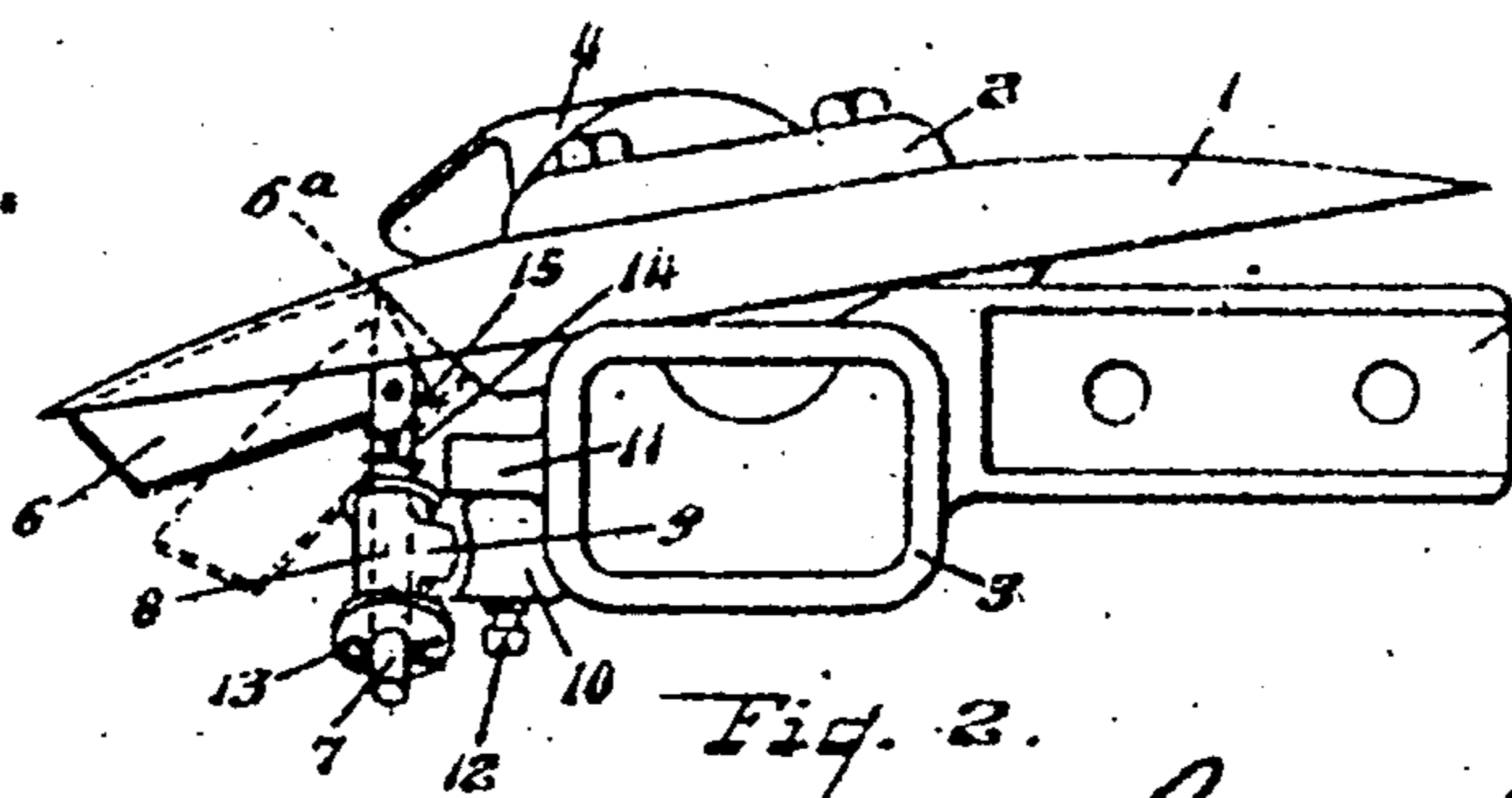
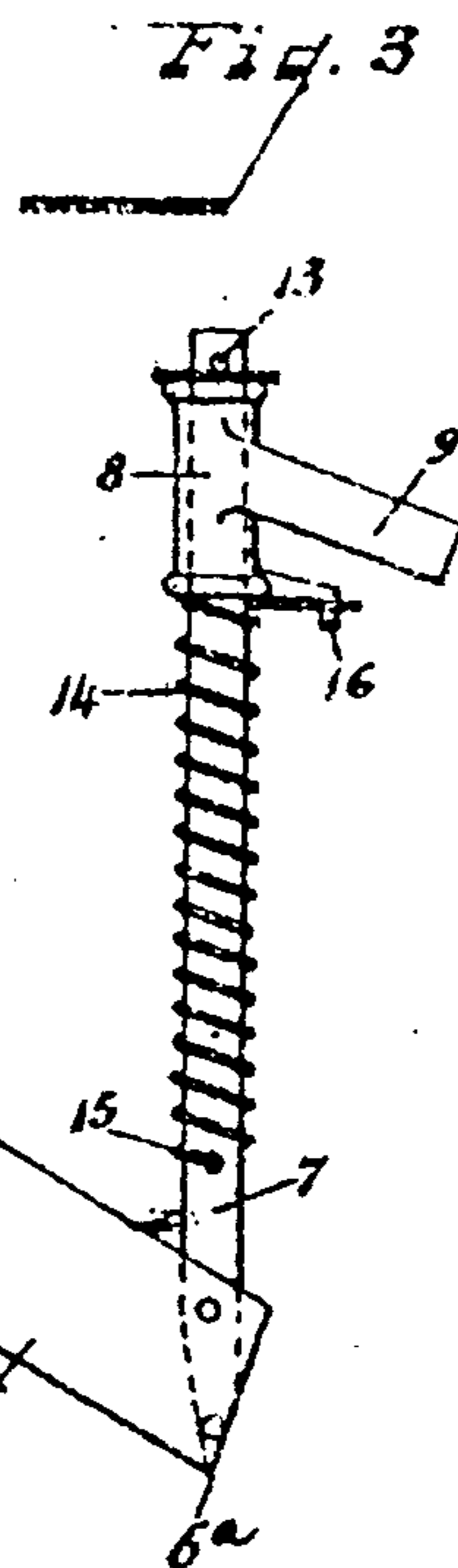
