

**C. STANGE.**  
**Tile-Machines.**

No. 152,926.

Patented July 14, 1874.

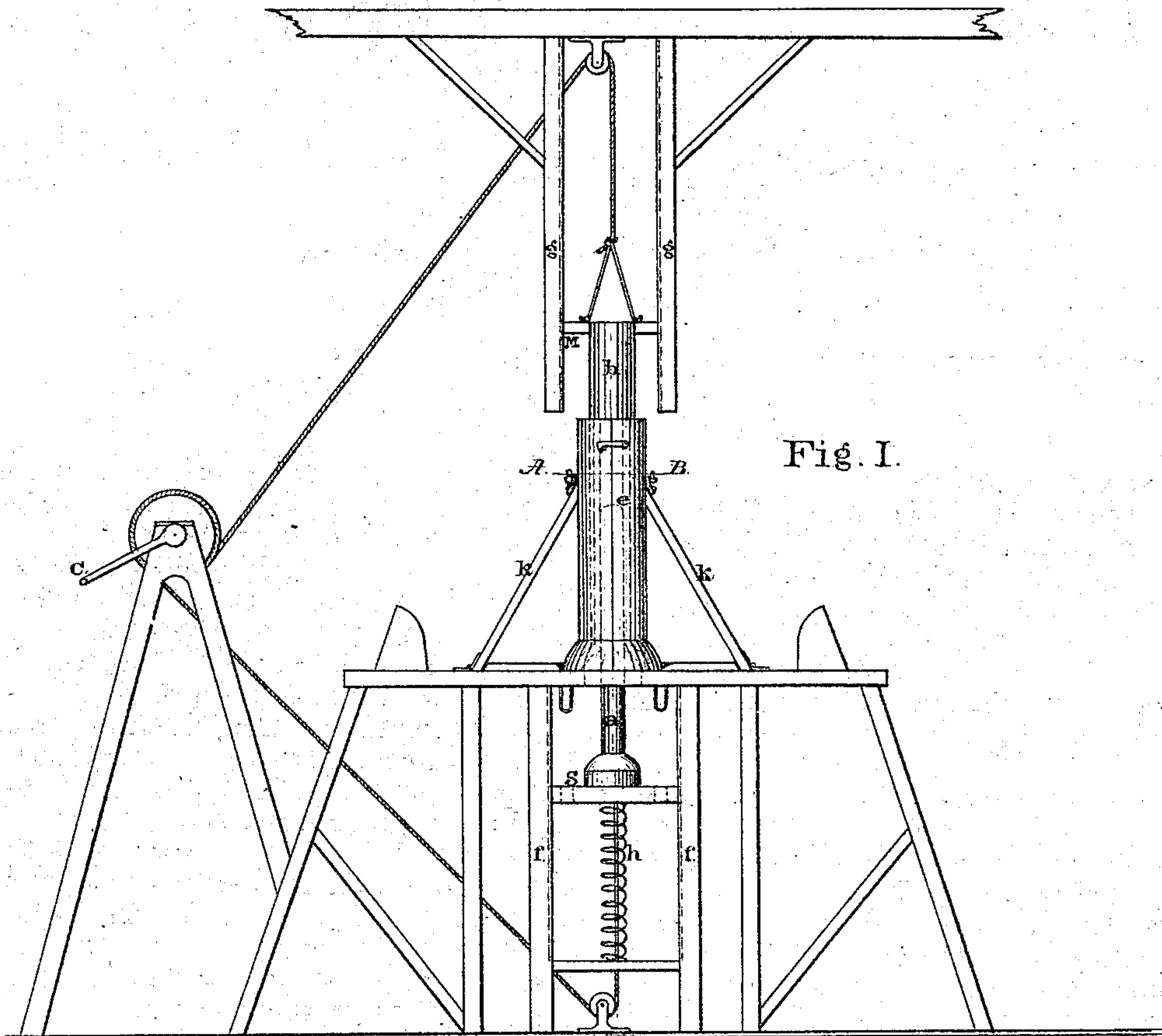


Fig. I.

