

No. 890,849.

PATENTED JUNE 16, 1908.

P. DOSCH.  
FLOOR SCRAPER.  
APPLICATION FILED JULY 6, 1907.

2 SHEETS—SHEET 1.

FIG. 1

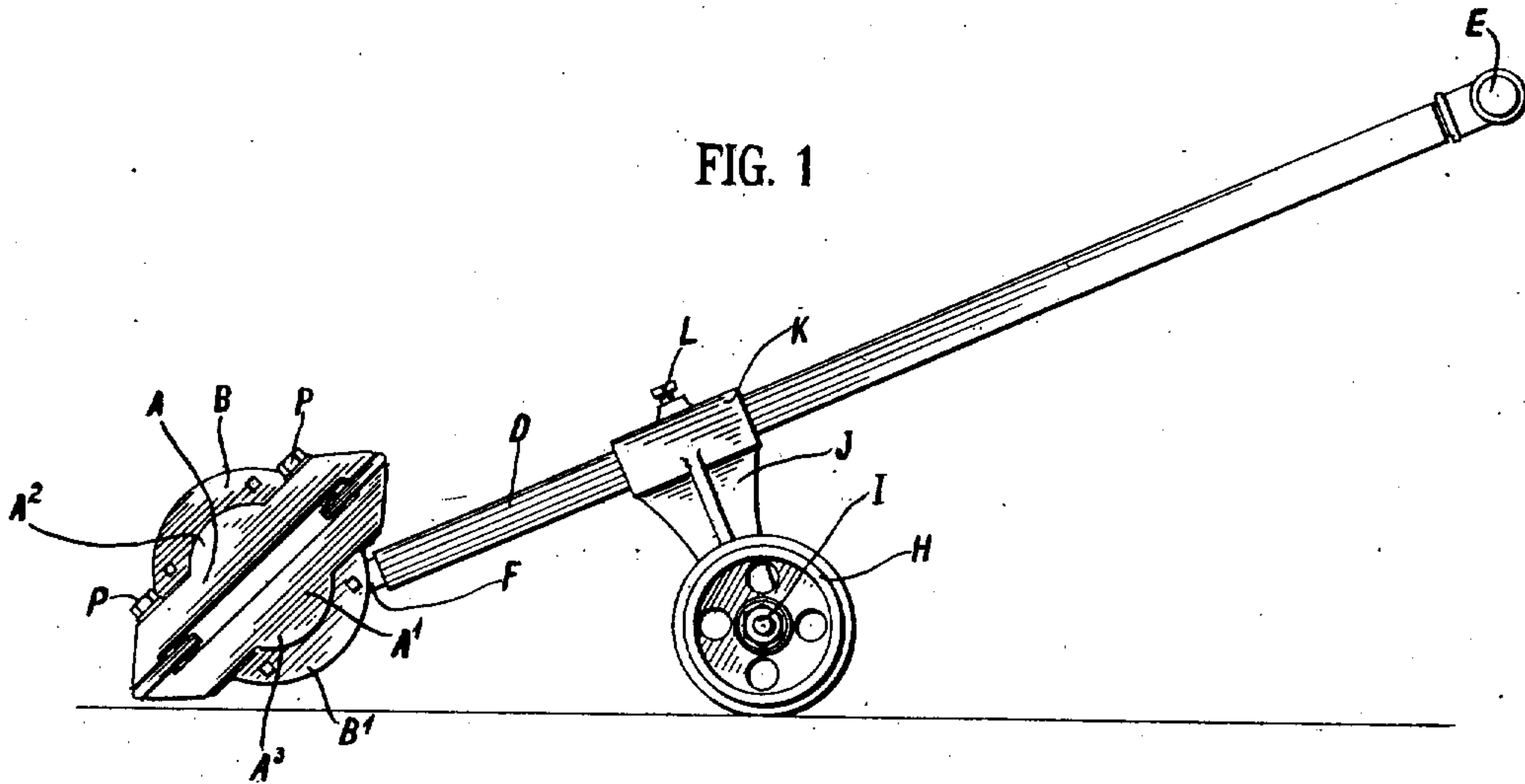


FIG. 2

