

UNITED STATES PATENT OFFICE.

EZRA J. AMES, OF AUSTIN, MINNESOTA.

PROCESS OF FORMING MOLDS FOR CASTING.

SPECIFICATION forming part of Letters Patent No. 396,454, dated January 22, 1889.

Application filed October 26, 1888. Serial No. 289,176. (No specimens.)

To all whom it may concern:

Be it known that I, EZRA J. AMES, of Austin, in the county of Mower and State of Minnesota, have invented certain new and useful
5 Improvements in the Process of Forming Molds for Casting, of which the following is a specification.

In the use of the ordinary sand mold for casting considerable difficulty is experienced
10 in pouring the fluid iron into the molds without washing away parts of the mold, and thereby rendering it imperfect. Moreover, in using this kind of a mold more or less of the sand will be burned into the iron, so that
15 when the casting is removed from the mold there will always be considerable sand in it, which must be removed by brushing, grinding, or rattling.

The object of my invention is to provide a
20 mold for casting which cannot be washed out by fluid iron as it runs into the mold and in which the sand cannot become burned upon the casting, so that when the casting is removed it will be clean and will require very
25 little brushing or dressing.

In carrying out my invention I first form a mold in the ordinary way in green sand, and then remove or draw the patterns therefrom. I then put a coating or facing of dry plaster-
30 of-paris over the inner surface of the entire mold. The plaster-of-paris absorbs moisture from the sand in the mold and then "sets" or hardens, thereby forming a hard, smooth fac-

ing to the entire mold. In placing the plaster-
of-paris upon the face of the mold I prefer to
35 dust it thoroughly over the mold, then dust on a thin charcoal facing over the plaster-of-paris, and then "print back" or return the pattern to the mold. The plaster-of-paris will
40 thereby be pressed into perfect shape and will be brought firmly against the sand forming the body of the mold. It will quickly absorb
45 sufficient moisture from the sand to cause it to set, and a hard, firm lining to the sand mold will thus be made.

A mold thus formed will be found particularly desirable for casting the burrs for grinding-mills, which must necessarily be made of very hard iron, and that will also be found
50 advantageous in the manufacture of many kinds of malleable-iron castings.

I claim as my invention—

The process of forming a mold for casting which consists in molding the pattern in a
55 body of green sand, drawing out the pattern, and applying to the surface of the mold thus formed a coating or lining of dry plaster-of-paris, which absorbs the moisture from the sand and becomes set, substantially as de-
60 scribed.

In testimony whereof I have hereunto set my hand this 22d day of October, 1888.

EZRA J. AMES.

In presence of—

FRED B. WOOD,
A. W. WRIGHT.