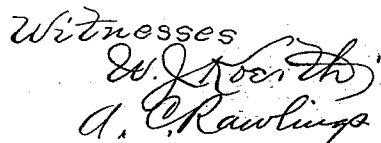


2 Sheets—Sheet 1.

No. 519,006

Patented May 1, 1894.



Charles R. Schmidt.  
Inventor

By Chas. E. Barber

His Attorney.

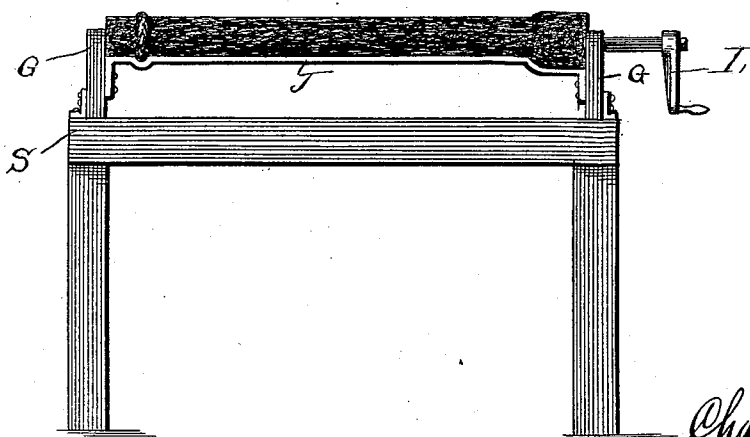
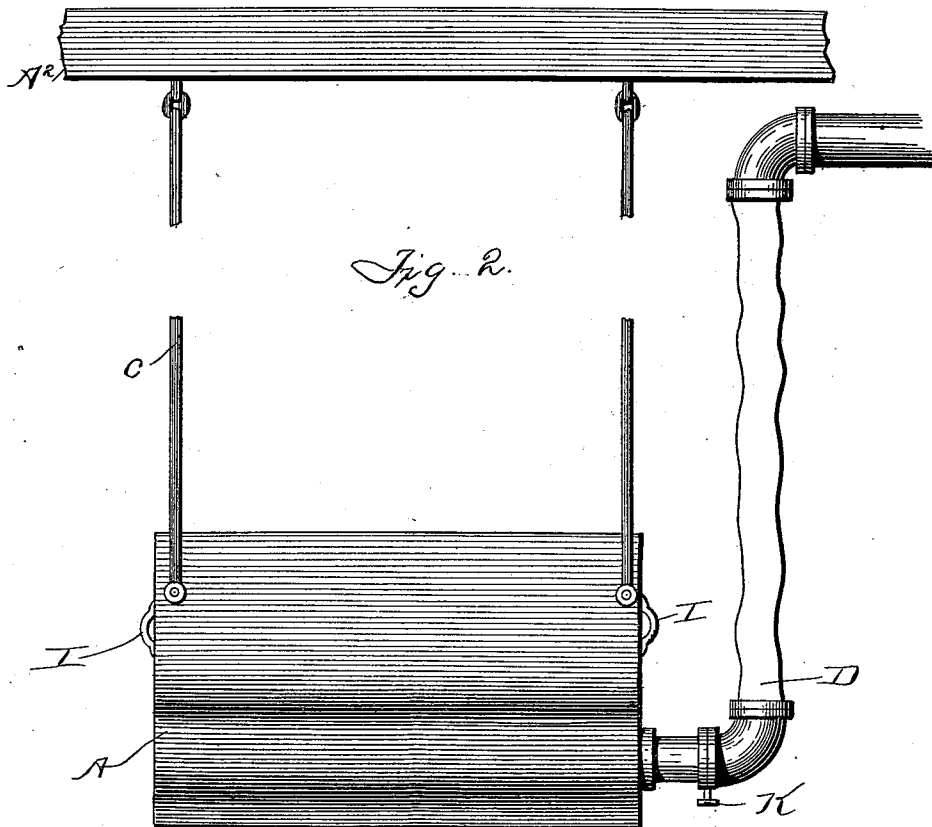
(No Model.)

2 Sheets—Sheet 2.

C. R. SCHMIDT.  
CORE MAKING MACHINE.

No. 519,006.

Patented May 1, 1894.



Witnesses:  
D. E. Squires  
A. C. Rawlings.

Chas R Schmidt  
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By Chas E Barber  
Attorney.

# UNITED STATES PATENT OFFICE.

CHARLES R. SCHMIDT, OF BALTIMORE, MARYLAND.

## CORE-MAKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 519,006, dated May 1, 1894.

Application filed December 10, 1892. Serial No. 454,747. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES R. SCHMIDT, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Core-Making Machines, of which the following is so full, clear, and exact a description as will enable others skilled in the art to which my invention appertains to make and use the same, reference being had to the accompanying drawings, in which—

Figure 1, is a vertical section, with parts in elevation of my device. Fig. 2, is a side elevation of the same. Fig. 3 is a side elevation of a support W provided with a track *w*. Fig. 4 is a cross section of the support and track shown in Fig. 3.

The object of my invention is to provide a core making machine by the use of which the greatest number of perfect cores may be made in the shortest possible time, and with the least expense of physical and mechanical force.

