

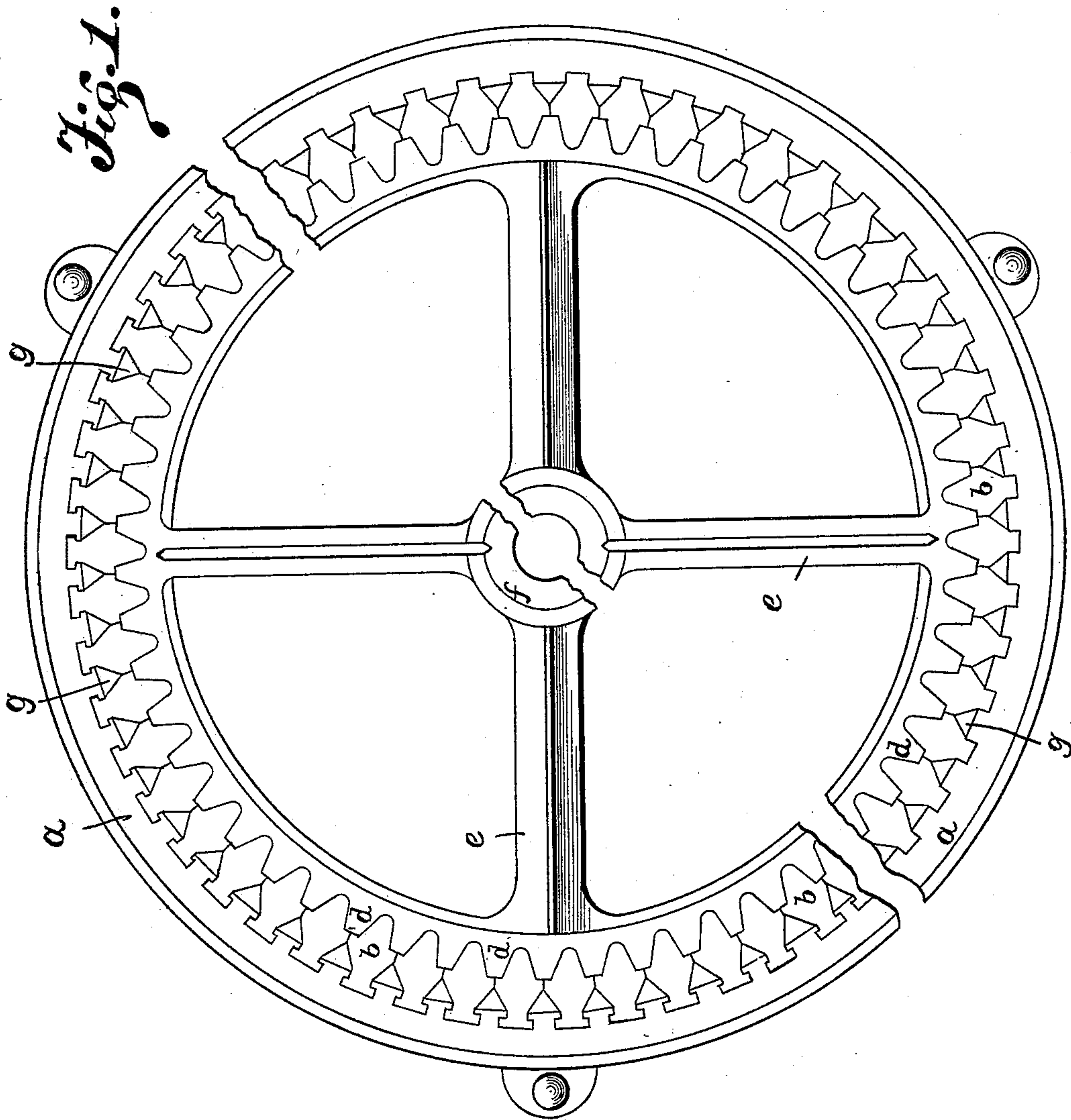
(No Model.)

