

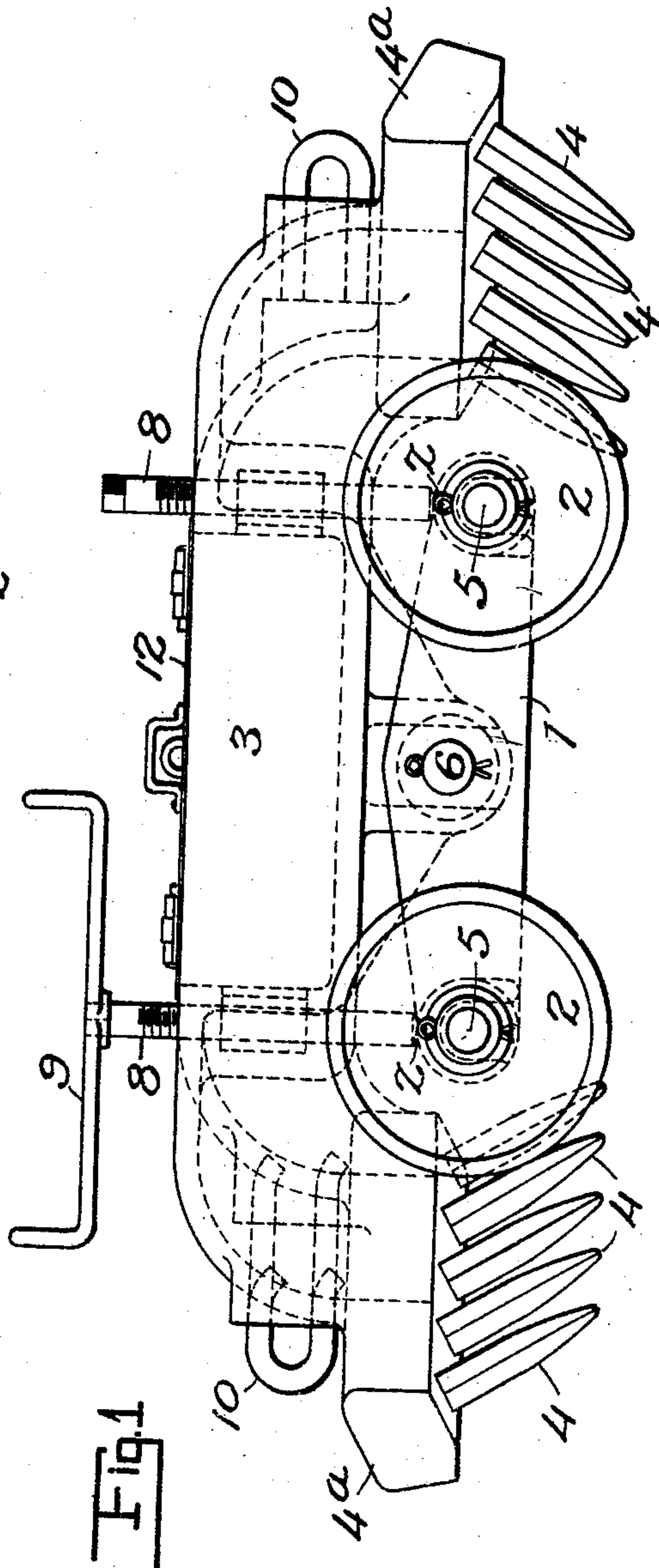