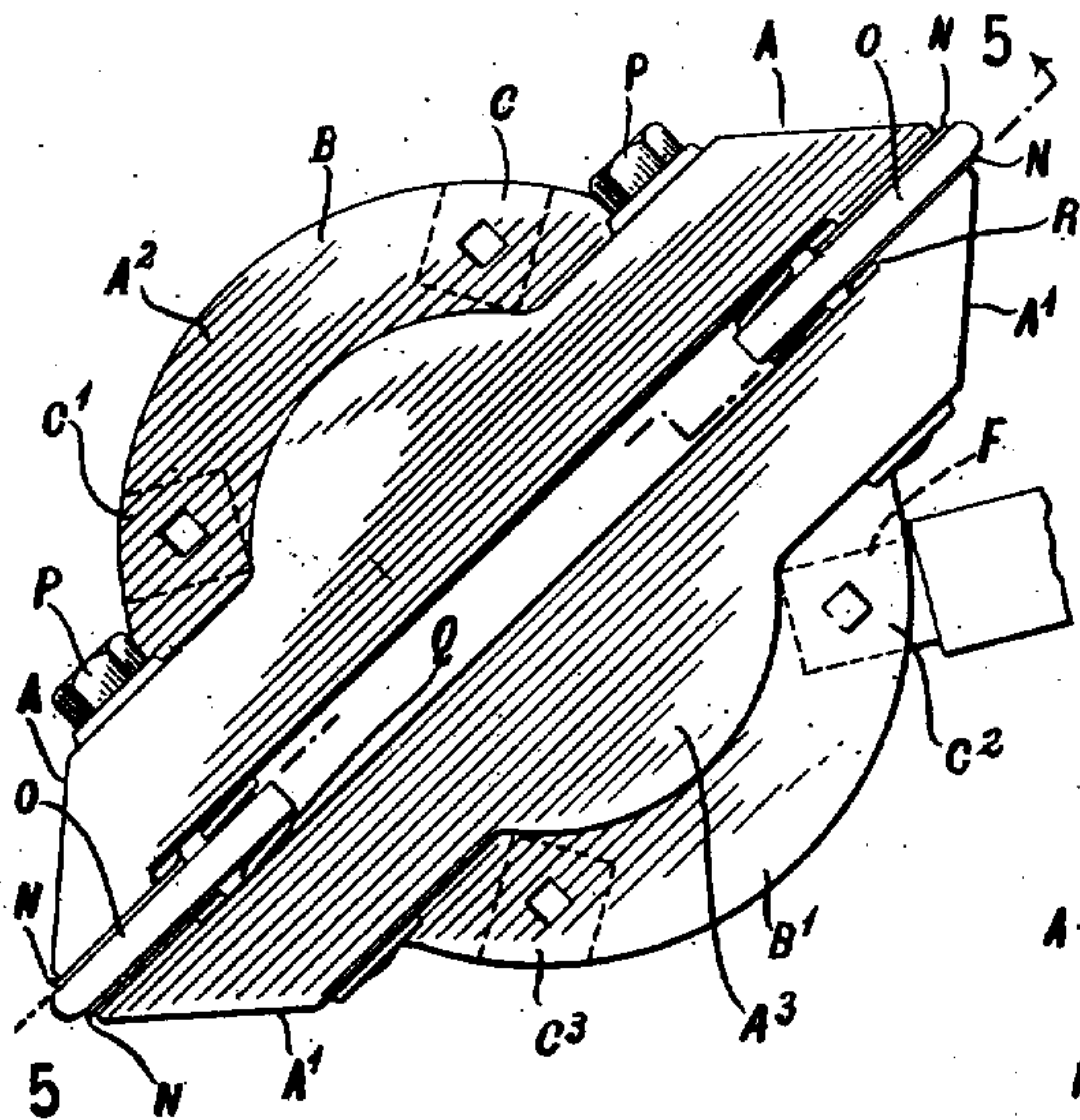
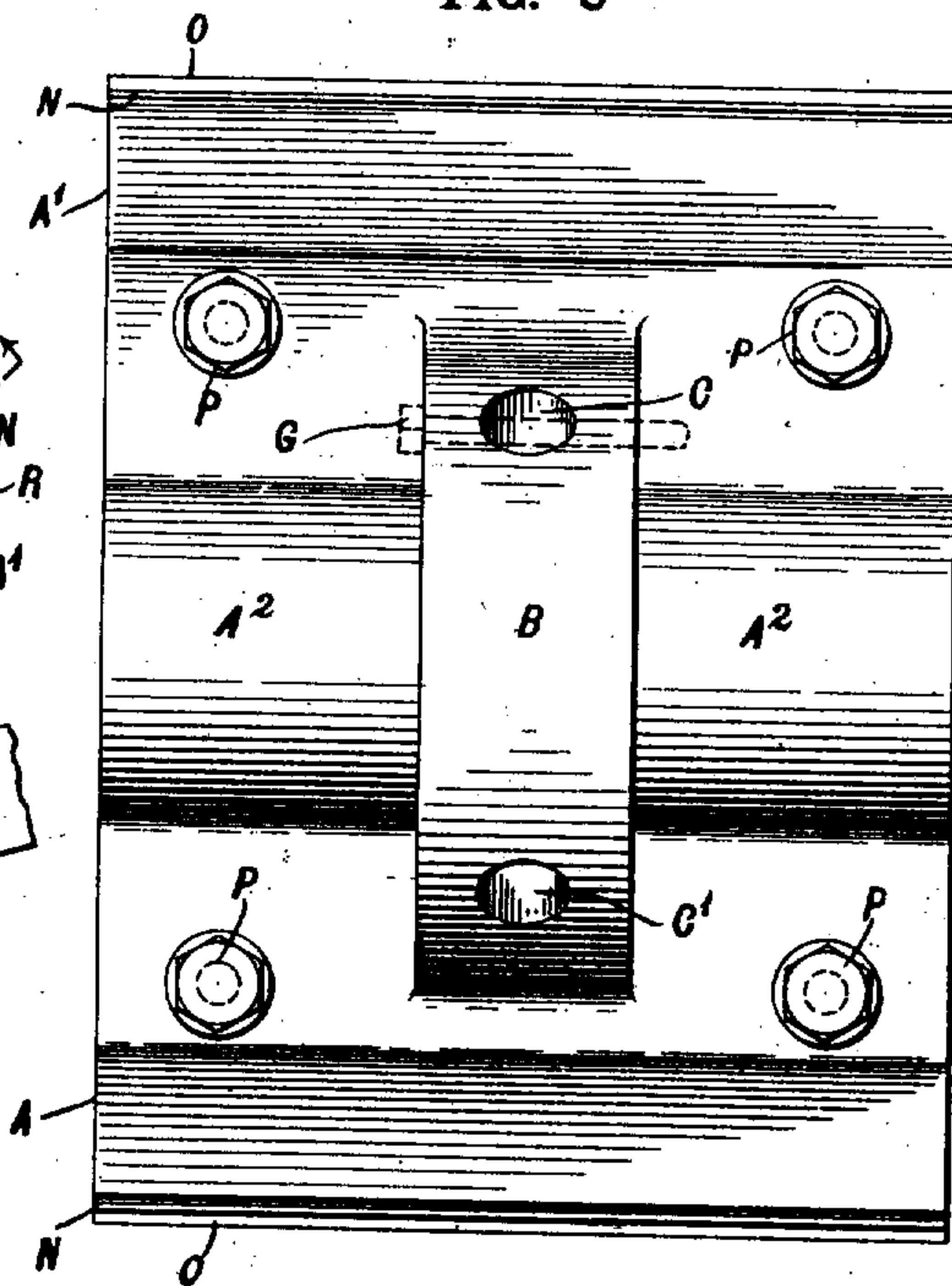


FIG. 3



Witnesses:  
Max H. Doring  
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2 SHEETS—SHEET 2.