2 Sheets—Sheet 1.

S. E. MAXWELL.
MANUFACTURE OF CHILLED GEAR WHEELS.

No. 583,626.

Patented June 1, 1897.



Witnesses:

A. R. Appleman,
C. A. Burrows

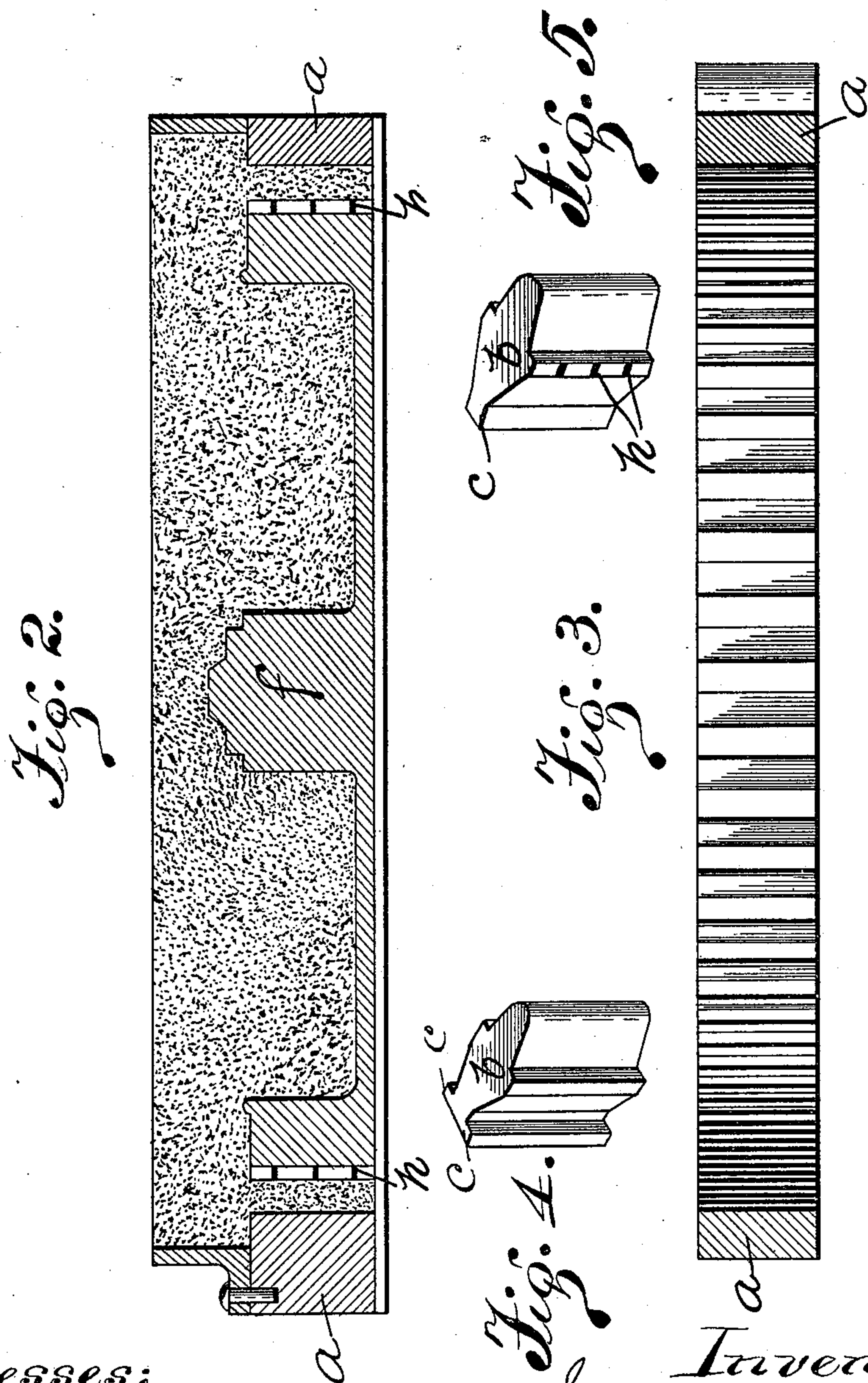
Inventor:
Samuel E. Maxwell
By J. H. Stevenson

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UNITED STATES PATENT OFFICE.

