(No Model.) 3 Sheets—Sheet 1.

J. H. BURNETT.

MACHINE FOR CUTTING OVAL GASKETS.

No. 287,503. Patented Oct. 30, 1883.

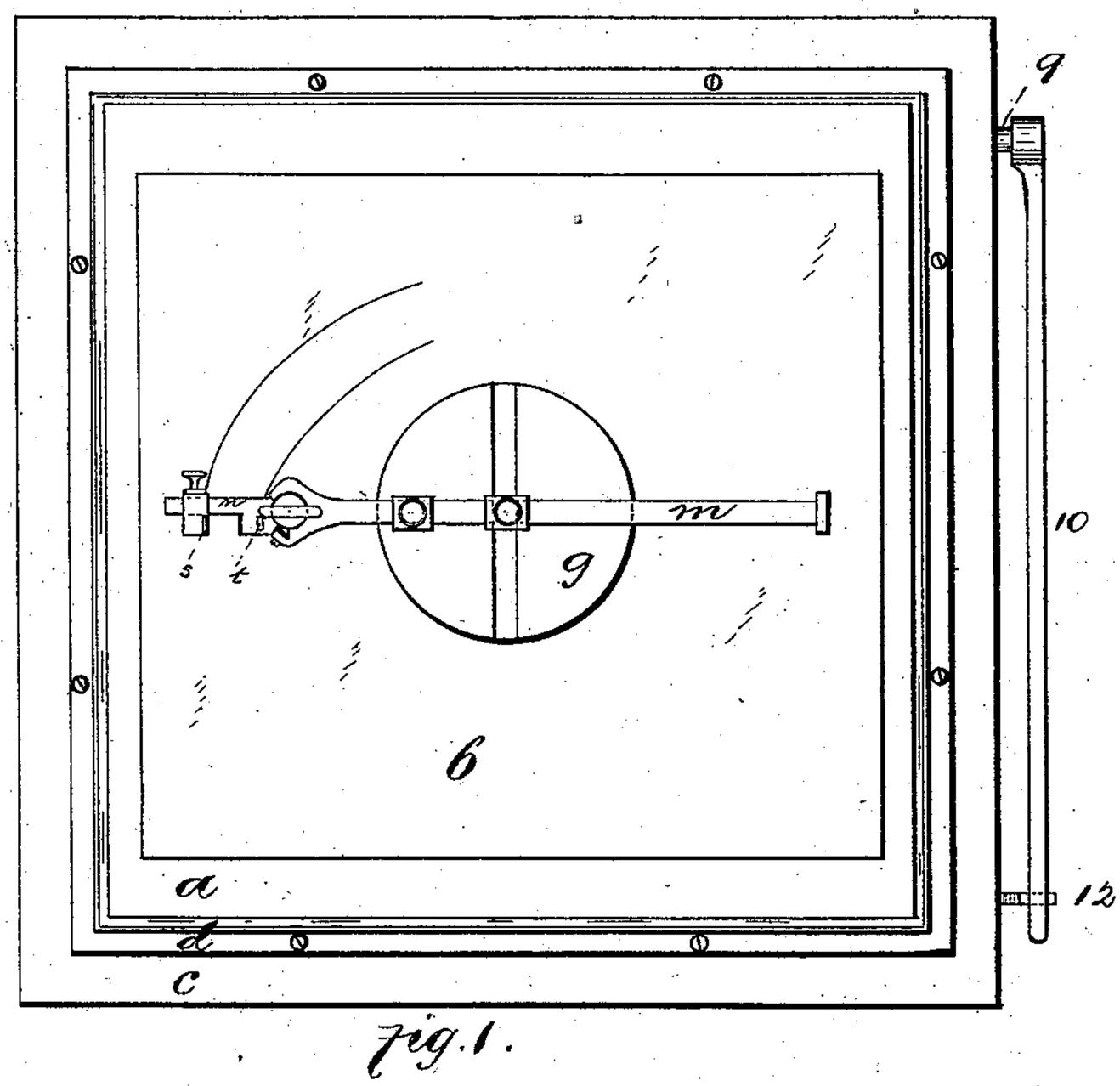

Fig. 1.

