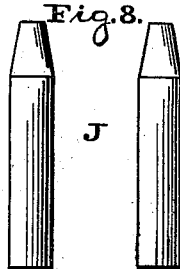
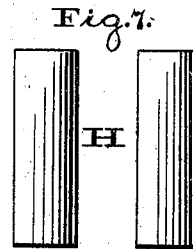
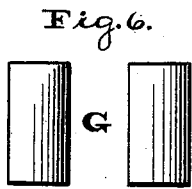
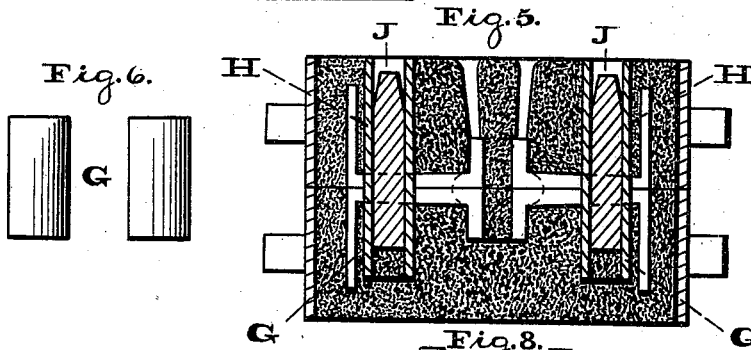
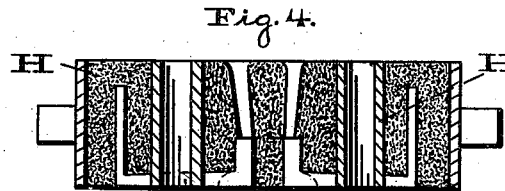
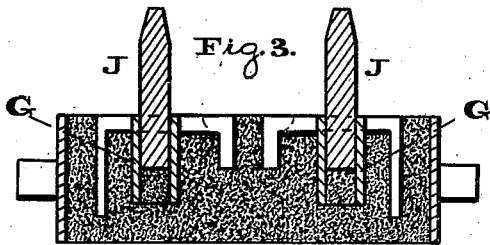
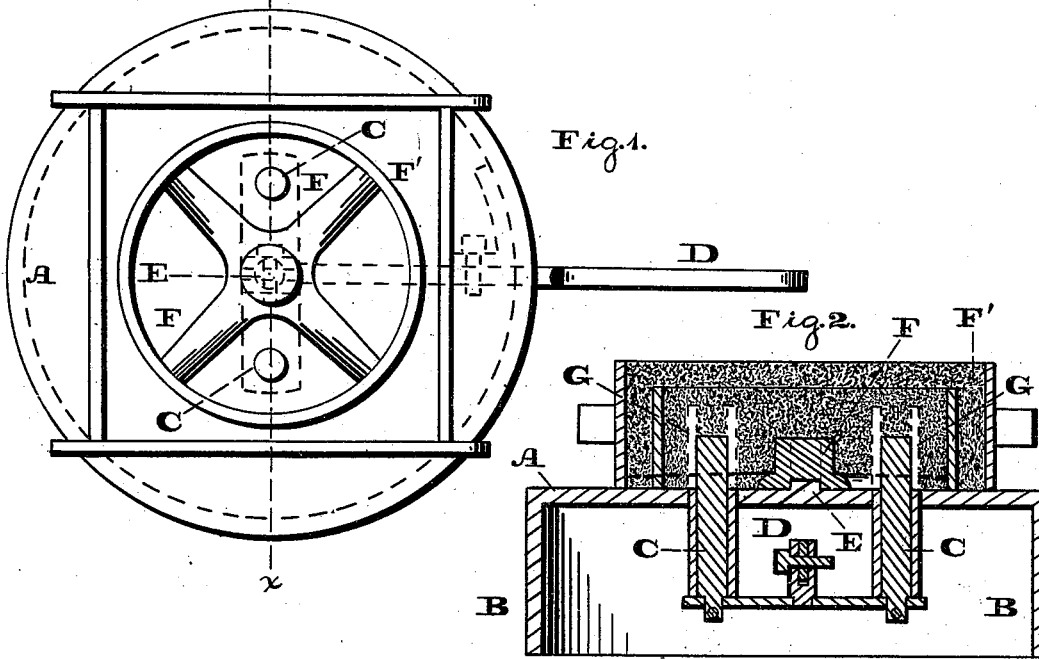


H. & P. NADIG.  
MOLDING PULLEYS.

No. 195,036.

Patented Sept. 11, 1877.



Witnesses:  
*Lewis F. Brown,*  
*Jo. P. Grant.*

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Attorney.