The difficulties experienced in the making of cores by the use of devices now in use are:

First. The constant variation of the moist or green sand, even when the greatest care is exercised, (and which is seldom the case,) as a change in the weather from wet to dry and vice versa will so affect the sand as to render its manipulation, under the present régime, a matter so nice as to require the greatest pains and the closest observation of these changes and even then many cores will be spoiled or will be so defective as to spoil the casting when the metal is poured. The core that is packed too hard or too tightly, will cause "blowing" of the casting from "hard" cores, as the air cannot escape freely through the pores in the core. My invention obviates these difficulties entirely, as the operator has the regulating valve always at his command, and can readily vary the blast to the condition of the sand, no matter how frequent or extreme may be the variations; thus insuring a core that will not be so hard as to cause "blowing" and yet not so soft as to allow the sand to dry off from the core before the mold is ready to receive the metal, or during the pouring.

Second. In the machines now in use for

this purpose, the stand on which the core barrels rest is connected with the same supplying devices and the jarring of the machine causes many cores to fall to pieces or to crack, and make defective castings. In my machine no such difficulty will be encountered, as the core barrel stand and sand supply are distinct and separate.

Third. In the matter of elevating the sand in the core machine in use, is an item of expense on account of the distance which sand must be elevated. In my machine the sieve can be placed less than four feet from the ground, thus reducing the cost of labor almost one-third.

Fourth. In the machine now in use but one core can be made at a time, whereas by the use of my machine I can make a plurality of cores and more than that, they can be totally different sizes, and shapes, without stopping the machine and without losing any time.

Another matter of prime importance is the dispensing with journals at every point except the core barrel supports, and these can be replaced at a trivial cost and they are slotted at *a'* to facilitate adjustment in the usual way.

In the accompanying drawings, A, designates a swinging funnel, which is suspended from a main support, A<sup>2</sup>, by links or cables, C, C, and it is provided with internal cleats *a*, *a*, upon which slides the sand sieve B. The sieve is made convex, so that it will afford a full and even supply surface, even when the funnel is tilted in various directions, as is done while supplying the sand to the various core barrels. The funnel is provided with an air chamber E, which is supplied with air through the supply pipe D, which is swiveled from a support overhead, and this pipe may be stiff or it may be made of flexible material. The mouth of the funnel is provided with a partition A<sup>3</sup>, which separates the air chamber from the interior of the funnel leaving a tapered outlet for both in the lower part of the funnel so that the blast will spread and "spray" the sand as it is discharged, thus insuring an even and smooth feed. The air pipe is provided with a regulating valve, K, by the use of which the blast may be regulated at will. Air may be supplied from a fan

or pump *ad libitum*. The funnel is provided with handles, I, I, to enable the operator to move it to any desired point.

The core barrels rest on the stand, S, in journals, G, G, and beneath them are located the scrapers, J, J, in the usual manner.

The operation of my device is as follows: Two men, one at each end of the machine, place the requisite number of core barrels 10 into the journals on the stand and fill the sieve with sand. One of the men then guides the swinging sieve and funnel over the core barrel with one hand while he reciprocates the sieve with the other hand, causing the 15 sand to fall in the narrow end of the funnel, where it is met by the air pressure out of D, and thrown upon the core barrel with the force required, which is regulated by the second man stationed at the regulating valve, 20 K, who at the same time, turns the core barrel with a detachable handle L, exposing every side of the core barrel to the wet sand and blast, causing the sand to adhere to the core barrel.

In Figs. 3 and 4, I show a support W to the 25 bottom of which is secured a track *w*, upon which run the rollers *a*<sup>4</sup> journaled on a U-shaped curved truck V, carrying a hook S' adapted to support the sand supplying receptacle. By this means the sand supplying 30 receptacle may be moved from one core barrel to the other and bring it directly over each core barrel. I only show as this one means of accomplishing this result. Any suitable 35 track and truck or sliding mechanism would do the work without departing from the spirit of my invention.

I do not wish to be understood as limiting myself to the exact construction shown, as 40 many of the details may be varied at will, without departing from the spirit of my invention.

What I claim is—

1. In a core making machine a series of 45 core barrels and their supports in combination with a pivotally supported sand supply-

ing receptacle, provided with an outlet for the sand and an air-blast opening, communicating therewith, and an air-blast apparatus for supplying an air blast substantially as de- 50 scribed.

2. In a core making machine the combination of a core barrel support with a pivotally-supported, sand-supplying receptacle, having a tapered opening and provided with an air 55 chamber extending the entire length of the sand receptacle and an air opening from said chamber along the line of the outlet, in the sand receptacle and above and within the same, and means for supporting a blast to the 60 air chamber substantially as described.

3. In a core making machine a core barrel support and a pivotally-supported sand-supplying receptacle, in combination with an air-chamber having an outlet near the outlet of 65 the sand supplying receptacle an outlet at the mouth of the said receptacle and means for supplying air to the air-chamber, substantially as described.

4. In a core making machine a core barrel 70 support provided with a plurality of journal-bearings for core barrels and a pivotally-supported sand-supplying receptacle, provided with a sieve having a curved surface in combination with an air-chamber having an out- 75 let near the outlet of the sand supplying receptacle and an air supply pipe substantially as shown and described.

5. In a core making machine, a plurality of core barrel supports; in combination with a 80 sand supplying receptacle having its mouth adjacent to one of the core barrels and carried by supports which permit it to be moved from one to the other, substantially as described. 85

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

CHARLES R. SCHMIDT.

Witnesses:

D. E. SQUIRES,  
M. DORIAN.