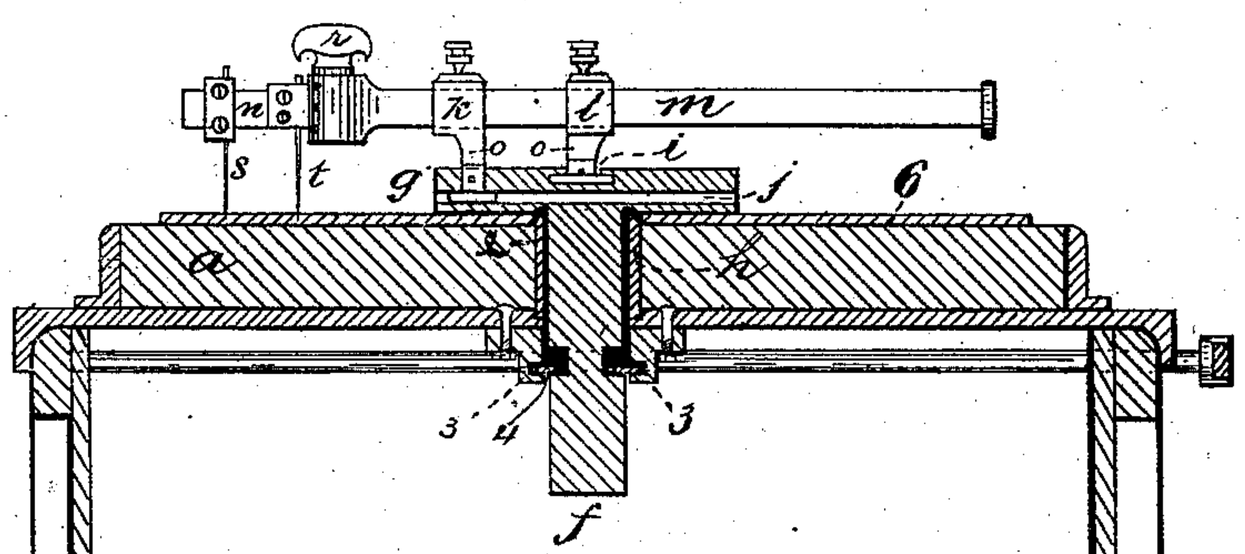

Fig. 2.