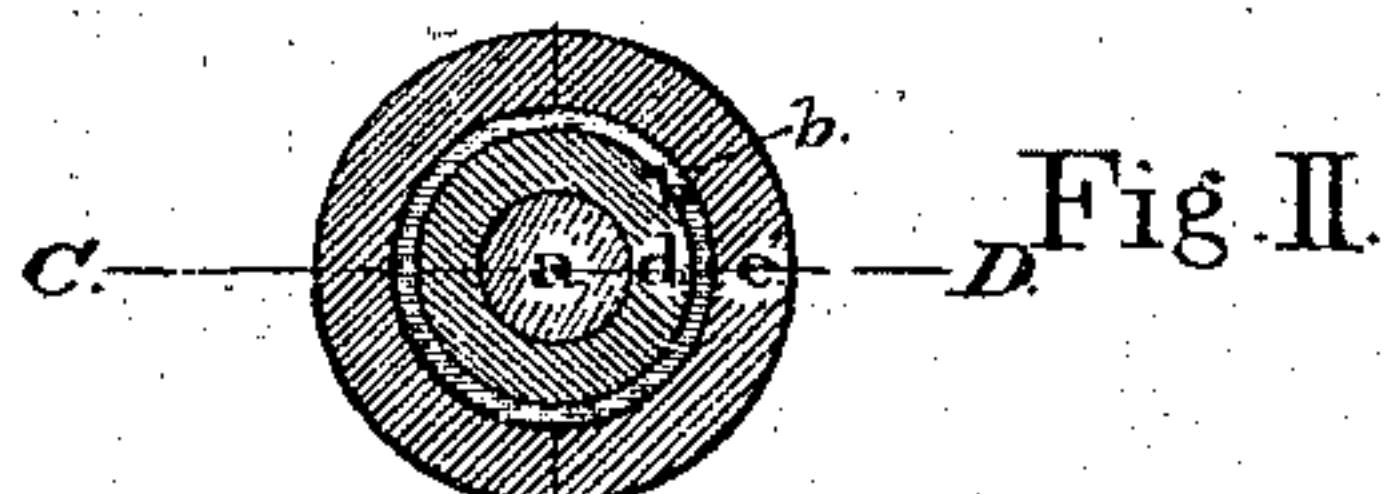


Fig. II.

