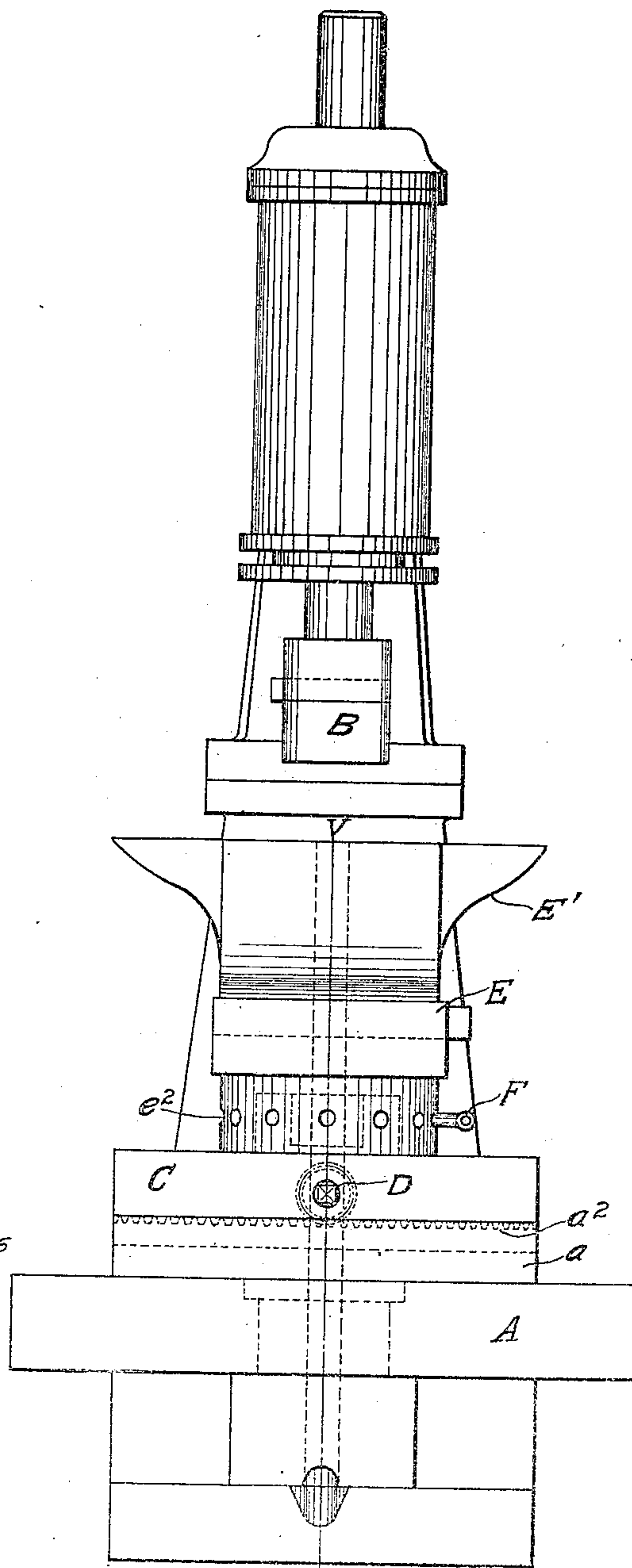


Fig 5.

Fig 4.

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UNITED STATES PATENT OFFICE.

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ANVIL FOR STEAM-HAMMERS.

945,786.

Specification of Letters Patent.

Patented Jan. 11, 1910.

Application filed May 22, 1908. Serial No. 434,301.

To all whom it may concern:

Be it known that I, ANDREW KOSSEL, a citizen of the United States, resident of Collinwood, county of Cuyahoga, and State of Ohio, have invented a new and useful Improvement in Anvils for Steam-Hammers, of which the following is a specification, the principle of the invention being herein explained and the best mode in which I have contemplated applying that principle, so as to distinguish it from other inventions.

My invention relates to anvils used in connection with the working of metals and particularly to anvils which are used in connection with a hammer such as a steam or trip hammer which has a fixed sphere of operation.

The object of said invention is to amplify such sphere of operation and to facilitate the operation to be performed by the hammer and anvil together.

The invention consists of means hereinafter fully described and particularly set forth in the claim.

The annexed drawings and the following description set forth in detail, certain mechanism embodying the invention, the disclosed means constituting but one of various mechanical forms in which the principle of the invention may be applied.

In said annexed drawings:—Figure 1 is a side elevation of an anvil and its base, embodying my invention, together with a side elevation of a portion of a steam hammer. Fig. 2 is a vertical section taken upon the plane indicated by line II—II in Fig. 1. Fig. 3 is a plan of the anvil and its base. Fig. 4 is a front elevation of the anvil, base and a steam hammer. Fig. 5 is a vertical section taken upon the plane indicated by line V—V in Fig. 4.