Attest:
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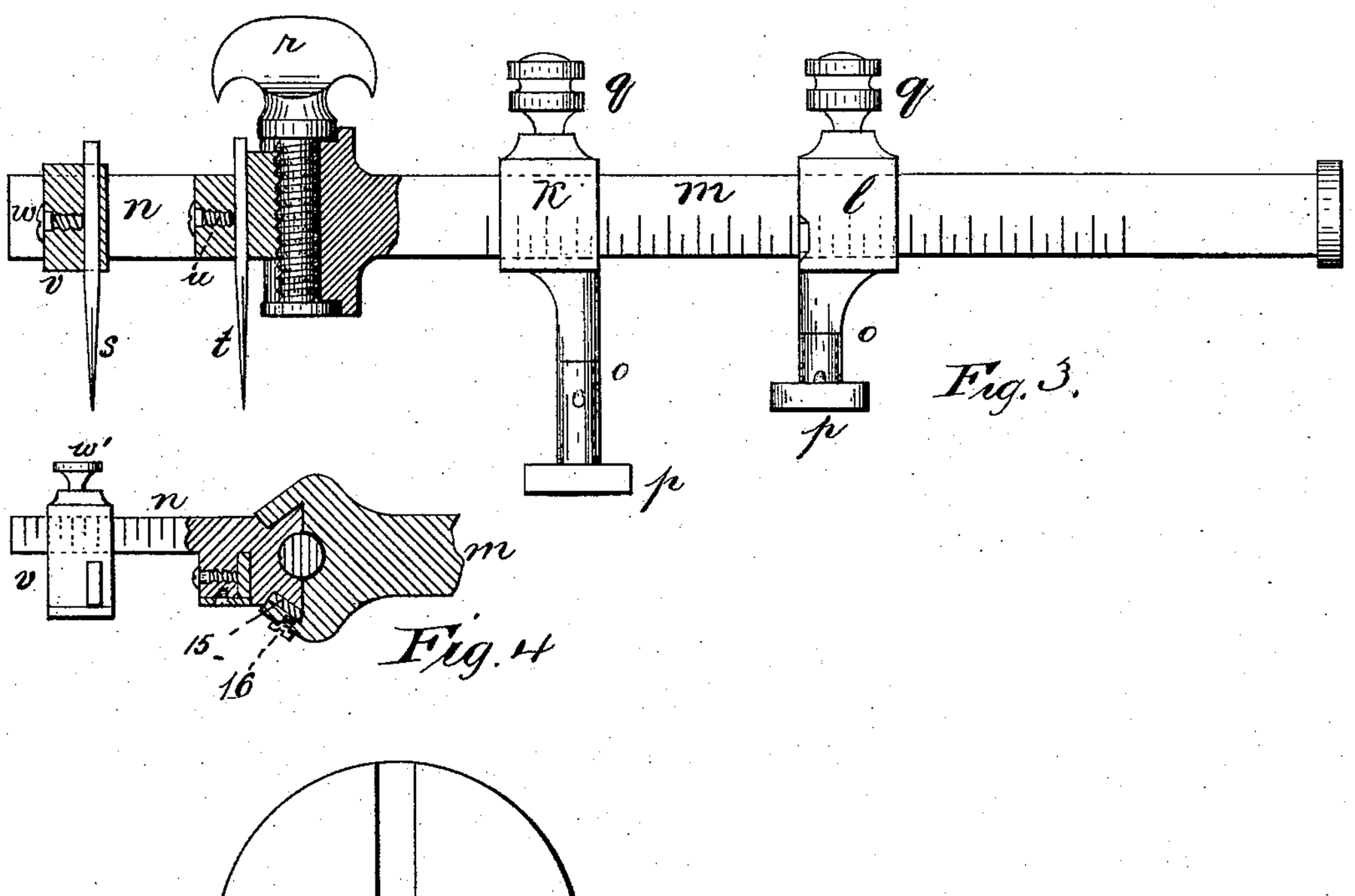

Fig. 3.

Fig. 4

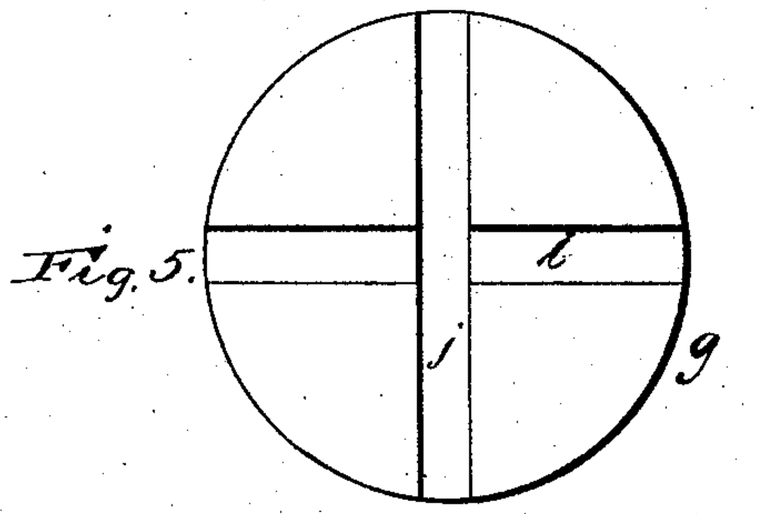

Fig. 5.

