

E. B. HAYWARD.
FORMING-MOLDS FOR CASTING.

No. 173,950.

Patented Feb. 22, 1876.

Fig. 1.

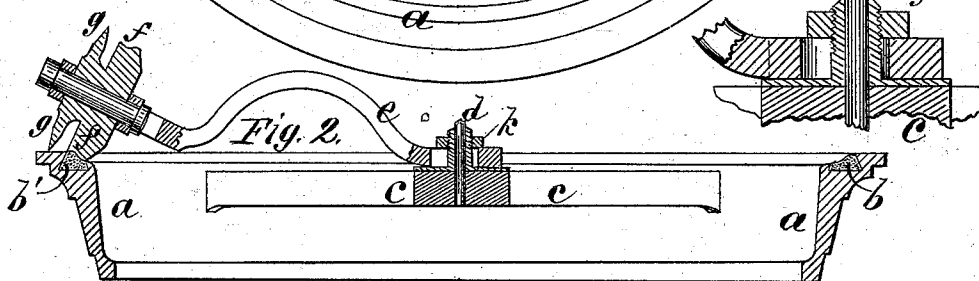
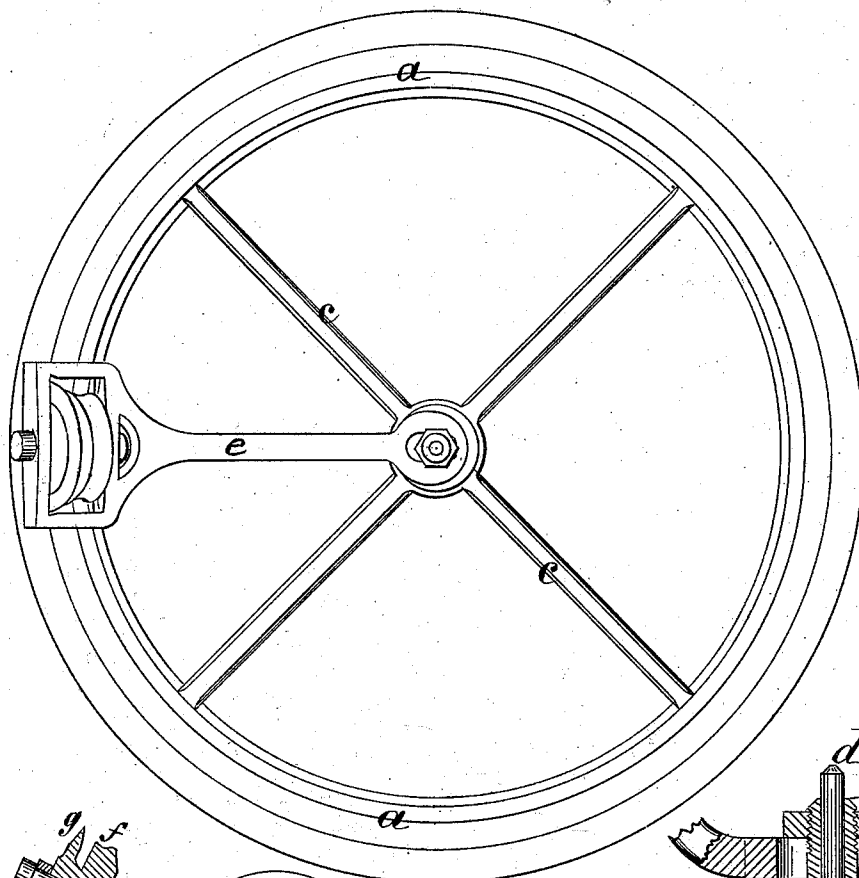


Fig. 3.

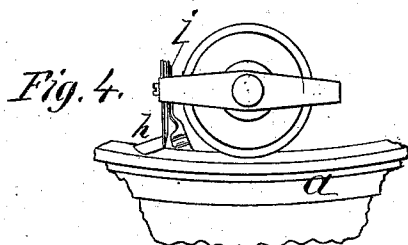


Fig. 4.

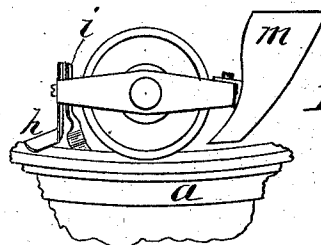


Fig. 5.

Witnesses.

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UNITED STATES PATENT OFFICE.

EDMUND B. HAYWARD, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN FORMING MOLDS FOR CASTING.

Specification forming part of Letters Patent No. **173,950**, dated February 22, 1876; application filed April 15, 1875.

To all whom it may concern:

Be it known that I, EDMUND BARTLETT HAYWARD, of the city of Chicago, in the county of Cook and State of Illinois, have invented an Improved Molding Apparatus, of which the following is a specification:

The object of my invention is to apply, rapidly and uniformly, to the proper recess in the chill, a band or filling of sand.

The accompanying drawings illustrate my invention.

Figure 1 shows a plan of a chill used in casting car-wheels, to which my apparatus is adjusted as in use. Fig. 2 shows a sectional elevation of the chill and apparatus. Fig. 3 shows an enlarged sectional elevation of the central pivot and contiguous parts. Fig. 4 is a perspective view of a broken portion of the chill, and showing the gage-wheel and scrapers for clearing off the surplus sand. Fig. 5 is a similar view, showing a sand feeder or spout.

The drawing shows an iron chill, *a*, used in casting car-wheels, a portion of the inner circumference or periphery of which is finished in the proper shape to form and chill the tread of the wheel.

It has been found disadvantageous to allow the chill to act on the flange of the wheel, and as the mold properly parts at the extreme periphery of the flange, it becomes necessary to apply a narrow band of sand between the tread of the wheel and the extreme periphery of the flange or parting-joint of the mold. To accomplish this a groove is formed, at *b*, in the chill *a*, to receive the sand *b'*.

It has been customary to fill the groove *b*

by the usual process of hand-molding, which has been found to be comparatively a slow and imperfect process.

My apparatus consists, first, of a suitable spider, *c*, or frame, to span and fit the interior of the chill and carry a suitable center pivot or journal, *d*. An arm, *e*, swings on this pivot or journal *d*, carrying the roller *f*, the face or periphery of which is turned and finished to the proper shape required, to give the required form to the sand, as illustrated in Fig. 2. A gage-wheel, *g*, is journaled, with wheel *f*, upon arm *e*, and is of the proper diameter to roll upon the chill and determine the elevation of roll *f*, allowing it to press the sand only to the required depth. To render the arm *e* and center *d* adaptable to different diameters of chill, the arm *e* is made adjustable with reference to the bearing-piece, which turns on pin *d* by means of a screw and nut, *k*. The journal of wheel *f* is adjusted to the proper angle to give the best average pressure to the sand in all parts of recess or groove, *b*.

Scrapers or brushes may be attached to arm *e* to remove the surplus sand, and a hopper or feed-pipe to feed the sand to the groove may also be attached; but neither is essential. The gauge-wheel has a very narrow tread, so as not to ride upon the sand.

I claim—

The narrow-tread gage-wheel *g*, in combination with the arm *e* and wheel *f*, substantially as described.

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Witnesses:

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