I. Kellogg,

Making Cores for Castings.

No 4,483. Patented Apr. 25, 1846.

Fig 1.

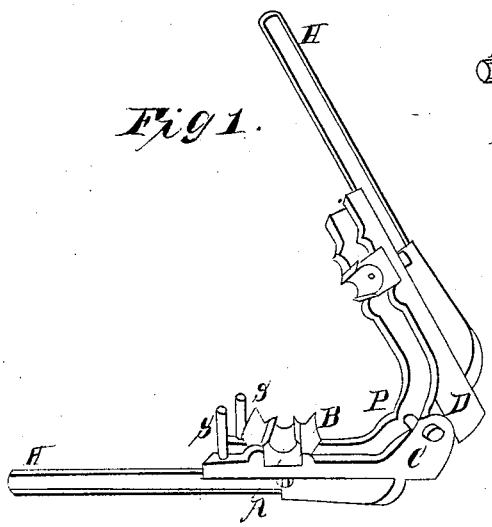
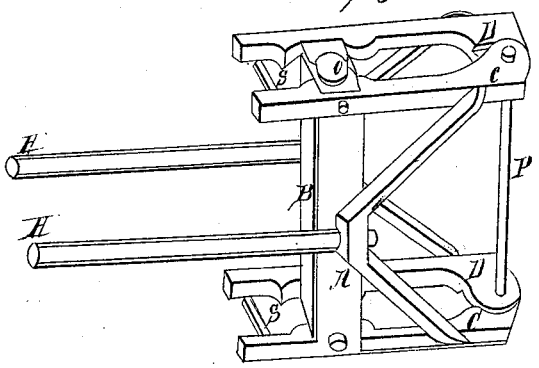


Fig 2.



UNITED STATES PATENT OFFICE.

ISAAC KELLOGG, OF NEW HARTFORD, CONNECTICUT, ASSIGNOR TO HENRY KELLOGG.

IMPROVEMENT IN MAKING CORES FOR CASTINGS.

Specification forming part of Letters Patent No. **4,483**, dated April 25, 1846.

To all whom it may concern:

Be it known that I, ISAAC KELLOGG, of New Hartford, in the county of Litchfield and State of Connecticut, have invented a new and Improved Core-Box for Making Sand Cores for Iron Castings; and I do hereby declare that the following is a full and exact description.

The nature of my invention consists in joining the two parts of the core-box together by a hinge-joint, or any of the usual devices which will insure their exact meeting together, and then forming the parts into blunt cutting-edges at the line where they meet together and partially closing and in that position filling the box with loose molding-sand, and then closing the box to compress the sand.

To enable others skilled in the art of molding for cast-iron to make and use my invention, I will proceed to describe its construction and operation.

I construct two small frames usually of cast iron, (though I have sometimes used wood,) suitable to be hinged together and suitable to receive and hold firmly each one-half of the core-box, and the hinge or hinges, or whatever else is used to guide and govern their movements; should be firm and good, so as to permit no irregular movement, but only that of opening and shutting, and the parts of the box so fitted to each frame as always to meet each other exactly.

The accompanying drawings represent a core-box adapted to make cores for what are called "pipe-boxes," for the hubs of wagon-wheels, &c.; but the same arrangement in all respects, except the particular form of the core, is equally applicable to any other similar cores. This core-box has a semi-cylindrical depression in each half, (marked *o o* in Figs. 1 and 2,) which, when closed together, form a round and smooth hole, somewhat tapered, and shaped just as the hollow of the pipe wagon-box should be; but instead of closing the core-box and gripping it together and "ramming" it full of moistened sand, as has heretofore been done to form the core, I place the hollow of the core-box perpendicularly, as shown in Fig. 2, and set up nearly in the center a rod of iron, (which may be either solid or hollow,) and sustain it in that position with one finger, and fill the tube around it with tempered sand loosely, as it will naturally fall in, the tube of the core-box at this time being not fully closed, the edges apart about half an inch to three-quarters of an inch, (more or less, depending upon the diameter of the core,) and the openings being temporarily closed by shutters (marked B B,) and when the tube is thus filled with loose sand the shutters are opened or turned aside each way, as shown in Fig. 1, and the core-box pressed closely together by the handles H H, compressing the core suitably, more or less, at the discretion of the workman, as he may set the tube more or less open when filled with loose sand, thus making the core of uniform hardness throughout in all parts of it, and of such degree of hardness as is needful for strength and yet not too hard, so as to cause the casting to "blow," and thus become defective. If the cores are formed on solid iron rods, it will be necessary to set one or two vent-wires by the side of the iron rod, to be drawn out after the box is closed and before it is opened to remove the finished core; but if hollow rods or tubes are used to support the cores which have small holes drilled transversely into them, as has been often practiced, then in that case the vent-wires are not needed.

In the drawings, Fig. 1, C D represent two light cast-iron frames, jointed together by a long bolt or pin, P, to each of which a half of the core-box A, &c., are fastened. H and H represent the handles of round wrought-iron, by which the box is opened and shut. B, &c., represent the shutters, which are hinged to each side of one-half of the core-box, and are shown partly opened or turned aside. The blunt or obtuse edges of the core-box are shown on both half-boxes, and two standing pins or stops (marked S S) are designed to meet the opposite frame when the box is exactly shut, to prevent the edges of the core-box injuring each other by meeting too hard together.

In Fig. 2 the same letters indicate the same parts in different position, the box being partly shut, and the shutters closed up to the sides of the box, ready to be charged with an iron rod and loose sand for a core.

The form of the frames may of course be varied in many ways by any machinist, and yet answer the same purpose, and I consider it

immaterial, except in so far as it is convenient, and it forms a strong and firm guide and firm fastening to hold and handle the parts of the core-box so that their faces and edges shall exactly meet each other; and although I prefer joints or a hinge to any other of the usual methods of guiding the parts in opening and shutting together, yet I make no claim to these peculiarities.

My claim as my invention, and what I desire to secure by Letters Patent, is for—

An improved core-box for making sand cores for castings, having its parts well guided in opening and closing, and having cutting-edges at their lines of meeting, so that no sand can be retained between them to prevent their closing exactly, and fitted to be placed partly open when loosely filled with tempered sand, which is suitably compressed by closing the core-box, and the surplus sand at the same time pared off and thrown out by the edges, and thus making the core uniformly solid or hard in all its parts and of so exact form that the hole made thereby in the casting will in many cases need no "reaming," thus making better cover and with greater dispatch than have usually been made by "ramming up," so termed by molders and founders.

ISAAC KELLOGG.

Witnesses:
JOHN B. KELLOGG,
FREEMAN GRAHAM.