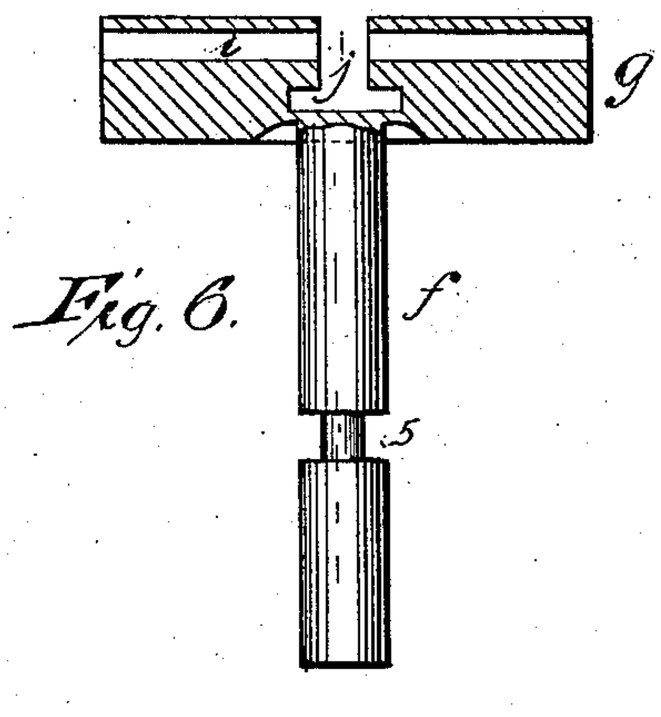

Fig. 6.

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(No Model.) 3 Sheets—Sheet 3.

J. H. BURNETT.

MACHINE FOR CUTTING OVAL GASKETS.

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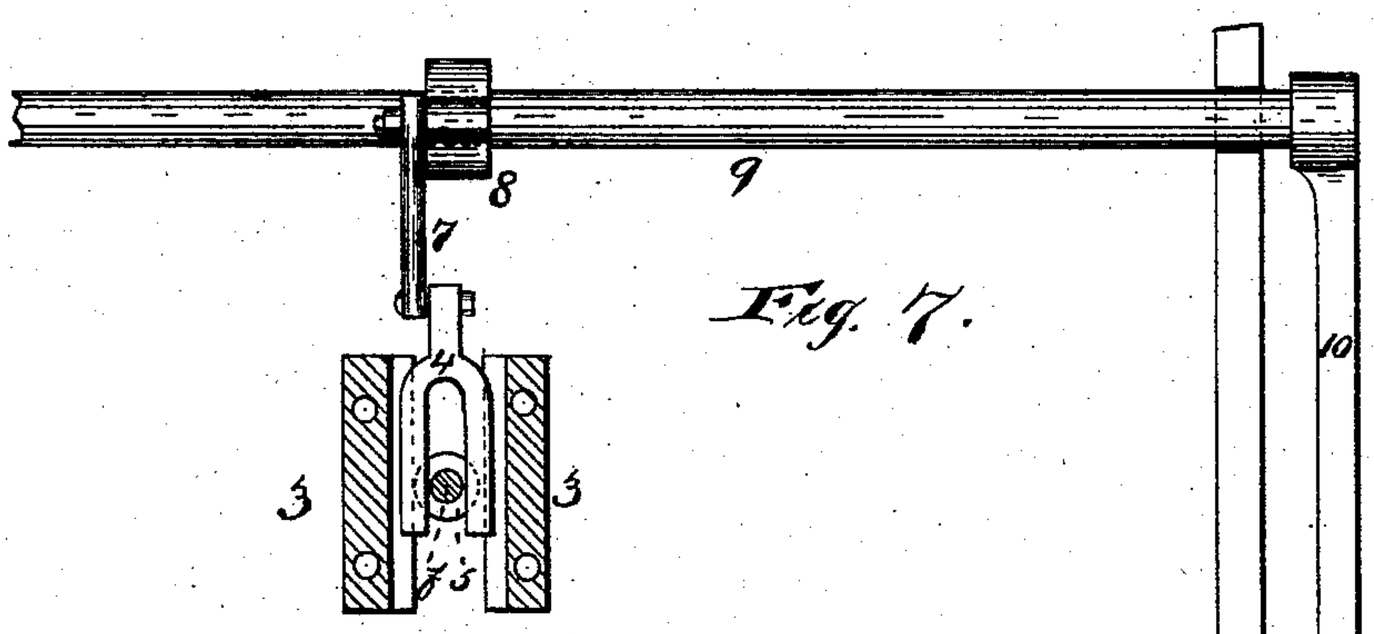