SAMUEL E. MAXWELL, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR, BY
MESNE ASSIGNMENTS, TO JOHN H. MILLER, OF NEW CASTLE, PENN-
SYLVANIA.

MANUFACTURE OF CHILLED GEAR-WHEELS.

SPECIFICATION forming part of Letters Patent No. 583,626, dated June 1, 1897.

Application filed June 13, 1896. Serial No. 595,396. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL E. MAXWELL, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in the Manufacture of Chilled Gear-Wheels; and I do 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 the letters of reference marked thereon, which form a part of this specification.

This invention relates to certain new and useful improvements in molds for casting gear-wheels, and has for its object to construct a mold whereby the gear-wheel may be constructed with much more accuracy in relation to the cogs than is obtainable with the ordinary construction; furthermore, a mold whereby the gear-wheels may be constructed much more easily and quickly.

A further object of the invention is to construct a mold for gear-wheels as above described that will be simple in its construction, strong, durable, effectual in its operation, and comparatively inexpensive to manufacture; furthermore, wherein the chills may be changed at will in order to construct any desired shape of cog.

With the above and other objects in view the invention finally consists in the novel construction, combination, and arrangement of parts to be hereinafter more specifically described, and particularly pointed out in the claims.

In describing the invention in detail reference is had to the accompanying drawings, forming a part of this specification, and wherein like letters of reference indicate similar parts throughout the several views, in which—

Figure 1 is a top plan view of my improved mold, showing two forms of chills. Fig. 2 is a longitudinal sectional view of the mold and follow board. Fig. 3 is a sectional view of

the ring holding the chills. Fig. 4 is a perspective view of one form of chill. Fig. 5 is a similar view in modified form.

In the drawings, *a* represents the ring for holding the chills *b b b*, which are formed with a shoulder *c*, adapted to fit in slots or grooves in the ring *a*.

d d indicate the teeth of the gear-wheels *e*, and *f* the hub of the same.

The reference-letters *g g* indicate spaces between each chill and the ring *a*, said spaces being filled with sand in the molding process. The chills *b b* are provided with grooves *h h*, which, when the chills are in position, form holes or apertures to carry off any gas that might be formed by the molten metal coming in contact with the moist sand. Heretofore chills have not been constructed in this manner, and I have found it essential to provide an exit for any such gas, as when it accumulates along the surface of the chills it has a tendency to create a rough surface on the gears of the wheels.

The operation of my improved chill is the same as in the ordinary method, and a further description of the same is deemed unnecessary, as it is well known to those skilled in the art.

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

1. In a mold for casting chilled gear-wheels, the combination of the outer ring having a series of seats formed in its inner surface, and a series of chills removably fitted at one end in said seats, each chill having projecting side portions which abut against the similar portions on the adjacent chills when the chills are in position, spaces being formed between adjacent chills in front and rear of the abutting portions, substantially as described.

2. In a mold for casting chilled gear-wheels, the combination of the outer ring having a series of seats formed in its inner surface and a series of chills removably fitted at one

end in said seats, each chill having project-
ing side portions which abut against the simi-
lar portions on the adjacent chills when the
chills are in position, spaces being formed
5 between adjacent chills in front and rear of
the abutting portions, and said abutting por-
tions having grooves therein to form com-
municating passages between the said spaces,

substantially as and for the purposes speci-
fied. 10

In testimony whereof I affix my signature
in presence of two witnesses.

SAMUEL E. MAXWELL.

Witnesses:

M. BAILEY, Jr.,

WM. EVANS.