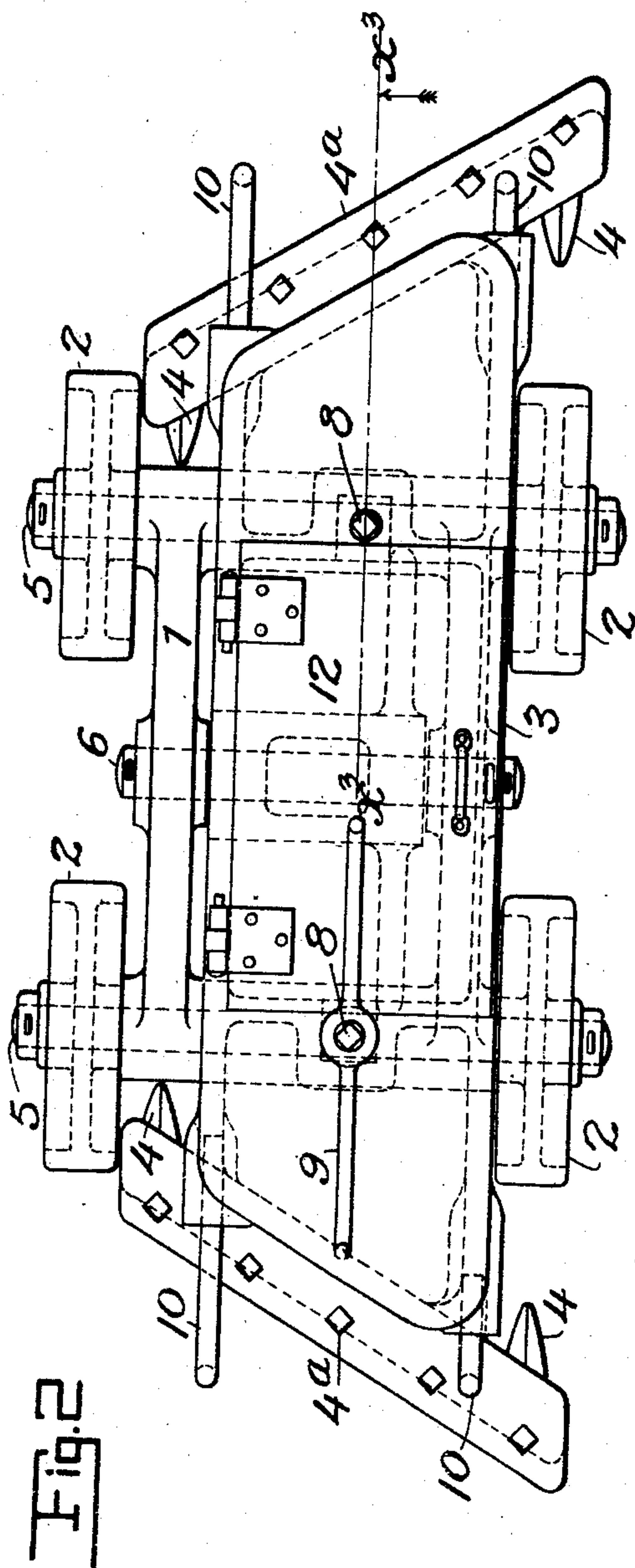
No. 866,698.