Referring to the drawings, A is a base shown made of cast iron, which may also form the base of the frame of the steam hammer, as will be readily understood. Vertically beneath the head B of the hammer and formed integrally with said base is a rectangular upwardly projecting portion a which is formed with a dove-tailed horizontal groove a' , Figs. 1 and 5, which extends in a direction transverse with respect to the hammer, when viewed from the front, as is shown. The member C is formed with a dove-tailed tongue c which fits in the groove a' and is slidable therein.

Mounted in the central portion of the member C is a shaft D having an outer squared end d . This shaft intersects a recess c' formed in the member C and mounted upon such shaft in said recess is a pinion d' which engages a rack a^2 fixed to the projection a , as shown in Fig. 5. The member C is formed with a longitudinal groove c^2 which receives the said rack a^2 . It will therefore be seen that by means of a wrench or suitable lever applied to the squared head d of the shaft D the member C may be slid horizontally to assume various positions with relation to the hammer head B.

Upon the middle of the upper surface of the member C is formed an annular pilot c^3 which forms a journal for the lower part of the anvil E, the latter being provided with an annular centrally located groove e for such purpose. The outer flange e' of the lower part of the anvil is provided with a plurality of circumferentially and horizontally placed radial apertures e^2 , Figs. 1, 2 and 4. In the same horizontal plane with these apertures are a plurality of apertures c^4 formed in the pilot c^3 of the slidable member C. These apertures are of a diameter equal to the diameter of the apertures e^2 , are radially and horizontally disposed, and are therefore capable of registering with said apertures e^2 . A pin F, Figs. 1 and 2, may be inserted in any one of the apertures e^2 and caused to engage any one of the apertures c^4 . The anvil may be fixed in various positions relatively to its axis of rotation and may hence be caused to assume various angular positions with reference to the hammer head B.

The anvil head E' is formed with a dove-tailed tongue e^3 which engages a corresponding groove e^4 in the upper portion of the anvil, as shown in Fig. 5. The tongue is made somewhat narrower than the groove so that a wedge or spline may be driven between same to fix the head to the upper portion of the anvil. By removing such spline or wedge, the head may be removed and a different one substituted therefor if desired, as will be readily understood. The anvil is furthermore formed with a vertical passage e^5 which registers with a similar vertical passage c^5 formed in the slidable member C. Located in the same vertical plane which passes through the axis of passage e^5 and is parallel with the direction of movement of

the slidable member C is a vertical passage a^3 whose lower end inclines laterally and discharges into an opening f formed beneath the base A, the latter being formed with a downwardly extending portion a^4 for providing for such laterally extending part of such passage. The passage a^3 is located preferably in the middle of the base A, inasmuch as the anvil for the most part is used in its central position as shown in Fig. 4. The passages a^3 and c^5 register therefore during the greater part of the time the anvil is in use. Should it however be necessary to change the position of the anvil so that these passages will not register, it will be understood that particles dropping into the passage c^5 would be arrested temporarily but on the anvil being returned to its position, these particles will be discharged into the passage a^3 . The base A is set in the earth or other suitable foundation in which proper provision is made for the opening f .

The passage c^5 is provided for the purpose of receiving a projecting portion of certain classes of work which it may be desired to operate upon. By providing its downward extension and registration with the other passages above described and by providing the opening f , scale, dirt and other waste material may be discharged into said opening and therefore not fill up and obstruct the passageway. An opening a^5 , Fig. 5, is provided in the base A which is covered by a removable plate a^6 . This opening is formed immediately above the opening f and through it, upon removing the cover a^6 , the dirt or

scale discharged through the vertical passages may be removed.

By means of the above described construction, it will be seen that the anvil may be slid horizontally to assume various positions beneath the head of the hammer and fixed in such positions. The pinion d' and shaft D act as a locking means for same, and as previously stated, the anvil may be readily rotated upon a vertical axis to assume various angular positions with reference to said hammer. Such construction facilities to a great degree the operations which it is necessary to perform in working various kinds and shapes of metal upon the anvil by means of the hammer, permitting the latter to operate vertically above various portions of the upper surface of the anvil and with various angular relations thereto.

I, therefore, distinctly claim and desire to secure by Letters Patent:—

In a device of the character described, the combination of a stationary base; a horizontally slidable member mounted upon said base; an anvil mounted upon said member so as to be rotatable in a horizontal plane; and means for fixing said anvil in innumerable definite positions relative to its axis of rotation; said base, slidable member and anvil being formed with upright passages capable of registration.

Signed by me, this 11th day of May, 1908.

ANDREW KOSSEL.

Attested by—

A. E. MERKEL,
WINIFRED WALTZ.