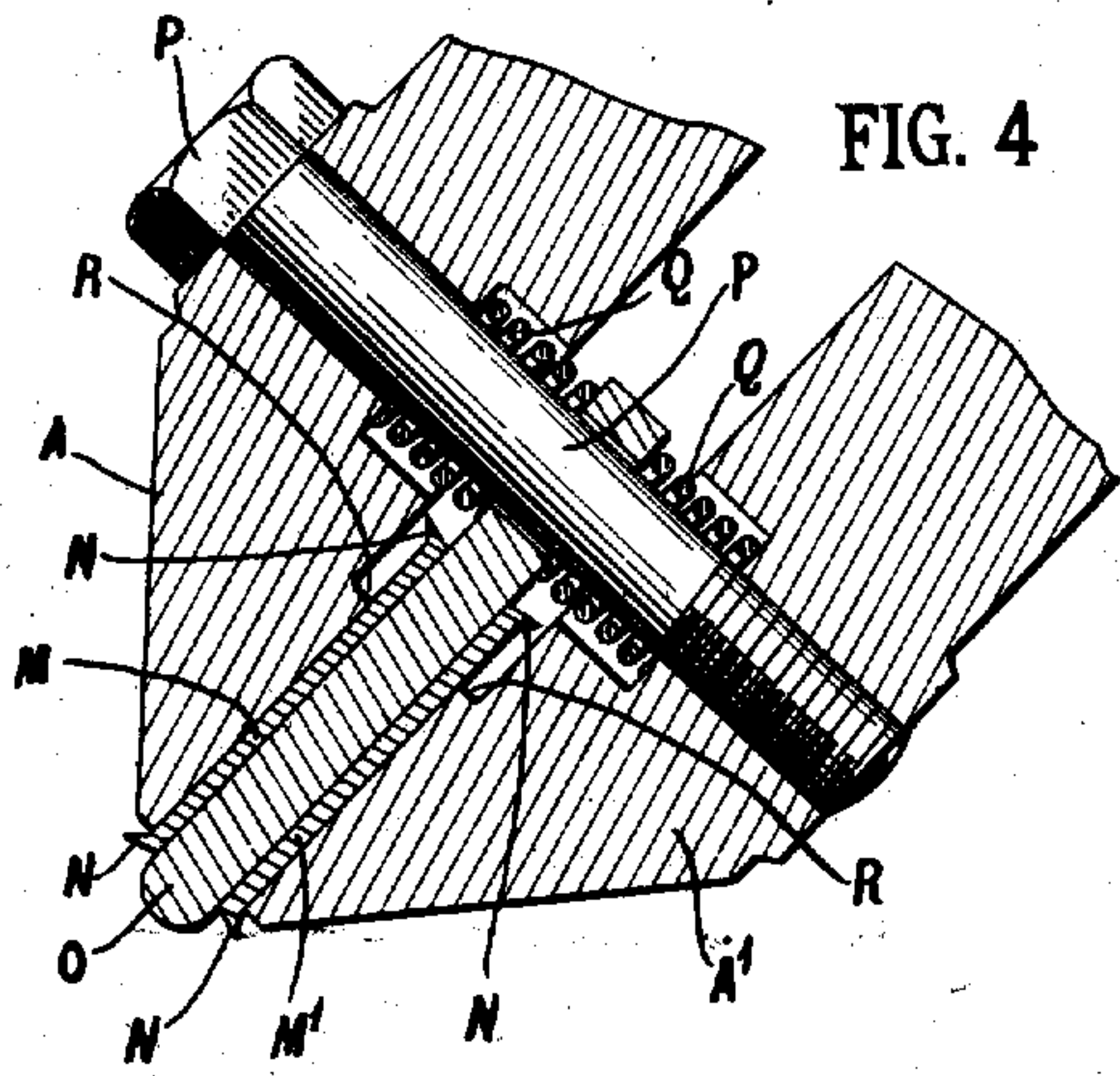


FIG. 4

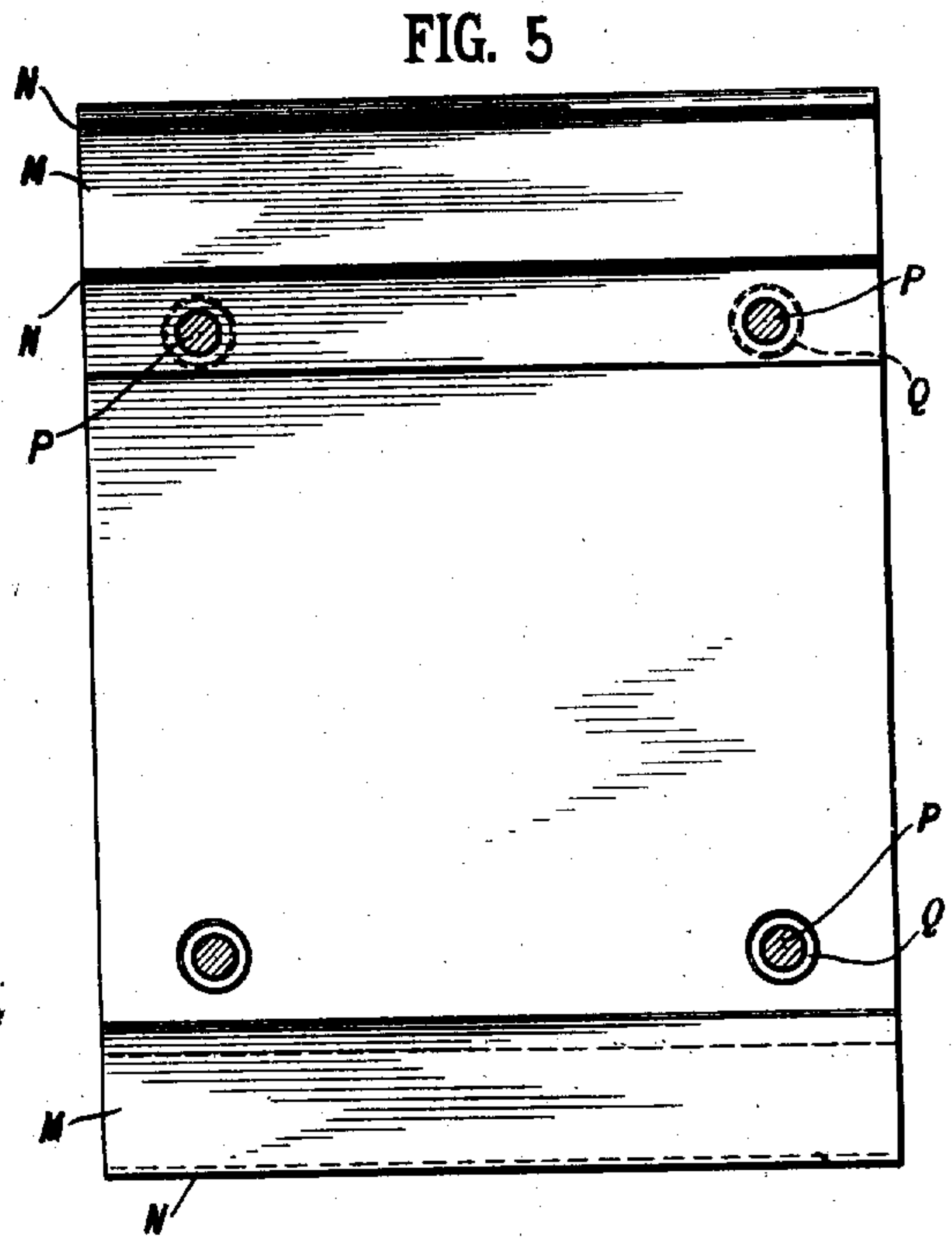


FIG. 5

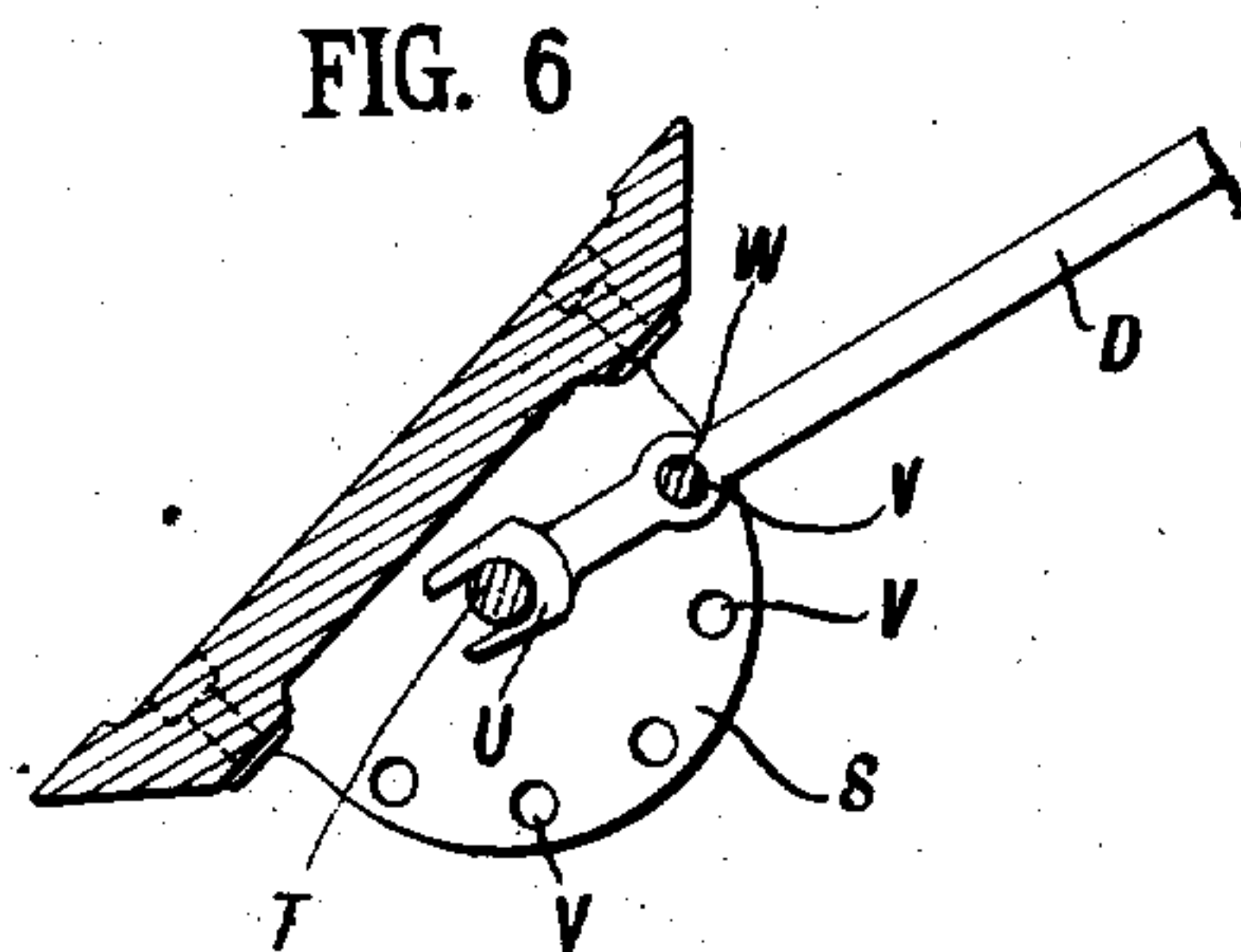


FIG. 6

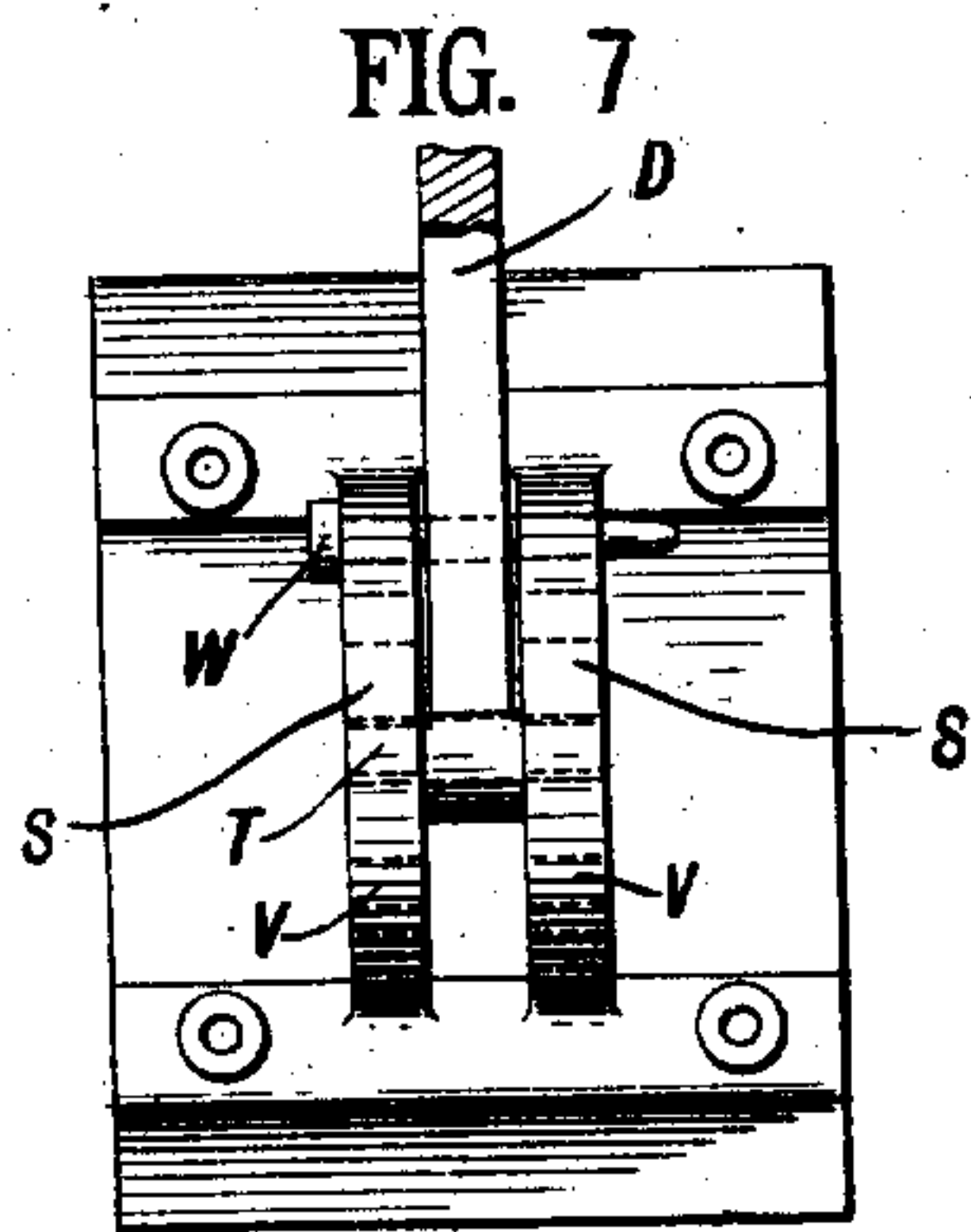


FIG. 7

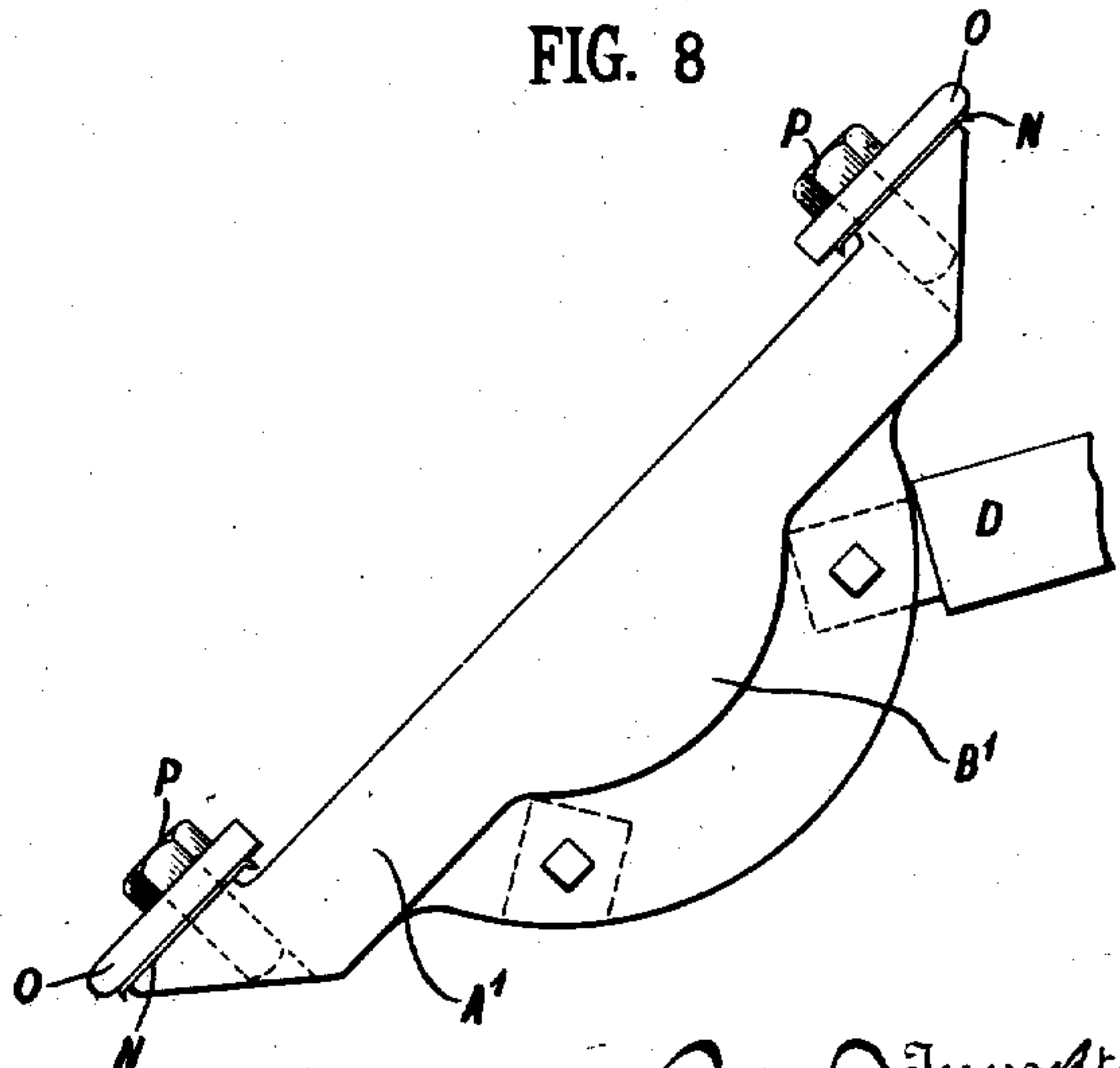


FIG. 8

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# UNITED STATES PATENT OFFICE.

PETER DOSCH, OF BRIDGEPORT, CONNECTICUT.

## FLOOR-SCRAPER.

No. 890,849.

Specification of Letters Patent.

Patented June 16, 1908.

Application filed July 5, 1907. Serial No. 382,139.

*To all whom it may concern:*

Be it known that I, PETER DOSCH, a citizen of the United States, and a resident of the city of Bridgeport, county of Fairfield, State of Connecticut, have invented a certain new