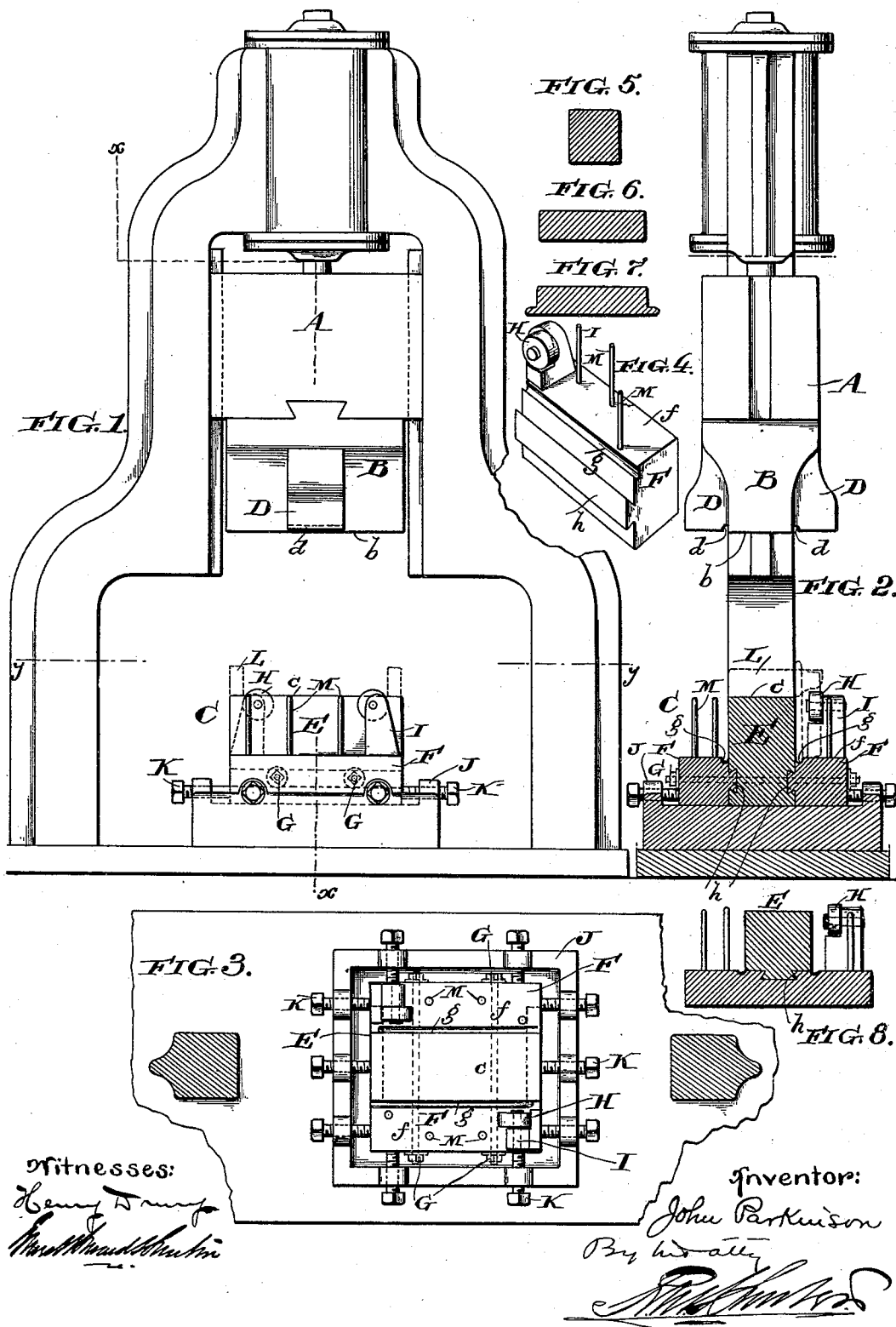


(No Model.)

J. PARKINSON.
HAMMER FOR FORGING CAR WHEELS.

No. 478,631.

Patented July 12, 1892.



