

(Model.)

T. C. BELDING.

POLISHING AND GRINDING WHEEL.

No. 267,132.

Fig. 1. Patented Nov. 7, 1882.

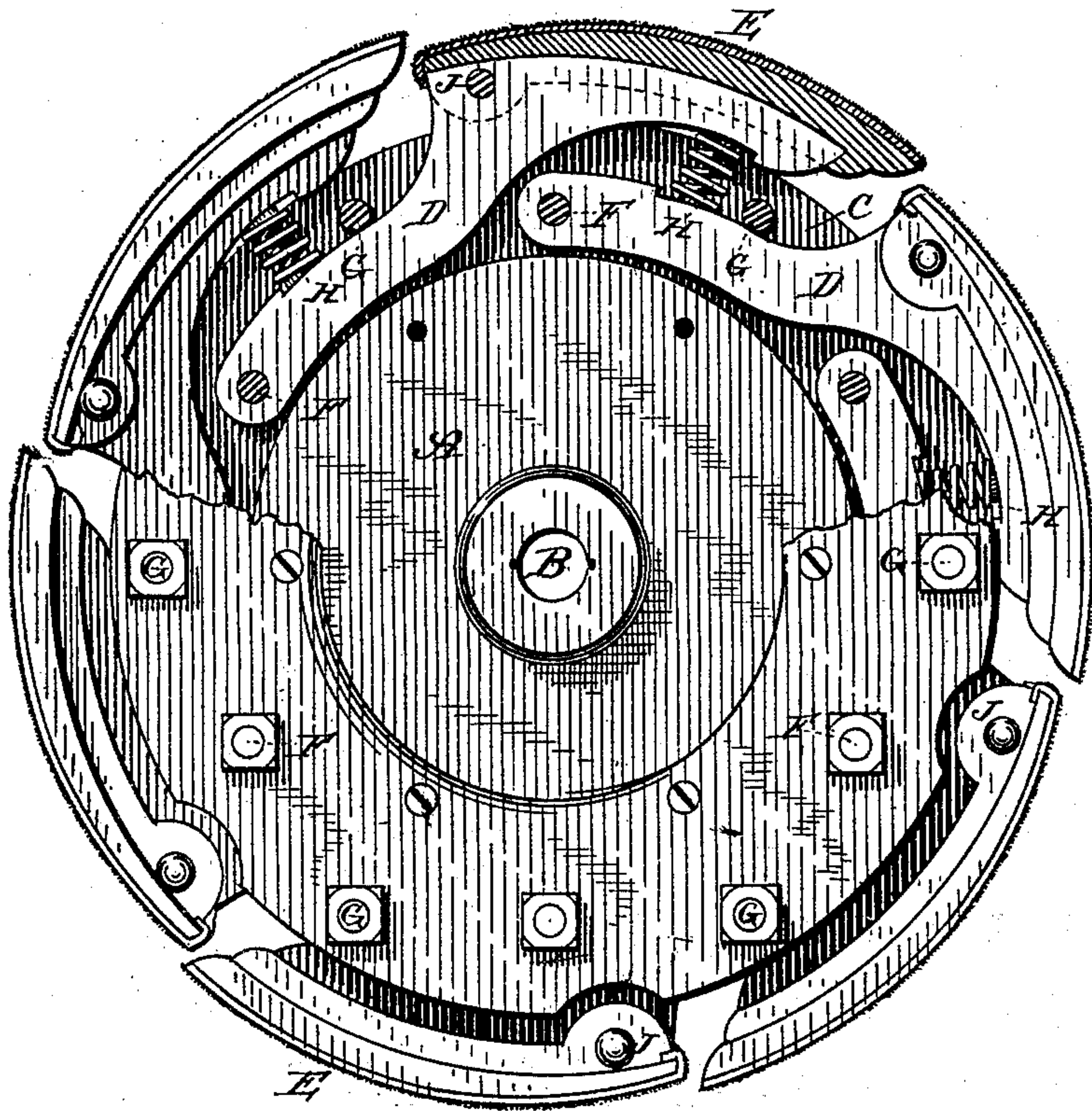


Fig. 2.