and useful Improvement in Floor-Scrapers, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 illustrates an elevation of the apparatus; Fig. 2 illustrates an endwise elevation of the scraper head; Fig. 3 illustrates a plan view of one of the halves of the scraper head; Fig. 4 illustrates a detailed view, somewhat enlarged, of one side of the scraper head, showing the arrangement of the knives and release bar, the clamping bolt and the supporting springs; Fig. 5 illustrates a plan view on the line 5—5 of Fig. 2; Fig. 6 illustrates an elevation, partly in section, of a modified construction of the apparatus; Fig. 7 illustrates a plan view, showing the arrangement of the handle, when the apparatus is constructed on the modified plan shown in Fig. 7; Fig. 8 illustrates my apparatus when arranged to employ a pair of knives only, instead of being, so to speak, a double machine arranged to carry four knives.

It is the purpose of this invention to enlarge the utilities of floor scrapers by multiplying the number of knives or cutting edges; also to reduce the labor of using it; also to supply means whereby it may be readily adjusted to workmen of different height, so that they may utilize their strength to the best advantage; also to provide means whereby the shaving at the end of the cut may be caused to pass out upon the surface of the floor, so that rough edges, requiring care in renewing the finishing operation may be avoided; also economy in construction and convenience in assembling and disassembling the apparatus, when changing the position of the knives, or introducing new ones. Other advantages are also secured, which will appear as the construction is disclosed.

The cutter head, as I term it, consists of two parts, A, A'. They are substantial cast structures, made in the form shown, and are each provided in their medial section with a projecting rib or boss, B, B', in each of which are made two holes (Fig. 3), C, C', C<sup>2</sup>, C<sup>3</sup>. Each of the halves of the cutter head may likewise, for the purpose of increasing their weight, be provided with a thickening of the

cast metal of which they are preferably made, as shown at A<sup>2</sup>, A<sup>3</sup>.