UNITED STATES PATENT OFFICE.

JOHN PARKINSON, OF PHILADELPHIA, PENNSYLVANIA.

HAMMER FOR FORGING CAR-WHEELS.

SPECIFICATION forming part of Letters Patent No. 478,631, dated July 12, 1892.

Application filed June 20, 1891. Serial No. 396,897. (No model.)

To all whom it may concern:

Be it known that I, JOHN PARKINSON, of the city and county of Philadelphia, and State of Pennsylvania, have invented an Improve-
5 ment in Hammers for Forging Steel Wheels; of which the following is a specification.

My invention relates to power-hammers for forging steel wheels; and it consists of certain improvements which are fully set forth
10 in the following specification and are shown in the accompanying drawings, which form a part thereof.

More particularly my invention relates to power-hammers for forging steel wheels from
15 an ingot or solid bloom between suitable hammer and anvil dies, and relates especially to the construction of the anvil-die for forming the tread and flange. The objects of these improvements are to more perfectly and read-
20 ily accomplish the forging or rounding up of the blank and the formation of the tread and flange thereon and to permit the adjustment of the hammer to different sizes or diame-
25 ters of wheels by changing a section of the anvil-die.

In carrying out my invention I form the anvil-die in sections, which may be held to-
30 gether in any convenient manner, one or more of the sections being removable. One of the sections is provided with a grooved flat sur-
35 face located in a lower plane than the surface of the adjacent section of the anvil-die for forming the flange and tread upon the blank under the action of a grooved projec-
40 tion upon the hammer while the blank is supported against the side of the adjacent anvil-section.

For the purpose of more readily turning the blank while it is under the action of the
40 dies I employ an anti-friction roller upon the anvil-die, as is more fully set forth hereinafter.

My invention also consists of certain im-
45 provements and combinations of parts, which are hereinafter more fully described and claimed.

In the drawings, Figure 1 is a front elevation of a power-hammer embodying my im-
50 provements. Fig. 2 is a vertical sectional view of the same on the line xx of Fig. 1. Fig. 3 is a horizontal sectional view of the same on the line yy of Fig. 1. Fig. 4 is a

perspective view of one of the anvil-sections. Figs. 5, 6, and 7 are sectional views of the
bloom and blank, illustrating the form there- 55 of at different stages of construction; and Fig. 8 is a transverse vertical sectional view through the middle of the anvil-die, illustrating a modification of the invention.

A is the hammer. 60

B is the hammer-die carried thereby and provided with the flat face b and the projec-
tion D. The projection D is provided with
a groove d , adjacent to the flat face b .

C is the anvil-die, consisting of the body 65
portion E, having the flat face c , corresponding to the flat face b of the hammer-die, and one or more removable sections F. These re-
movable sections F are provided with a face
70 f at a lower level than the flat face c of the anvil-die and a groove g therein, corresponding to the groove d in the projection D of the
hammer-die and substantially in line there-
75 with. The sections F may be guided and centered with reference to the body E of the
anvil-die by means of a grooved guide and
80 guideway h , formed between their adjacent surfaces, and may be held to the body by means of bolts G, as shown in dotted lines.

H is an anti-friction roller carried by an 80
upright I of the section F and adapted to bear upon the tread of the wheel being forged to assist the turning of the blank under the
action of the dies to accomplish the forging
85 of the blank and the formation of the flange and tread.

J is a frame within which the anvil-die is arranged.

K K are adjusting-screws carried by the
frame J and bearing upon the anvil-die for 90
the purpose of adjusting and properly centering it under the hammer-die B.

L L (dotted lines in Figs. 1, 2, and 3) are
gage-blocks placed upon the anvil-die to limit
95 the descent of the hammer-die, and thus gage the thickness of the blank under the action
of the dies in performing the flattening-down
operation. If desired, these gage-blocks may
be made removable, so that they may be re-
100 placed by others to change the gage.

M M are pins upon the section F to sup-
port the blank in position under the action of
the dies.