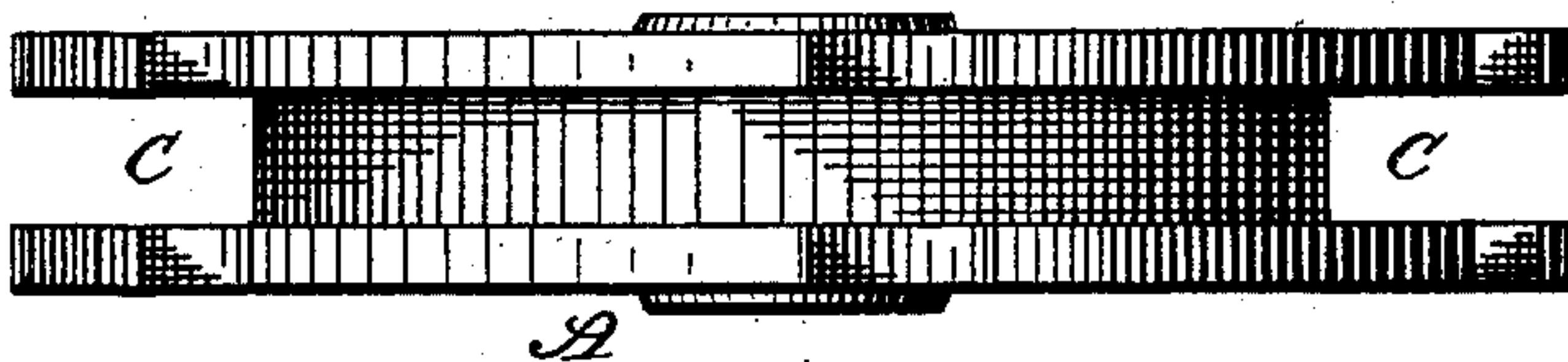
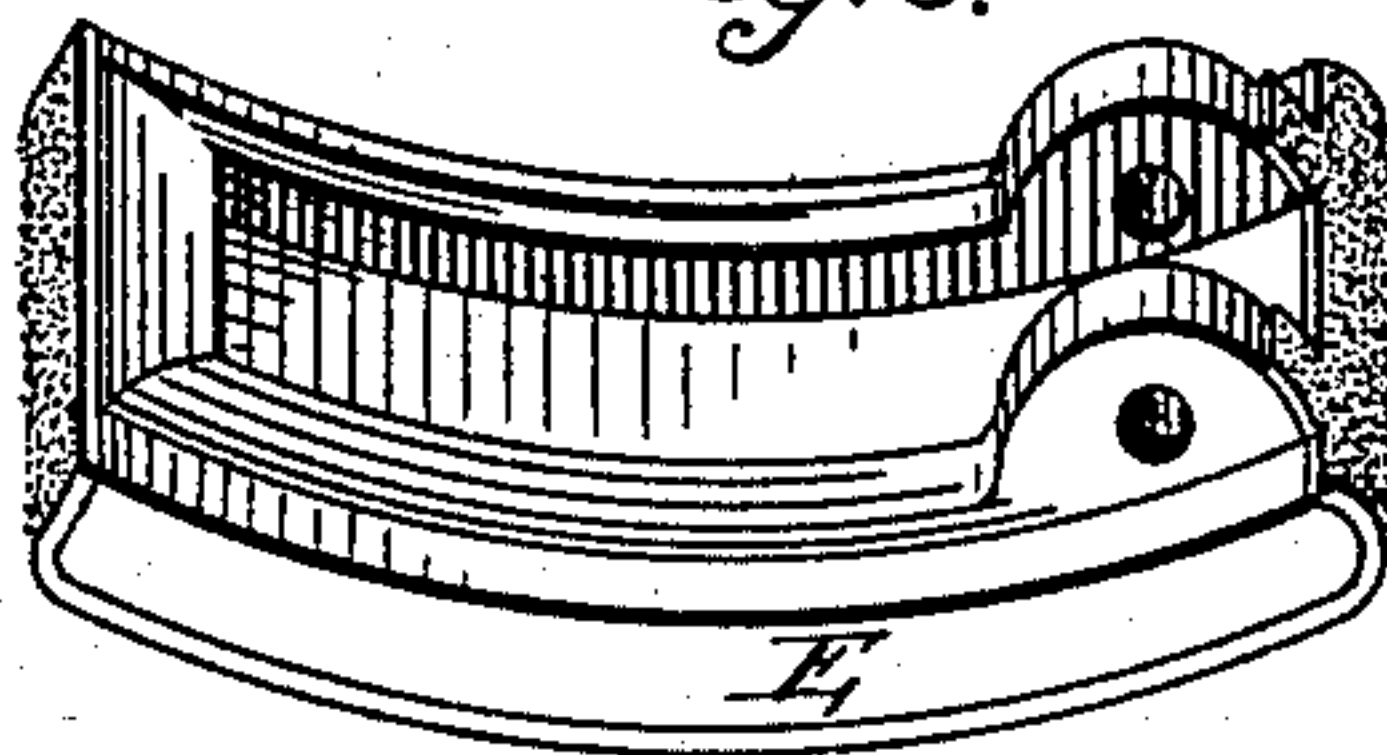


Fig. 3.



Witnesses:

J. W. Garner.  
W. S. D. Haines.

Inventor:

Thos. C. Belding,  
per  
F. A. Lehmann,  
att'y



# UNITED STATES PATENT OFFICE

THOMAS C. BELDING, OF WAYNESBURG, OHIO.

## POLISHING AND GRINDING WHEEL.

SPECIFICATION forming part of Letters Patent No. 267,132, dated November 7, 1882.

Application filed March 29, 1882. (Model.)