D is the handle, which may be made of wood or metal, as preferred, and on the end of it there is a cross-bar E, resembling the crossbar of the handle of an ordinary lawn mower. The end of this handle F is shaped to enter the holes C, C', etc. When the handle is inserted in the hole, it is firmly held in place by a crossbolt or cotter pin G, which passes through the sides of the boss B, and through a suitably made hole in the end of the handle, thus locking the latter in position. I prefer to use a cotter pin having tapering sides, so that when the pin is tapped into position, it will draw the handle firmly into and hold it rigidly within the hole.

The following described parts constitute what I call the truck. H is one of a pair of wheels mounted upon a cross shaft I, which is journaled in a bracket J, which is adjustable upon the handle D by means of a hollow socket K, provided with a thumb nut L, so that the rollers H may be adjusted upon the handle bar at such position as desired, thus permitting its adjustment to the height of the operator.

The cutter knives are best shown in Fig. 4. They are shown respectively at M, M'. They are preferably flat pieces of steel, the edges of which may be bent over and sharpened as at N, N, as usual; and between them is what I call the release bar O. It is a piece of steel, the exposed outer end of which is rounded and smoothed, preferably polished. It extends inwardly between the two halves of the cutter head and two clamping bolts P at each side of the machine (there are four in all) pass through the rear edge of these release bars. Springs Q encircle these clamping bolts P, exerting outward pressure, so that when the bolts are slackened, the two halves of the cutter head will be automatically separated, thus aiding in the adjustment of the knives.

The operation of the apparatus as thus far described is as follows: It will be noted that there are four separate knives and that each knife has two cutting edges. Consequently there are eight cutting edges available for use. The bolts P are first run back so as to permit the two halves of the head to separate under the action of the springs Q. Thereupon the knives are carefully introduced and adjusted, so that they shall have the necessary projection. The pair of knives which



are at each side of the machine are arranged by the side of the release bars O and the castings of the two sides of the head are reduced in their interior part, thus forming the projecting shoulders R, so that the sharp cutting edge which is on the inside shall not come in contact with the metal and be dulled. When the knives are all in position, the bolts P are firmly screwed down, the springs Q being fully compressed and all the knives and release bars rigidly held in position. The cutter head is then ready for use. The end of the handle D is then introduced in such one of the holes C, as desired, and is rigidly held therein by the cotter pin G (Fig. 3) or otherwise. The rollers H, or, as I call it, the truck, is then adjusted upon the handle D to suit the height and convenience of the operator.

For the transportation of the scraper over the floor, or from room to room, the operator bears down upon the handle, thus lifting the cutter head off from the floor, the truck operating as the fulcrum in so doing. The structure thus carried upon the truck is pushed to the place of use.

To make a cut, the cutting edge is lowered upon the floor by allowing the handle to rise. When the knife rests upon the floor, the handle is further elevated, so that the support obtained from the truck is reduced. The handle may be raised so far that the truck would be lifted entirely from the floor, thus throwing the weight upon the cutter. The operator then pulls the apparatus toward him, making the usual shaving cut and as he approaches the end of the cut, he lifts the handle still further. Consequently the angle of the head relative to the floor changes, so that the smooth, rounded and preferably polished surface of the release bar O comes in contact with the floor behind the knife and lifts the latter from its cutting contact. The cut is thus made to run out to the surface thereby detaching the shaving, leaving it loose and avoiding the abrupt rough termination to the cut as usual heretofore. Thereupon the operator lowers the handle again until the truck comes in contact with the floor, and the apparatus is then rolled to the place where the next cut is to be made; whereupon a repetition of the above operations secures a repetition of the results. In this way the entire floor is smoothed, finished and brought down to surface in an expeditious, easy and convenient manner.

After the edge of the knife first used has become dulled, a new sharp and keen knife may be presented as follows: The cotter pin, which confined the handle in position, is tapped back, the handle is loosened and removed from the hole C in the boss B, in which it formerly was, and is placed in the other hole in that boss, or in one of the cotter holes in the other boss, as may be desired, and is

rigidly held by again driving in the cotter pin. Thus the angle of the head relative to the handle is changed and another keen cutting edge of one of the other knives is presented. In this manner, by changing the handle from hole to hole, until it has done service in all four of them, all of the four sharpened and exposed edges of the knives will have been in turn utilized. Thereupon the edges which were hitherto protected, because presented inwardly between the halves of the head, and which are keen and sharp, may be brought into use, as follows: The clamp bolts P are run back, the springs Q separate the two halves of the head and the cutting edges of the knives are reversed, whereupon the parts are assembled the same as before. These four sharp edges may now be successively used the same as before. When they become dulled, all of the knives may be taken out, the edges of all of them resharpened and they, or new ones inserted, and thus the operations continue indefinitely.

In Figs. 6 and 7 I illustrate a modified construction; that is to say, instead of making the bosses B, B', as solid enlargements of the castings of the cutter head, they may be made in the form of two webs, as at S, S, in Fig. 7, between which passes a cross-bolt T, (see Fig. 6). The handle D may have a bifurcated end U, and be provided with a hole V, through which passes a pin W. There are a succession of holes made in the webs, as illustrated, so that the angle of the head relative to the handle may be altered, by swinging it upon the axis T, so that the pin will engage in the holes V in succession. There is really no necessity for anything more than the upper and lower holes in the series, but in Fig. 6 I show five holes, because it is sometimes convenient to change the angle of the head relative to the handle, so as to modify the cut.