I prefer the minor details of construction

which have been shown; but do not limit myself to them, as it is apparent that they may be varied without departing from the invention. From the foregoing description of the apparatus the operation will be readily understood. The heated ingot or bloom, Fig. 5, is placed upon the flat face *c* of the anvil-die and is flattened down between the faces *b* and *c* into the shape shown in Fig. 6. This flattened bloom or blank is then placed upon the section F, resting against the side surface of the section E under the projection D of the hammer. Under the action of the grooved projection D of the hammer-die and the grooved face *f* of the anvil-die the flattened bloom or blank is forged or rounded up and the tread and flange are formed, the blank being turned while under the action of the dies, and the roller H assisting the turning. The rounded and flanged blank may be subsequently treated between dies to form the web and may have the axle-hole formed therein by punching or drilling.

When it is desired to make a wheel of a different size or diameter, the section F may be removed and replaced by another section of a different size. Thus wheels of different sizes may be made upon the same anvil-die, and the necessity of having anvil-dies of different sizes for each size of wheel is avoided.

By means of the adjusting-screws K the section or sections F may be adjusted with reference to the section E.

In the drawings I have shown a double hammer having two hammer-die projections D and a corresponding anvil-die with two sections F. Either or both may be employed, as desired, and the two sections F may be made for different sizes or diameters of wheels, thus having each hammer suited to two sizes of wheels without changing the sections. The hammer may be made with a single hammer-die projection D and its corresponding angle-die section F.

In Fig. 8 is shown a slight modification in which the section E is movable upon the section F and rests upon the face of it.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a power-hammer for forging wheels, the combination of a hammer-die having a projection upon one side, and an anvil-die consisting of sections, one of which sections has a supporting-face for the wheel-blank located under the projection of the hammer-die and at a lower level than the die-face of the adjacent section, whereby one of said sections may be removed and replaced by another of different size for a different diameter of wheel.

2. In a power-hammer for forging wheels, the combination of an anvil-die consisting of sections movable with reference to one an-

other, whereby one section may be adjusted with reference to the adjacent section, one of said sections having a supporting-face for the wheel-blank at a lower level than the level of the die-face of the adjacent section, and a hammer-die having a projection over the section of the anvil-die of less altitude.

3. In a power-hammer for forging wheels, an anvil-die formed in sections of different altitudes, whereby the wheel-blank may be supported in the direction of the movement of the hammer upon the section of less altitude against the adjacent face of the section of greater altitude, said sections being provided with a guideway between their adjacent surfaces, whereby they may be moved relatively to one another or removed, and a hammer-die having a projection arranged in line with the section of the anvil-die of less altitude.

4. In a power-hammer for forging steel wheels, the combination of an anvil-die, consisting of the section E and the section F, having the surface *f* at a lower level than the face *g* of the section E and provided with a groove *g* adjacent to its inner edge, said section F being removable from the section E, and the hammer-die A, having the grooved projection D.

5. In a power-hammer for forging steel wheels, the combination of a hammer-die having a lateral projection, an anvil-die having a lateral support for the tread of the wheel-blank to support it in an upright position against the side of the anvil-die and under the projection of the hammer-die, and an anti-friction-roller above said lateral support of the anvil-die to assist the turning of the wheel-blank.

6. In a power-hammer, the combination of an anvil-die having a lateral supporting-surface *f* for the tread of the wheel extending from the side of the anvil-die and at a lower altitude than the upper face thereof, said lateral supporting-surface *f* being provided with the upright I and the roller H, adapted to bear against the tread of the wheel-blank carried by said upright I adjacent to the upper face of the anvil-die, and a hammer-die having a projection in line with the lateral supporting-surface *f* of the anvil-die.

7. In a power-hammer, the combination of a hammer-die, a frame J, an anvil-die made in sections movable with reference one to another and arranged within the frame J, and adjusting and clamping screws K, carried by frame J and bearing upon the sections of the anvil-die.

In testimony of which invention I have hereunto set my hand.

JOHN PARKINSON.

Witnesses:

ERNEST HOWARD HUNTER,
JOHN THOS. RUSHTON.