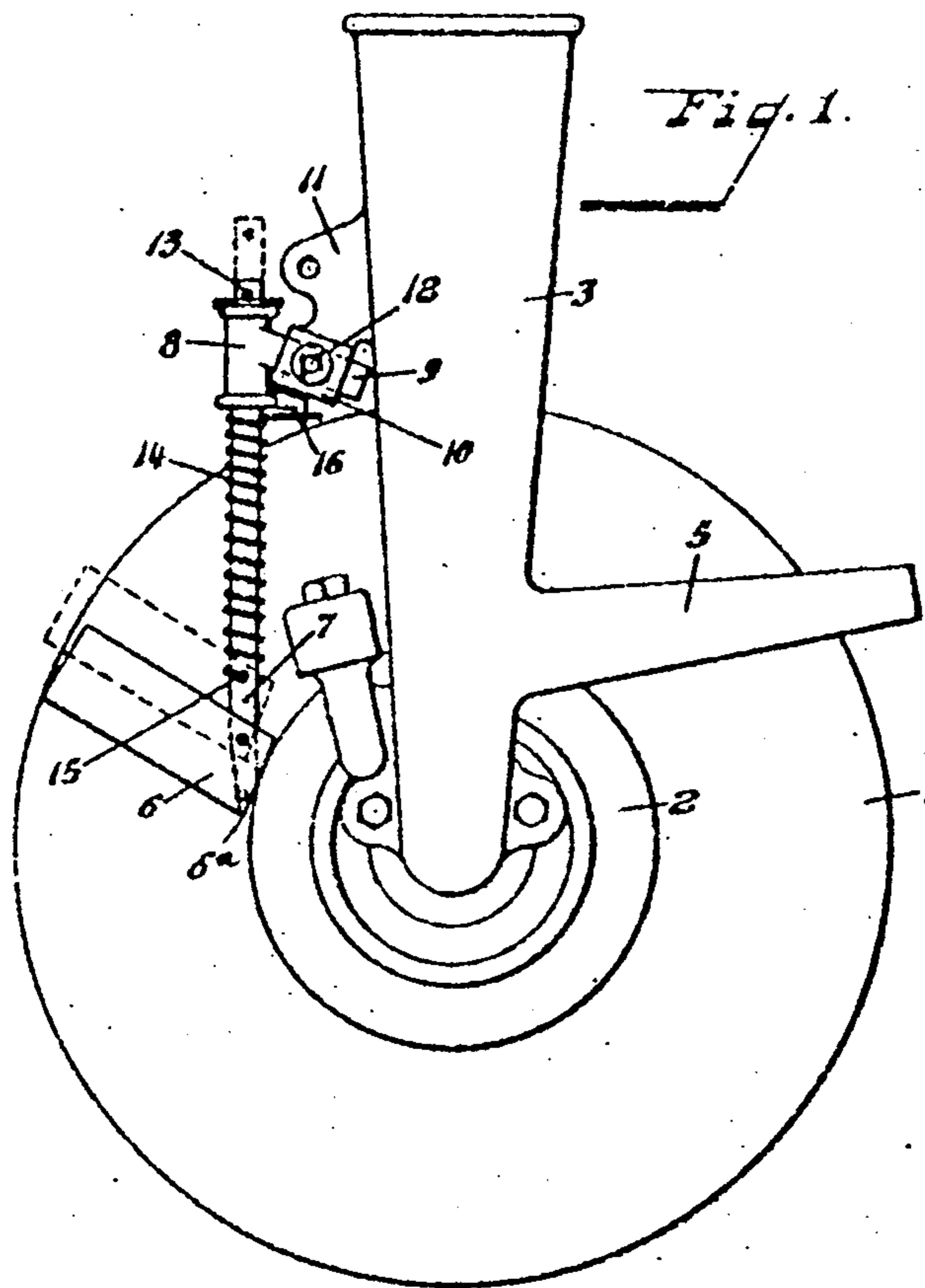