# UNITED STATES PATENT OFFICE.

HENRY NADIG AND PHILLIP NADIG, OF ALLENTOWN, PENNSYLVANIA.

## IMPROVEMENT IN MOLDING PULLEYS.

Specification forming part of Letters Patent No. **195,036**, dated September 11, 1877; application filed December 11, 1876.

### *To all whom it may concern:*

Be it known that we, HENRY NADIG and PHILLIP NADIG, of Allentown, in the county of Lehigh and State of Pennsylvania, have invented a new and useful Improvement in Molding Pulleys and other articles, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 is a top or plan view of a face-plate and half-pattern embodying our invention, and an applied flask. Fig. 2 is a vertical section thereof in line *x x*, Fig. 1. Figs. 3, 4, and 5 represent successive operations. Figs. 6, 7, and 8 are side elevations of tubes and pins employed in the invention.

Similar letters of reference indicate corresponding parts in the several figures.

Our invention consists in improvements in molding pulleys and other articles by means of guides or registers embedded in the sand or material of the form or mold, whereby many important results are attained, among which may be mentioned a saving of expensive patterns and flasks, truthfulness and certainty in the register of the parts of the mold, and cheaper and better work.

Referring to the drawings, A represents a face-plate, which may be mounted on a rim or feet, B. C represents vertically-arranged pins, which are passed through openings of said plate A, and adapted to be raised and lowered. For this purpose we may employ a lever, D, which, having its bearings on the rim or feet B, is pivoted to the lower end of said pins, so that by operating said lever the proper motions will be imparted to the pins. At the center of the face-plate A there rises a stud, E, and the pins C are so disposed that the stud E and said pins C will be in a right line, as more readily seen in Fig. 1. F represents a half-arm and hub, and F' a ring, half the width of the rim of a pulley, said arm, hub, and rim constituting the pattern of the pulley to be molded.

In Fig. 6 are shown two short tubes, G, in Fig. 7 two longer tubes, H, and in Fig. 8 two pointed pins, J, the bores of the tubes G H being equal, and slightly larger than the diameter of the pins J, so that the latter may fit loosely, but snugly, in the tubes, which

latter also fit loosely, but snugly, on the pins C of the face-plate.

The operation is as follows: The face-plate A will be so located that the pins C may be lowered to the level thereof. Raise the pins to their full extent, and fit over them the short tubes G. Locate on the face-plate A the half-arms and hub F, at the center of which is a depression to fit the central stud E of the face-plate, and also the half-rim F', the latter encircling the half-arms, all of which, as shown in Figs. 1 and 2, the short tubes G being indicated by dotted lines. Now, place a flask of suitable size on the face-plate around the rim F' and mold, as shown in Fig. 2. Then lower the pins C below the reach of the tubes G, remove and reverse the flask, and draw the patterns by wires screwed into the exposed parts, or other well-known means, the tubes G remaining embedded in the sand of the form. Insert the loose pins J in the tubes G, the pointed ends of the pins being uppermost. (See Fig. 3.) Now, again locate the half-arms and hub F and the half-rim F' on the face-plate, the hub resting on the stud E, care being taken that the arms are in the same position on the plate that they occupied in the previous molding, so that the half-molds will subsequently coincide, and fit the long tubes H on the pins C. Place another flask on the face-plate surrounding the rim F', and mold as before. Then lower the pins C, the tubes H remaining in the sand of the mold, (see Fig. 4,) and remove and reverse the mold, so as to draw the pattern. Now, place the molded halves together, or close the mold, as shown in Fig. 5, the pointed ends of the pins J entering the tubes H, so that said halves certainly and reliably register, after which the casting may be accomplished in any desirable manner.

It will be seen that by our improvement there will be great saving in expensive patterns, as a full set of patterns for each diameter and width of rim is not required, and as the pattern of the rim is separate from that of the arms, the former may be turned both inside and outside, and the result will be superior and cheaper work. Moreover, expensive flasks are dispensed with, as we transfer the registering-guides from the flask into the form or mold, by which we obtain a truthful-

ness and certainty of register not attainable by the use of flasks.

Again, by our improvement we may use flasks that are sprung and dilapidated, and upper and lower parts of different sizes.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. Registering-guides embedded in the sand or material of the form or mold, and operating substantially as and for the purpose set forth.

2. The face-plate A, with movable guide-pins C and the tubes G H, operating there-

with, substantially as and for the purpose set forth.

3. The tubes G H and pins J, combined and operating substantially as and for the purpose set forth.

4. The face-plate A, with movable guide-pins C, half-pattern F F', tubes G H, and pins J, combined and operating substantially as and for the purpose set forth.

HENRY NADIG.  
PHILLIP NADIG.

Witnesses:

TOBIAS KESSLER,  
JOHN L. MOYER.