PATENTED SEPT. 24, 1907.

B. W. TUCKER.
ROAD SCARIFIER.

APPLICATION FILED DEC. 30, 1905.

3 SHEETS—SHEET 1.



Witnesses
James P. Duhamel,
A. C. [Signature]

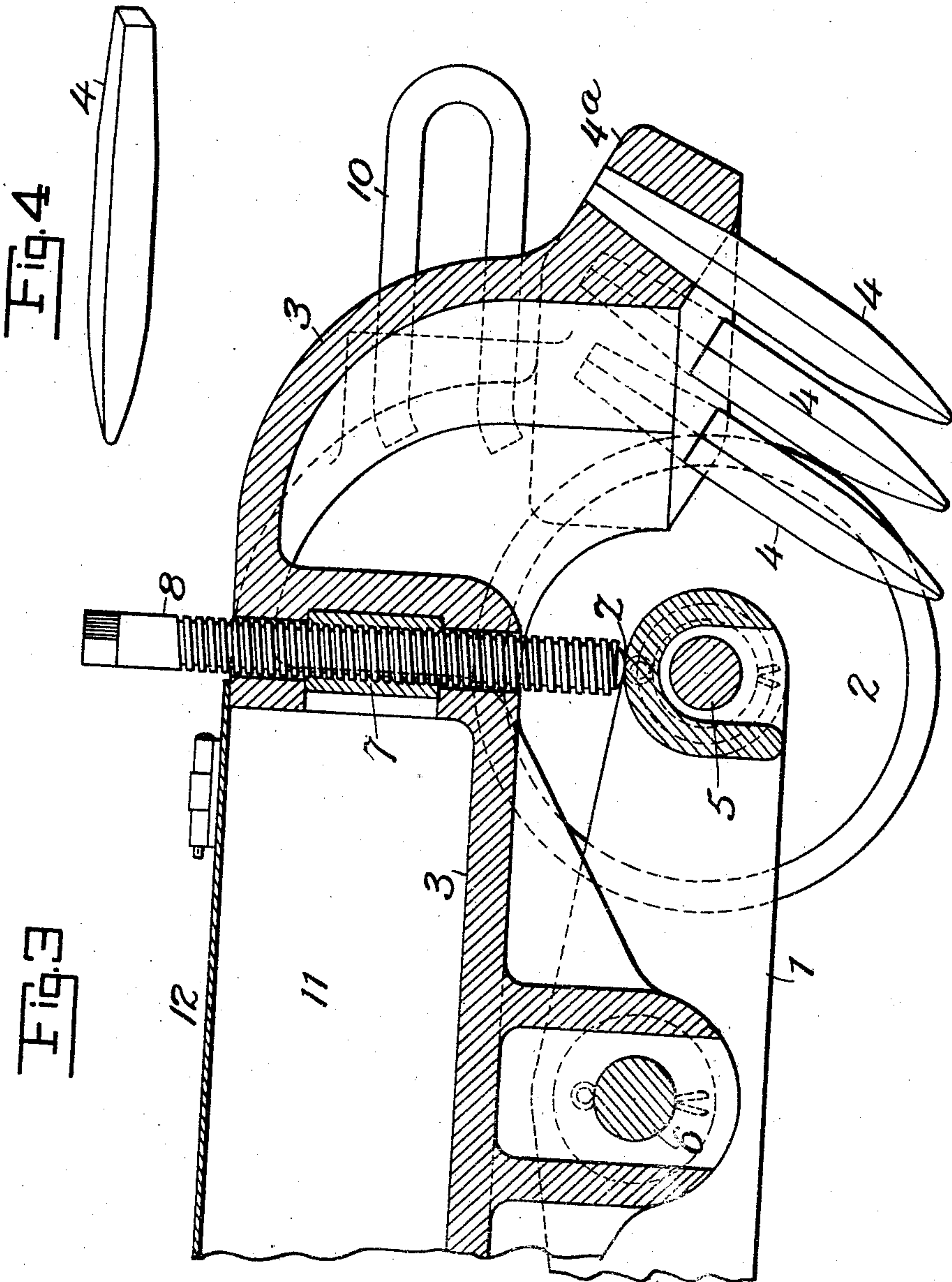
Benjamin W. Tucker
Inventor
By his Attorney, Harry Condit

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Inventor
By *[Signature]* Attorney