*To all whom it may concern:*

Be it known that I, THOMAS C. BELDING, of Waynesburg, in the county of Stark and State of Ohio, have invented certain new and useful  
5 Improvements in Polishing and Grinding Wheels; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and  
10 use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in polishing and grinding wheels; and it consists,  
15 first, in the combination, in a grinding and polishing wheel, of a series of spring-actuated polishing-pads, the end of one pad being made to overlap the end of the next adjoining one; second, in the combination of the wheel or  
20 body, having a groove in its edge, with a series of spring-actuated arms, which are pivoted in the groove, and provided with polishing or grinding pads which overlap each other, so as to form practically a continuous surface; third,  
25 in the combination, in a polishing and grinding wheel, of a grooved body or wheel, arms pivoted in the groove, springs placed under the arms, stops to limit the outward movement of the arms, and grinding or polishing  
30 pads, which are applied to the ends of the arms; fourth, in the combination, in a grinding and polishing wheel, of a series of arms with the pads which are grooved on their inner sides, so as to catch over the ends of the arms,  
35 and bolts to hold them in place, all of which will be more fully described hereinafter.

The object of my invention is to provide a wheel for polishing and grinding which has practically a spring or elastic surface, so that  
40 the article applied to the surface will drag upon the cushion or pad, and thus enable much better work to be performed.

Figure 1 is a side elevation of my invention complete, a portion of the side of the wheel  
45 being removed for the purpose of showing the arms. Fig. 2 is an edge view of the wheel, showing the groove. Fig. 3 is a perspective of one of the detachable pads.

A represents a body or wheel, which has an  
50 opening, B, through its center to fit upon the driving-shaft, and which has the groove C made in its surface to receive the arms D, which

carry the polishing and grinding pads E. The wheel A may be made in one solid piece, or may be made in a number of pieces, as convenience  
55 may dictate. The arms D will be made of the shape here shown, or any other that may be preferred, and which are pivoted in the groove C, upon suitable pivotal bolts, F, or any other suitable devices. In order to prevent these arms  
60 from being thrown outward by centrifugal force, the bolts G, or any other suitable means or devices, are passed through the sides of the wheel, so as to catch over their outer edges; or any other  
65 suitable means or devices may be employed as stops for this purpose. In order to hold the arms pressed constantly outward, a suitable spring, H, of rubber, metal, or any other suitable material, is placed under the outer end  
70 of each arm, as shown, and which spring will serve to keep the arm pressed constantly outward as far as its stop will allow, and at the same time to allow the arm to yield inward  
75 whenever any pressure is applied to the outer surface of the pad. Each one of the pads E has a suitable socket formed on its inner side,  
80 so as to catch over the outer end of the arm, and each pad is secured in place upon its arm by means of a bolt, J, or any other suitable device, which may be passed directly through  
85 the ears on the side of the pad and the arm, or applied in any other suitable manner. The end of each pad should be made to extend a slight distance beyond the end of the next adjoining pad, so as to overlap, and thus prevent  
90 small articles—such as wire and pieces of metal—from dropping in between the arms, and thus interfering with their working. By this arrangement the pads will form practically a continuous and elastic surface to the wheel.

When the wheel is in operation the article to be ground or polished is held to the surface of the wheel with force enough to press the pad or cushion inward toward the center of  
95 the wheel, and as the cushion passes off the article being polished or ground the spring throws the cushion outward from the center as far as the stop for the arm will allow. This has the effect of dragging the cushion or pad on the surface of the article, which others have  
100 sought to obtain heretofore by the use of rubber, felt, cotton, brush-wheels, and other devices.

I am aware that brushes have been secured



to a revolving wheel by means of spring-arms, or held upon springs which allow the brushes to be pressed inward, and this I disclaim. My invention differs from this in using a grooved wheel, to which a series of long arms are pivoted, and which arms are provided with grinding-pads, which form practically a continuous grinding-surface.

Having thus described my invention, I claim—

1. In a grinding and polishing wheel, the combination of a series of spring-actuated polishing-pads, the end of one pad being made to overlap the end of the next adjoining one, substantially as shown.

2. The combination of the wheel A, having the groove C, and a series of spring-actuated arms, which are pivoted in the groove, and provided with polishing or grinding pads which overlap each other, so as to form practically a continuous surface, substantially as described.

3. In a polishing and grinding wheel, the combination of the grooved body A, the arms

D, pivoted in the groove, the springs H, placed between the arms, and the stops G, the grinding-surfaces of the arms being made to form almost a continuous surface around the wheel, substantially as set forth.

4. In a grinding and polishing wheel, the combination of the arms D with the pads E, grooved on their inner sides, so as to catch over the ends of the arms, and held in place at their lower ends by the bolts J, substantially as specified.

5. The combination of a grooved wheel, a series of pivoted arms, each one of which is provided with a polishing pad or cushion, and suitable stops for preventing the arm from being thrown too far outward by centrifugal force, substantially as set forth.

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

THOMAS C. BELDING.

Witnesses:

JOHN SHAEFFER,  
ROBERT C. FAWCETT.