G. CAST.
 SCRAPER FOR FURROW OPENING DISKS.
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998,747.

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998,747. SCRAPER FOR FURROW-
OPENING DISKS. GEORGE CAST,
Marion, Ind., assignor to The American
Drill Company, Marion, Ind., a Corpora-
tion of Indiana. Filed Dec. 12, 1910. Se-
rial No. 596,843.

To all whom it may concern:

Be it known that I, GEORGE CAST, a citizen
of the United States, residing at Marion, in
the county of Grant and State of Indiana,
have invented certain new and useful Im-
provements in Scrapers for Furrow-Open-
ing Disks, of which the following is a speci-
fication.

This invention relates to improvements in
furrow openers for seeding machines, and
particularly to furrow openers of the single
disk type.

The object of the invention is to provide
a scraper for the front or concave side of
the disk which will be capable of a yielding
up-and-down or vertical movement and also

be capable of a yielding swinging movement laterally away from the disk; a further object being to provide a scraper in which the tendency to lock or bind the disk is obviated.

The invention consists in the construction and combinations of parts hereinafter shown and set forth in the claims.

In the accompanying drawings: Figure 1 is an elevation of the front side of a disk furrow opener with my improved scraper applied thereto. Fig. 2 is a top plan view of the same. Fig. 3 is a detail of the scraper.

Like parts are represented by similar characters of reference in the two views.

In said drawings, 1 represents a concavo-convex disk, such as is commonly used in disk furrow openers, this disk being suitably journaled in the frame 2.

3 is the boot which is formed integrally with the frame and in the present instance this boot extends down the front side of the disk; and communicates with a conduit in the frame proper, which conduit extends through the frame so as to deliver the seed to the rear of the disk, where it is protected by the shield 4, bolted to the frame, until it is deposited in the furrow opener. The boot 3 has the usual forwardly projecting portion 5 to which the drag-bar is attached.

6 represents the scraper proper, which is in the nature of a thin blade, the lower or scraping edge of which is shaped to conform to the contour of the disk; this blade lying at an angle to the horizontal plane of the disk and its supporting frame, as shown in Fig. 1, and also at an angle to the vertical plane of the disk, as shown in Fig. 2. The scraper 6 has secured thereto an upwardly projecting rod 7, inclined to the vertical plane of the disk, as shown in Fig. 3, the upper part of which rod extends through a sleeve 8 which is secured to the upper part of the boot; said sleeve being provided with a short arm 9 for this purpose, which arm is adjustably secured in the sleeve 10 on the lug 11 by a set-screw 12, so that the proper inclination and disposition of the scraper with respect to the disk may be readily secured. A cotter pin 13 extending through the upper end of the rod 7 forms a stop to hold the said rod in position in the sleeve 8, but permits a vertical and rotary movement of the same within the sleeve. A coil spring 14 is placed about the rod below the sleeve 8 with one end secured to a pin 15 in the lower end of the rod and the other end secured to a projecting lug 16 on the said sleeve 8.