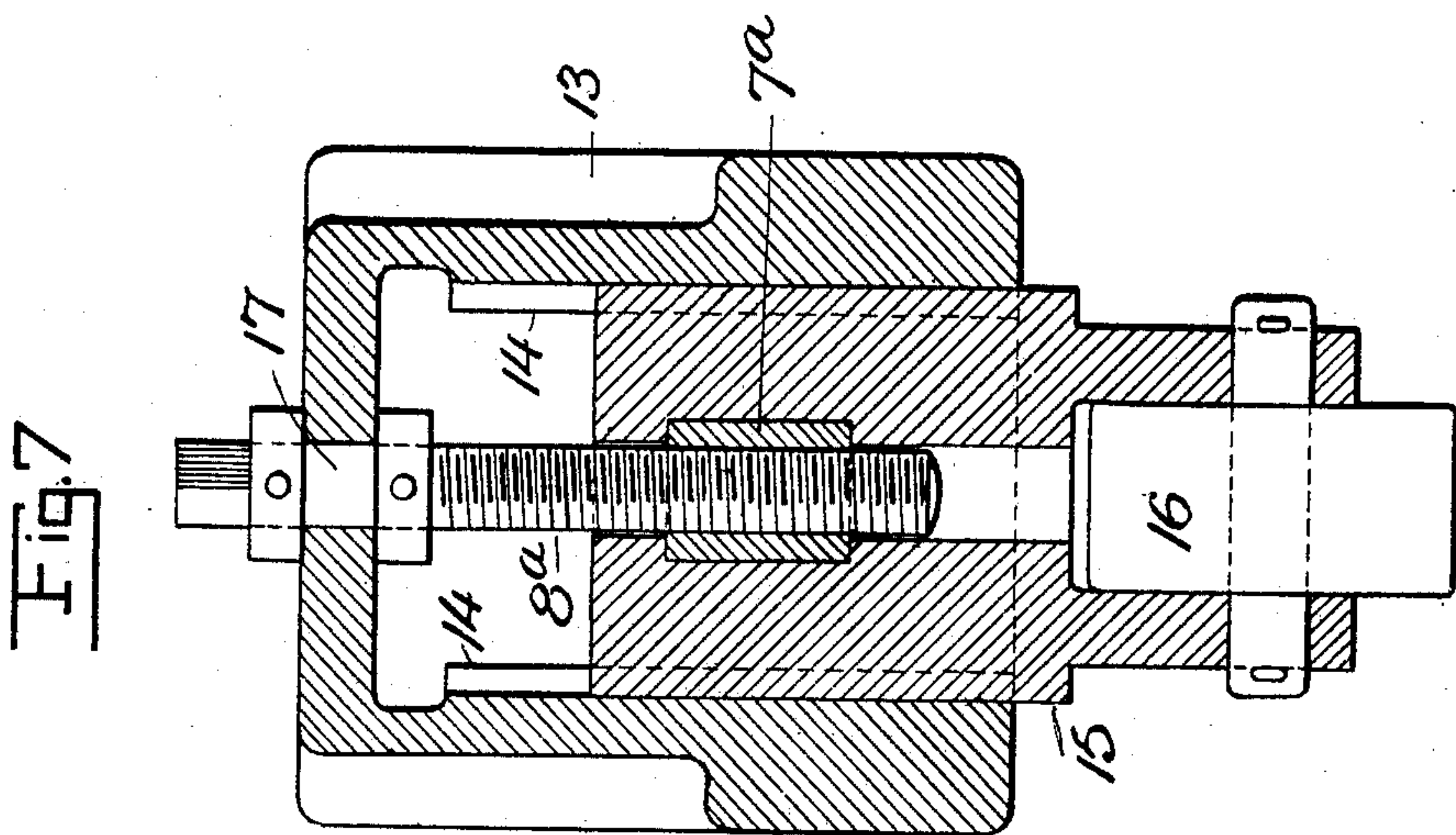
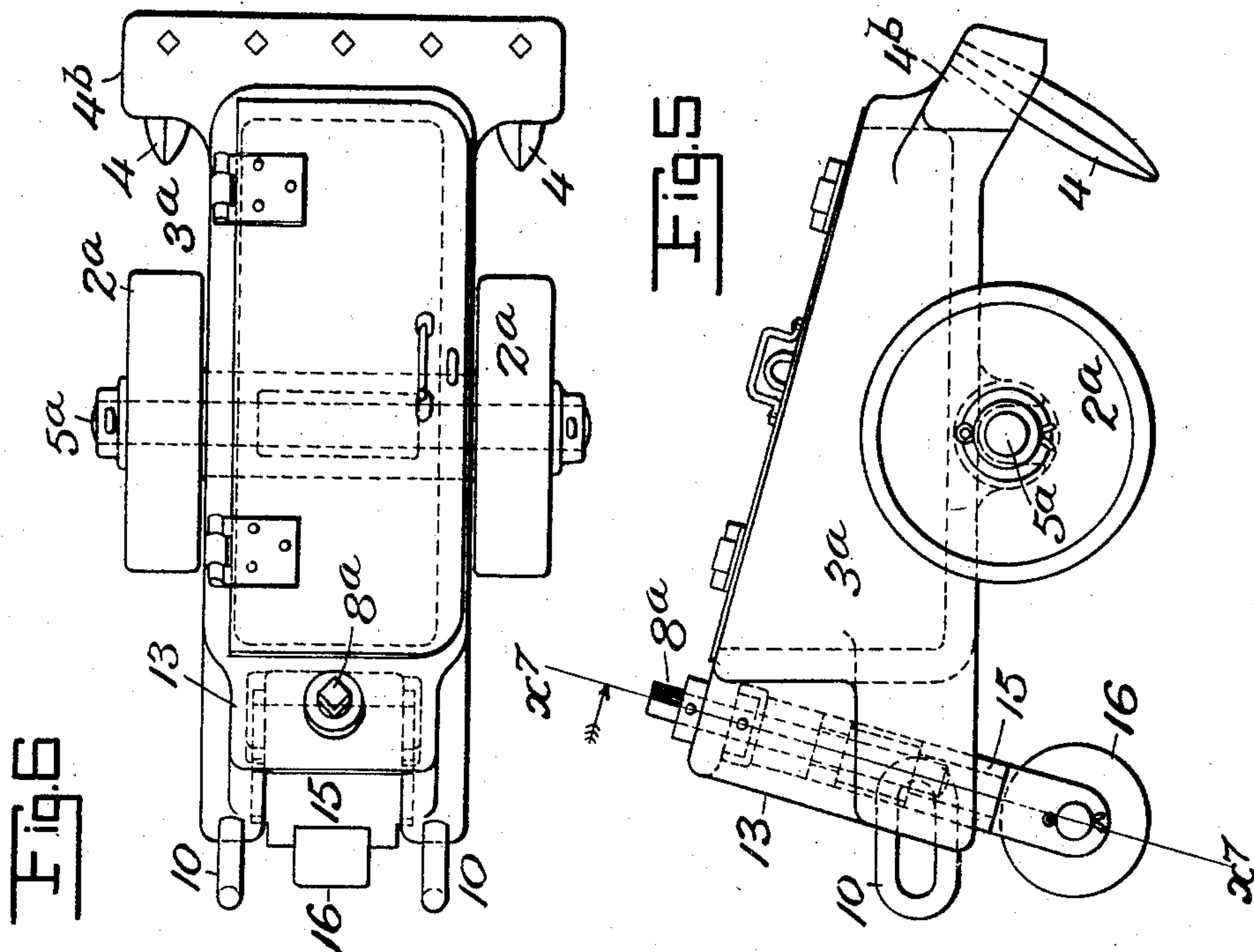
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3 SHEETS—SHEET 3.