Fig. 7.

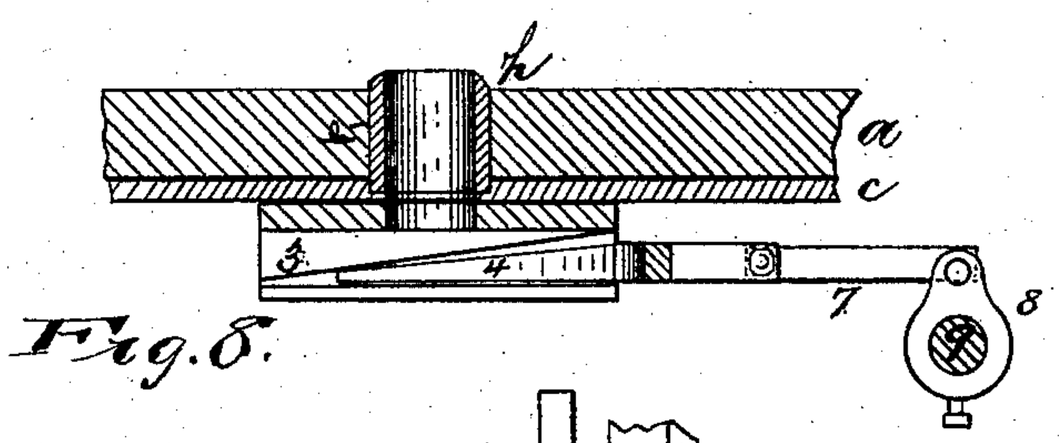
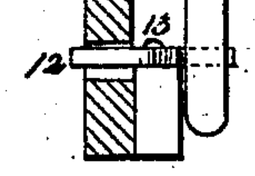


Fig. 8.



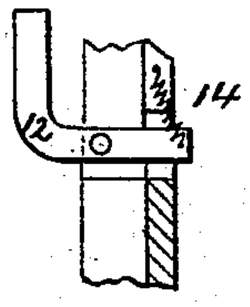


Fig. 9.

Attest.

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Chas. F. Keir

Inventor:

James H. Burnett,

by Drake & Co Atty's.

UNITED STATES PATENT OFFICE.

JAMES H. BURNETT, OF NEWARK, NEW JERSEY.

MACHINE FOR CUTTING OVAL GASKETS.

SPECIFICATION forming part of Letters Patent No. 287,503, dated October 30, 1883.

Application filed May 11, 1883. (No model.)

To all whom it may concern:

Be it known that I, JAMES H. BURNETT, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Machines for Making Oval Gaskets, &c.; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The object of this invention is to facilitate the operation of cutting oval gaskets for steam-fittings from sheets of suitable material, whereby the cost of the same is materially reduced. Heretofore the peculiar shape of said gaskets has necessitated their being cut out by means of an ordinary knife after the shape and size of the gasket have been properly marked out—a tedious process, and one entailing considerable expense. Gaskets have also been molded into shape; but this process has required a large assortment of iron molds to allow a full line of gaskets to be made; this method also entailing a large outlay.