In Fig. 8 I show my apparatus as adapted for light work in which a single pair of knives only are employed. In this construction, one half only of the cutter head is employed, and the clamping bolts P pass through the release bars O respectively, the knives N being clamped between the release bars and the half of the cutter head employed. Otherwise the parts and the operation are, or may be the same as heretofore.

It will be obvious to those who are familiar with this art that many modifications may be made in the details of construction of the apparatus without departing from the essentials of my invention. I therefore do not limit myself to the details herein described and illustrated.

I claim:

1. In a floor scraper, a scraper head provided with a plurality of knives, means to clamp the knives rigidly in the head, a handle, a truck on the handle, and means whereby



the head may be adjusted relative to the handle to bring the edge of any knife into operation.

2. In a floor scraper, a scraper head made in two parts which together have sufficient weight to effect the cutting action of the knives, a plurality of knives, clamping bolts to draw the parts of the scraper head together, surfaces upon the two parts of the head between which the knives are clamped, a handle, a truck upon the handle and means whereby the handle may be adjusted relative to the head, whereby the edge of any knife may be brought into operative position.

3. A floor scraper comprising a head carrying a scraping knife, a handle and a release bar adjacent to and behind the cutting edge of the knife, whereby the cutting edge may be withdrawn from the floor by lifting on the handle and the shaving caused to run out upon the surface thereof.

4. A floor scraper comprising a head carrying a scraping knife, a handle and a release bar adjacent to and behind the cutting edge of the knife, whereby the cutting edge may be withdrawn from the floor and the shaving caused to run out upon the surface thereof, and means which clamp the knife and engage with the release bar, whereby it is likewise clamped in position.

5. In a floor scraper, a scraper head composed of two parts, a double-edged knife adapted to be clamped between the two parts of the head, a recess in the interior of the head extending laterally of the knife in which the non-used edge of the knife may be received and protected and means to clamp the knife between the two parts of the head.

6. In a floor scraper, a scraper head composed of two parts, a double-edged knife adapted to be clamped between the two parts of the head, a recess in the interior of the head extending laterally of the knife in which the non-used edge of the knife may be received and protected, means to clamp the knife between the two parts of the head, a handle and means whereby the handle may be adjusted relative to the head.

7. In a floor scraper, a scraper head composed of two parts, a release bar adapted to insertion between the two parts of the head and which projects beyond the edges of the head, knives adapted to be clamped between the parts of the head adjacent to the release bar and means to clamp the knives and the release bar rigidly between the two parts of the head.

8. In a floor scraper, a scraper head composed of two parts, a release bar adapted to insertion between the two parts of the head and which projects beyond the edges of the head, knives adapted to be clamped between the parts of the head adjacent to the release bar, means to clamp the knives and the release bar rigidly between the two parts of the

head and means to separate the two parts of the head and release the knives upon loosening the clamping devices.

9. In a floor scraper, a scraper head having an interior recess which extends laterally of the knives, whereby it is adapted to receive and clamp a plurality of double-edged knives, the non-used edges of the knives being received within and protected by the head, and means to clamp the knives within the head.

10. In a floor scraper, a scraper head adapted to receive and clamp a plurality of double edged knives, the non-used edges of the knives being received within and protected by a recess in the head which extended laterally of the knives, means to clamp the knives within the head and a release bar adjacent to and behind the cutting edge of the knives and which projects beyond the edge of the head, whereby the cutting edge may be lifted from the floor by lifting on the handle.

11. In a floor scraper, a scraper head made in two parts, four double-edged knives arranged in pairs, each pair being set back to back, clamping bolts adapted to draw the parts of the head together and clamp the knives between them, and a space within the head in which the non-used edge of the knives may be received and protected.

12. In a floor scraper, a scraper head made in two parts, four knives arranged in pairs, each pair being set back to back, clamping bolts adapted to draw the parts of the head together and clamp the knives between them, and springs encircling the clamping bolts whereby upon loosening the bolts, the parts of the head will be automatically separated and the knives released.

13. In a floor scraper, a scraper head composed of two parts, which have sufficient weight to effect the cutting action of the knives a release bar which projects beyond the edges of the scraper head, and which supports the cutting edge of the knives clamping bolts set in the parts of the scraper head and which pass through the release bar, and knives adapted to be clamped between the respective parts of the scraper head and the release bar.

14. In a floor scraper, a scraper head composed of two parts, which have sufficient weight to effect the cutting action of the knives a release bar which projects beyond the edges of the scraper head, and which supports the cutting edge of the knives clamping bolts set in the parts of the scraper head and adapted to pass through the release bar, double-edged knives adapted to be clamped between the respective parts of the scraper head and the release bar, and spaces in the head within which the non-used edges of the knives may be received and protected.

15. In a floor scraper, a scraper head, a re-



lease bar, a knife and means to clamp the knife between the release bar and the scraper head, the edge of the release bar being located behind and adjacent to and thus supporting the cutting edge of the knives and also extending beyond the edge of the scraper head.

16. In a floor scraper, a scraper head, a handle engaging therewith and a truck adapted to be adjusted longitudinally of the handle.

17. In a floor scraper, a scraper head adapted to contain a plurality of knives, means to clamp the knives within the head, a handle, means whereby the handle may be engaged with the head in different positions, so that the several knives may be successively brought into operative position with-

out loosening them in the head, and a truck on the handle.

18. In a floor scraper, a scraper head adapted to contain a plurality of knives, means to clamp the knives within the head, a handle, means whereby the handle may be engaged with the head in different positions, so that the several knives may be successively brought into operative position without loosening them in the head, and a truck longitudinally adjustable on the handle.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

PETER DOSCH.

Witnesses:

ADDIE LATHROP,  
AMARETTE S. DOSCH.