Witnesses

JAMES F. DUHAMEL

Benjamin W. Tucker
Inventor

By his Attorney, *Henry Bennett*

UNITED STATES PATENT OFFICE.

BENJAMIN W. TUCKER, OF NEWARK, NEW JERSEY.

ROAD-SCARIFIER.

No. 866,698.

Specification of Letters Patent.

Patented Sept. 24, 1907.

Application filed December 30, 1905. Serial No. 294,006.

To all whom it may concern:

Be it known that I, BENJAMIN W. TUCKER, a citizen of the United States, residing in the city of Newark, in the county of Essex and State of New Jersey, have
5 invented certain new and useful Improvements in Road-Scarifiers, of which the following is a specification.

This invention relates to the class of wheeled devices or implements employed for scarifying Telford (and
10 similar) roads, for purposes of repair. Ordinarily these implements have three wheels, namely, a pair of main supporting wheels and a small pilot-wheel in front and the oblique gang of picks is disposed in front of the main bearing wheels. These implements have certain de-
15 fects which the present invention seeks to obviate.

To this end, one of the features of this invention consists in disposing the gang of picks behind the supporting wheels and in providing means for raising and lowering the picks so that the extent of their penetration
20 may be nicely regulated, and another feature consists in providing the implement with two pairs of ground-wheels, or supporting wheels, a bed-frame pivotally mounted on the truck frame between said pairs of wheels, a gang of picks carried at each end of said bed-
25 frame, and means for adjusting said bed-frame so as to put either gang of picks in operation at will.

Other constructive points will be hereinafter described and the novel features of the invention carefully defined in the claims.

30 In the accompanying drawings, which illustrate embodiments of the invention—Figure 1 is a side elevation of the implement in its double-ended form, and Fig. 2 is a plan of the same. Fig. 3 is a vertical, axial, longitudinal section of one end of the same, the plane
35 of the section being indicated by line x^3 in Fig. 2. Fig. 4 is a detached view of one of the picks. Figs. 5, 6 and 7 show a single-ended form of the implement. Fig. 5 is a side elevation and Fig. 6 a plan. Fig. 7 is a sectional detail view on a large scale, the plane of the
40 section being indicated by line x^7 in Fig. 5.

Referring primarily to the first four figures of the drawings, which illustrate the principal form in which the invention is embodied, 1 designates a truck-frame, supported on two pairs of ground-wheels 2, 2. On the
45 truck-frame, at a point midway between the pairs of ground-wheels, is pivotally mounted a bed-frame 3, which carries at its respective ends gangs of picks 4, 4. As herein shown the axles 5, 5, of the ground-wheels have bearings in the respective ends of the truck-frame
50 (Fig. 3), and the shaft or hinge-bar 6, about which the bed-frame rocks, passes through the side-bars of the truck-frame and through bearing-sockets on the bottom of the bed-frame. In the bed-frame, at each end thereof, is a housed nut 7 (Fig. 3) down through which
55 passes a screw 8, which finds a bearing at z on the truck-

frame. By means of these screws 8, and a suitable movable crank 9 (Figs. 1 and 2) which fits squares on the screws, the bed-frame may be rocked about the shaft 6, so as to depress one gang of picks into operative position and simultaneously elevate the other gang so
60 as to be out of operation. The bar 4^a , carrying the picks is disposed obliquely to the axis of the implement (Fig. 1), as usual; and as herein shown this bar is formed integrally with the bed-frame, though this is not essential. Nor is the oblique disposal of the
65 gang of picks essential to the invention.

One important feature of the construction is the disposal of the operative gang of picks back of or behind the main ground-wheels of the machine, with the picks inclined forward toward the rear wheels. This places
70 the weight of the implement and its center of gravity in front of the operating gang of picks as the implement is drawn over the road. Another important point is that all the bearing points of the wheels are always in front of the operative gang of picks, whether there be one or
75 two gangs, and no wheel is behind or following said gang; and there are never more than two wheels, or pairs of wheels, on the implement disposed tandem or in the line of travel. Where there are three wheels or rolling bearings disposed one before the other in the
80 line of travel, one will, almost inevitably, be lifted off the surface and cause trouble. The present construction provides that the operative gang of picks shall always be at the extreme rear of the implement. The
85 implement may be drawn, of course, by any power; that is, by horses or by a motor-vehicle of any kind, the power being coupled to the bed-frame by any suitable connecting means, as by the links 10, for example. There may be a box 11 in the bed-frame, for road-tools, and it may be provided with a hinged cover 12.
90

The construction illustrated in Figs. 5, 6 and 7 is lighter than that above described. In this construction there is but one pair of ground-wheels 2^a , and the axle 5^a thereof finds its bearings in bearing-brackets on the bottom of the bed-frame 3^a . Thus the truck-frame
95 1 and shaft or bar 6 are eliminated and the bed-frame rocks on the axle for raising and lowering the gang of picks 4. In this construction the bar 4^b of the picks is not disposed obliquely (although it may be so disposed), but the picks are behind the ground-wheels and back
100 of the center of gravity of the implement, and they incline forward toward the wheels, as in the construction already described.