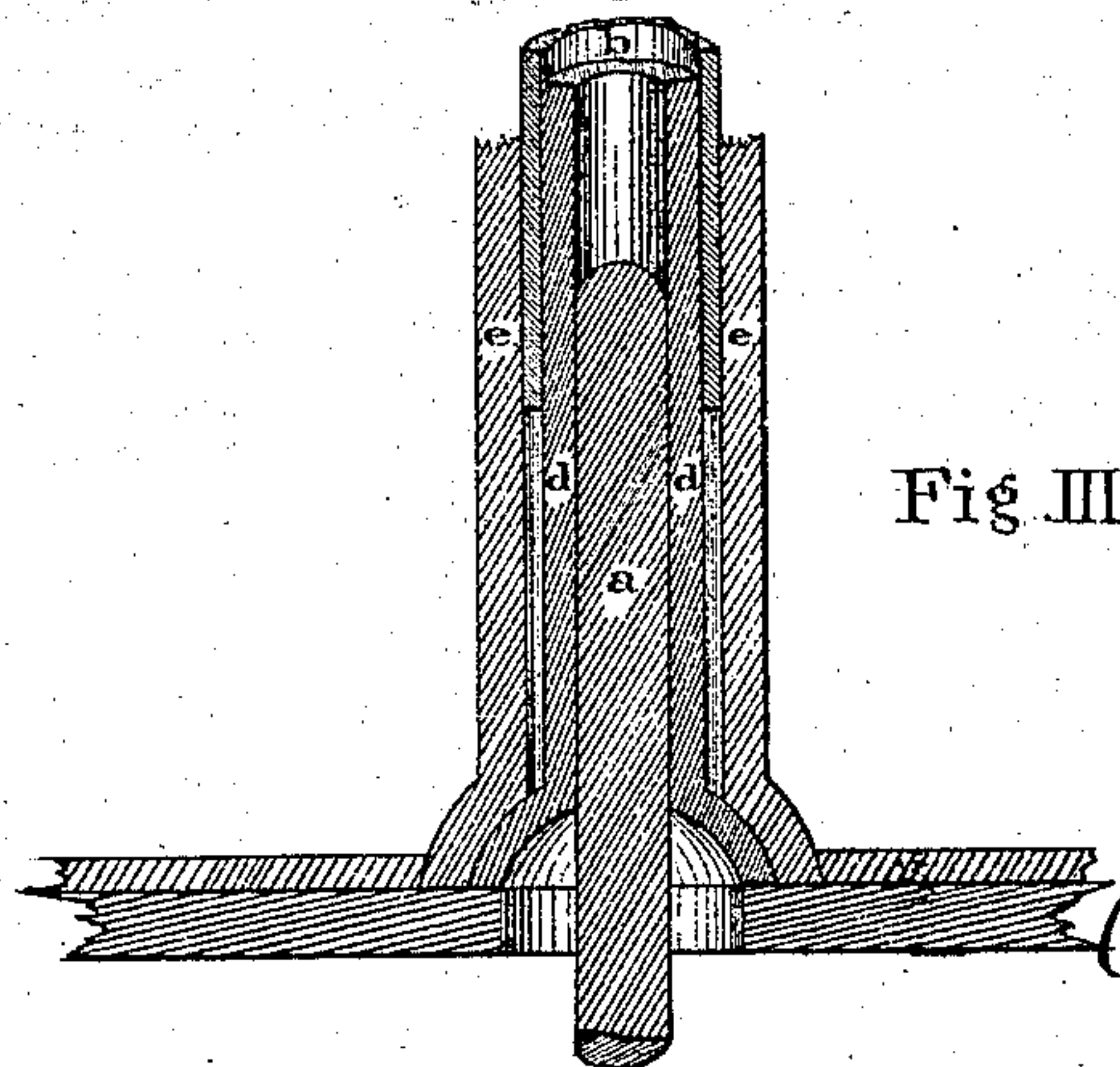


Fig. III.

Witnesses:  
Walter Sanderson  
William b. Sauve

Inventor:  
Charles Stange

# UNITED STATES PATENT OFFICE.

CHARLES STANGE, OF DETROIT, MICHIGAN.

## IMPROVEMENT IN TILE-MACHINES.

Specification forming part of Letters Patent No. **152,926**, dated July 14, 1874; application filed May 25, 1874.

*To all whom it may concern:*

Be it known that I, CHARLES STANGE, of Detroit, in the county of Wayne and State of Michigan, have invented certain Improvements in the Manufacture of Hydraulic Portland-Cement Pipes, of which the following is a specification:

Figure 1 is an elevation, showing the plan of my device. Fig. 2 is a vertical transverse section.

My invention consists of the core *a*, metallic mantle *b*, mold *e*, spring *h*, guides *f* and *g*, and pulley C, and the combination and arrangement thereof, as shown and described.

The adjustable core *a* is located so as to move through an orifice provided in the horizontal piece S of the guide *f*, and is operated by the spiral spring *h*, in connection with pulley C, in such manner as to lower or withdraw the core *a* simultaneously with the elevation of the metallic mantle *b*. *b* is a metallic cylinder, which is attached to the rope of pulley C, and provided with the flange M at the upper part thereof, which latter is adjusted to slide in the guide *g*. *e* is an adjustable mold-support, which is formed of two equal parts, hinged to the platform, and held together by a catch, as shown, and supported in position by the hinged props K in such manner as to be readily thrown open for the release of mantle *b* and core *a* therein located. *h* is a spiral

spring, which is fastened in guide *f* to core *a*, and, when it is contracted by the pulley C, core *a* is carried downward with it.

The operation is as follows: The mold having been filled by compressing therein the component substance of the cement pipe or tile, such as clay or other earth, whereupon the pulley C is operated, the mantle *b* and the core *a* are simultaneously withdrawn from the tile, the former ascending in connection with the upper rope of pulley C, and the latter descending by action of the lower rope of the said pulley, the mold is thrown open, the cement pipe or tile is then removed, and the pulley reversed, upon which the mantle *b* gravitates to its proper position, while the release of the contracted spring impels the core *a* to occupy its original position.

I claim—

1. The combination and arrangement of core *a*, mantle *b*, and mold *e*, with supports K, substantially as shown and described.

2. Core *a*, mantle *b*, and mold *e*, with supports K, in combination and arrangement with spring *h*, pulley C, and guides *f* and *g*, substantially as shown, and for the purpose described.

CHARLES STANGE.

Witnesses:

JULIUS STOLL,  
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