My invention consists in the arrangement and combination of parts, substantially as will be hereinafter set forth and finally embodied in the several clauses of the claims.

Referring to the accompanying drawings, in which similar letters of reference indicate like parts in each of the several figures, Figure 1 is a plan of my device. Fig. 2 is a section of the same; Fig. 3, a side elevation of the knife-carrier, one portion of which is in section. Fig. 4 is a horizontal section taken through the same said portion. Fig. 5 is a plan of a head to receive the knife-carrier, and Fig. 6 is a section of the same; and Figs. 7, 8, and 9 are views of certain mechanisms in detail, whereby the said head is secured in its seat in the bed-plate.

In carrying out the invention I form a bed-plate, *a*, Figs. 1 and 2, which is preferably of wood, and held in suitable position and sufficiently firm by appropriate devices—such as standards *b*, table or base *c*, and frame *d*—and through the same said bed-plate I form a central opening, *e*, Figs. 2 and 8, to receive the shank *f* of the head *g*. Said opening *e* is provided with a circular cutter, *h*, the cutting-edge of which projects above the bed-plate *a*, as shown in the last-mentioned figures. The head *g* is provided with transverse undercut grooves *i j*, which run at right angles to one another, as shown in Figs. 1 and 5, said grooves lying in different planes one above the other, as shown in Figs. 2 and 6. In said grooves slide carriages or supports *k l*, having slots or recesses therein, in which is adjustably arranged a beam, *m*, at the extremity of which is secured the cutter-carrier *n*. The legs *o* of the supports *k l* are provided with flanges *p*, arranged to engage with the undercut grooves, and to prevent the supports from being detached therefrom. The supports are provided with set-screws *q q*, adapted to hold the former into fixed relation to the beam. The cutter-carrier *n* has a vertical movement on the extremity of the beam *m*, as illustrated more clearly in Figs. 3 and 4, and is adjusted thereon by means of the adjusting-screw *r*, which operates on the cutter-carrier, provided with a female screw-thread, but not on the beam, the latter being devoid of a thread. The two said parts *m* and *n* are dovetailed together, as shown in Fig. 4, to prevent detachment. Upon said cutter-carrier are arranged the cutters or knives *s* and *t*, the two being separably arranged on said cutter-carrier, whereby the width of the gasket-flange may be increased or diminished at pleasure. The cutter *t* is arranged in a fixed bearing, secured therein by a set-screw, *u*, and the cutter *s* has its seat or bearing in the movable cutter-head *v*, a thumb-screw, *w'*, being provided to hold the head in position on the carrier, and a set-screw, *w*, to hold the knife in said head. The head *g* is firmly held in position on the bed-plate by suitable mechanism, that which I prefer being arranged as follows: Beneath the bed-plate I arrange grooved brackets 3, which carry a bifurcated wedge, 4, a portion of the shank being adapted to lie between said forks. In said shank *f* is formed a recess, 5. By throwing said wedge forward in said brackets the shank and head are brought down into firm contact with the bed-plate or the material 6, lying thereon, the latter being held immovable when subjected to a subsequent cutting process. Said wedge is actuated by means of the con-

necting-rod 7, crank 8, shaft 9, and lever 10, the latter being adapted to be manipulated by hand, and to be detachably secured at its free end to the machine by suitable mechanism, whereby said lever and its accompanying parts may be held in position without detaining the hand. The mechanism herein shown is composed of the catch 12, pivoted at 13, and a spring, 14, rendering the catch automatic.