For raising and lowering the picks there is a device in front of the ground-wheels which will now be de-
105 scribed. This device consists of a guide-frame 13, on the front end of the bed-frame 3^a , and provided with inclined guides 14, (Fig. 7) in which slides a block 15, carrying at its lower end a wheel 16, which bears on the ground. In the block 15, above, is housed a nut 7^a , and
110

down through this nut passes an adjusting screw 8^a, which is collared at 17 in a bridge-piece of the frame 13. By means of this screw 8^a the bed-frame may be rocked and the gang of picks raised or lowered as desired.

- 5 Such an implement as has been described is usually employed in repairing Telford and similar roadways, but obviously it may be employed for other uses to which it is applicable. The number of picks in the gang is not important to this invention, nor is the particular form or length of the pick important; but it is
10 important that the picks, fastened at their upper ends in the bar, shall incline downward and inward toward the pivotal point of the bed-frame.

Having thus described my invention, I claim—

- 15 1. An implement for the purpose specified, having a body portion, supporting wheels under the same, a gang of picks carried at the end of said body, and means for putting said picks in and out of their operative position, all of the supporting wheels of the implement being in front
20 of the picks when the latter are in operative position.
2. An implement for the purpose specified, having two pairs of ground-wheels, a truck-frame mounted thereon, a bed-frame pivotally mounted on the truck-frame, a gang of picks carried by each extremity of the bed-frame, the
25 picks in said gangs being inclined with their points directed inward or toward the pivotal point of the bed-frame, and means for rocking or turning said bed-frame about its pivot, the supporting wheels of the implement being all disposed between the two gangs of picks, as specified.
- 30 3. An implement for the purpose specified, having a bed-frame, two gangs of picks carried by said frame at its re-

spective extremities, a truck-frame on which said bed-frame is pivotally mounted at substantially the middle of the length of the truck-frame, two pairs of ground-wheels
35 under and supporting said truck-frame, said pairs of wheels, which form the sole support of the implement, being disposed between the two gangs of picks and, respectively, at opposite sides of the pivotal axis of the bed-frame, and means for turning the latter about its pivot for
40 raising or lowering either gang of picks.

4. An implement for the purpose specified, having two pairs of ground-wheels, a truck-frame supported thereon, a bed-frame pivotally mounted on said truck-frame at a point between said pairs of wheels, two gangs of picks, one
45 gang at each end of the bed-frame and carried thereby, nuts 7 in the bed-frame at opposite sides of the pivotal point of said frame, and screws 8 which extend down through the respective nuts and bear on the truck-frame.

5. An implement for the purpose specified, having two
50 pairs of ground-wheels, a truck-frame supported thereon, a bed-frame pivotally mounted on said truck-frame at a point between said pairs of wheels, two gangs of picks, one gang at each end of the bed-frame and carried thereby, the
55 picks of both gangs being secured at their upper ends and being inclined downward and inward toward the pivotal point of the bed-frame, nuts 7 in the bed-frame at opposite sides of the pivotal point of said frame, and screws 8 which extend down through the respective nuts and bear
60 on the truck-frame.

In witness whereof I have hereunto signed my name this 11th day of Dec. 1905, in the presence of two subscribing witnesses.

BENJAMIN W. TUCKER.

Witnesses:

HENRY CONNETT,

WILLIAM J. FIRTH.