In assembling the parts a torsional tension is placed upon the spring 14 by giving the scraper rod 7 one or more turns so that the tension of said spring is not only exerted in a downward direction but the tor-

sional tension will also hold the lower edge of the scraper yieldingly against the disk in a lateral direction. The lower end of the scraper rod 7 is beveled and attached to the scraper 6 at its extreme inner end so that the strongest pressure of the scraping blade 6 is in the center of the disk so that the blade will have a less tendency to lock the disk than where the greatest pressure is nearer the outer edge of the disk. Also, by reason of the fact that the inner end of the scraper stands at an incline with respect to the vertical axis of the rod, it will be seen that the lower inner corner 6^a of the scraper will be substantially coincident with the vertical axis of the rod, so that when the outer end of the scraper swings away from the disk, as shown in dotted lines in Fig. 2 the point 6^a will form the pivot about which it swings and thus obviates any binding of the parts; it being understood that by reason of the inclination of the scraper with respect to the disk, and the downward pressure of the spring, the disk will form a support or bearing for the point 6^a as the scraper swings.

By the construction described it will be seen that the scraper blade is free to yield upwardly against the tension of spring 14 and may also yield laterally away from the disk so as to allow trash to pass off the outer edge of the disk with the least possible resistance.

Having thus described my invention, I claim:

1. In a furrow opening device, a disk, a scraper for said disk, a pivoted support for said scraper connected at or near the inner end of the scraping edge thereof, and a spring for yieldingly holding the scraping edge of said scraper against said disk but permitting the outer free end thereof to swing laterally away from said disk with its support as a pivot and also permitting said scraper and its support to yield upwardly with respect to said disk.

2. In a furrow opening device, a rotatable disk, a support for said disk, a scraping blade for said disk, a rod secured to said blade at or near the inner end of the scraping edge thereof, a support in which said rod is loosely journaled, and a spring about said rod adapted to exert a torsional as well as a vertical pressure upon said blade, substantially as specified.

3. In a furrow opening device, a rotatable disk, a support for said disk, a scraping blade for said disk, a rod secured at or near the inner end of the scraping edge of said blade, a support in which said rod is loosely journaled to permit a longitudinal as well as a rotatable movement of said rod therein, and a spring about said rod adapted to exert a torsional as well as a vertical pressure upon said blade, substantially as specified.

4. In a furrow opening device, a rotatable disk, a support for said disk, a scraper for said disk, a rod connected to said scraper at or near the inner end of the scraping edge thereof, a support for said rod, said rod being loosely journaled in said support so as to permit a longitudinal as well as a rotatable movement of said rod, and a coiled spring about said rod, one end of which is connected to said rod and the other to a stationary part, said spring being adapted to exert a torsional and a vertical pressure against said scraper, substantially as specified.

5. In a disk furrow opening device, a rotatable disk, a scraping blade for said disk, a support for said blade connected therewith at or near the inner end of the scraping edge thereof, a spring for holding said blade against the face of the disk, said support being pivoted to permit the free end of the scraper to yield against the tension of said spring and to swing laterally away from the disk with the support as the pivotal point, substantially as specified.

6. In a furrow opening device, a rotatable disk, a scraping blade for said disk arranged angularly across the face thereof, a rod connected to the inner end of said support, a support within which said rod is loosely journaled to permit said rod to have a longitudinal and rotary movement, and a spring arranged about said rod and exerting a pressure to hold said blade yieldingly against said disk, the free end of said blade being adapted to swing laterally away from said disk against the tension of the spring with the said rod as a pivot and said blade also being adapted to yield against the tension of the spring in the direction of the longitudinal axis of said rod, substantially as specified.

In testimony whereof, I have hereunto set my hand this 23 day of November, 1910.

GEORGE CAST.

Witnesses:

GUS S. CONDO,

JOHN R. BROWNE.