The operation of the machine in the process of cutting an oval gasket is as follows, more especial reference being had at first to Figs. 1 and 2: Upon the bed-plate *a*, the head *g* and mechanism carried thereby being removed, is placed a sheet, 6, of material from which the gasket is to be cut, and, with a mallet or other suitable device, a hole is cut therein by means of the blade *h*. The shank is then thrust through said hole and through the opening in the bed-plate, thus allowing the head *g* to bear upon the material 6, the wedge 4, operated by the lever 10, and the intermediate mechanism, bringing the said head into holding-contact with said material, so that the latter will not move or be disarranged under the cutting process. The supports *k l* are then arranged or adjusted in relation to the beam to form the required size of gasket. Said beam *m* is provided on each side with a suitable scale, one of which is shown, by means of which the supports are properly set—the support *k* to give the required shortest diameter of the oval and the support *l* to give the longest. The cutter *s* is also adjusted to give the required width of the "flange" of the gasket, a graduated scale being marked out on the carrier *n*, as shown in Fig. 4. The beam *m* is then revolved on the two centers provided by the legs *o o*, which slide freely in the slot, and cause the knives *s t* to describe an oval on the same principles as are involved in certain kinds of ellipsographs. During the cutting process the adjusting-screw *r* is turned from time to time, whereby the knives are lowered and caused to make a deeper incision, and finally to sever the gasket from the surrounding material.

Suitable devices may be provided to take up wear, as, for example, in dovetailed joint, where the beam and cutter-carrier are united. 15 is a plate, and 16 a set-screw adapted to actuate the same for that purpose.

I am aware that a large number of changes or modifications can be made without departing from the spirit of this invention, and therefore I do not wish to be understood as limiting myself to the actual construction shown.

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

1. In combination, the beam *m*, revolving on two centers, the cutter-carrier, and the cutters arranged and operating substantially as and for the purposes set forth.

2. In combination, the beam *m*, revolving on two centers, the cutter-carrier *n*, and the separable cutters *s t*, all arranged and operating substantially as herein set forth and shown.

3. In combination, a beam, a cutter-carrier adapted to be raised and lowered thereon, and cutters *s t*, and mechanism, substantially as described, for operating them, all arranged and operating substantially as and for the purposes set forth and shown.

4. In combination, the beam *m*, cutter-carrier *n*, the cutters and the adjusting-screw *r*, all arranged and operating substantially as and for the purposes herein set forth and shown.

5. In combination, the head *g*, provided with transverse undercut grooves, a beam working on two centers on said head, carrying cutting-blades, substantially as and for the purposes set forth and shown.

6. In combination with a cutter-carrying device working on two centers, a head having transverse grooves therein, one lying in a different plane from the other, as herein set forth.

7. In combination, the bed-plate *a*, having an opening therein, a head, *g*, provided with a shank, *f*, a cutter-carrying beam working on said head, and means arranged beneath the bed-plate adapted to temporarily hold said shank in position, substantially as herein set forth and shown.

8. In combination, the bed-plate *a*, having a removable head, *g*, arranged thereon, a beam, *m*, working on said head, a cutter-carrier, adapted to be raised and lowered, and the cutters, all arranged and operating substantially as and for the purposes herein set forth and shown.

9. In combination, the bed-plate provided with an opening and cutter, *h*, the head *g*, having a shank, *f*, thereon, a beam, *m*, a cutter-carrier adapted to be raised and lowered, cutters *s t*, and means to engage with the shank *f*, to hold the head in position during the cutting process.

10. In combination, the bed-plate provided with an opening therein, the shanked head, the cutter *h*, and a wedge, 4, working in suitable supports, and adapted to engage and engaging with a recess, 5, in the shank *f*, all said parts being arranged and operating substantially as and for the purposes set forth and shown.

11. In combination, the bed-plate, the head having a shank provided with a recess, a wedge, a connecting-rod, 7, crank 8, shaft 9, and lever 10, all arranged and operating substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 7th day of May, 1883.

JAMES H. BURNETT.

Witnesses:

CHARLES H. PELL,

F. F. CAMPBELL.