

(No Model.)

2 Sheets—Sheet 1

F. BARCLAY.

ANTIFRICTION CLIP FOR REAPERS OR MOWERS.

No. 592,557.

Patented Oct. 26, 1897.

Fig. 1

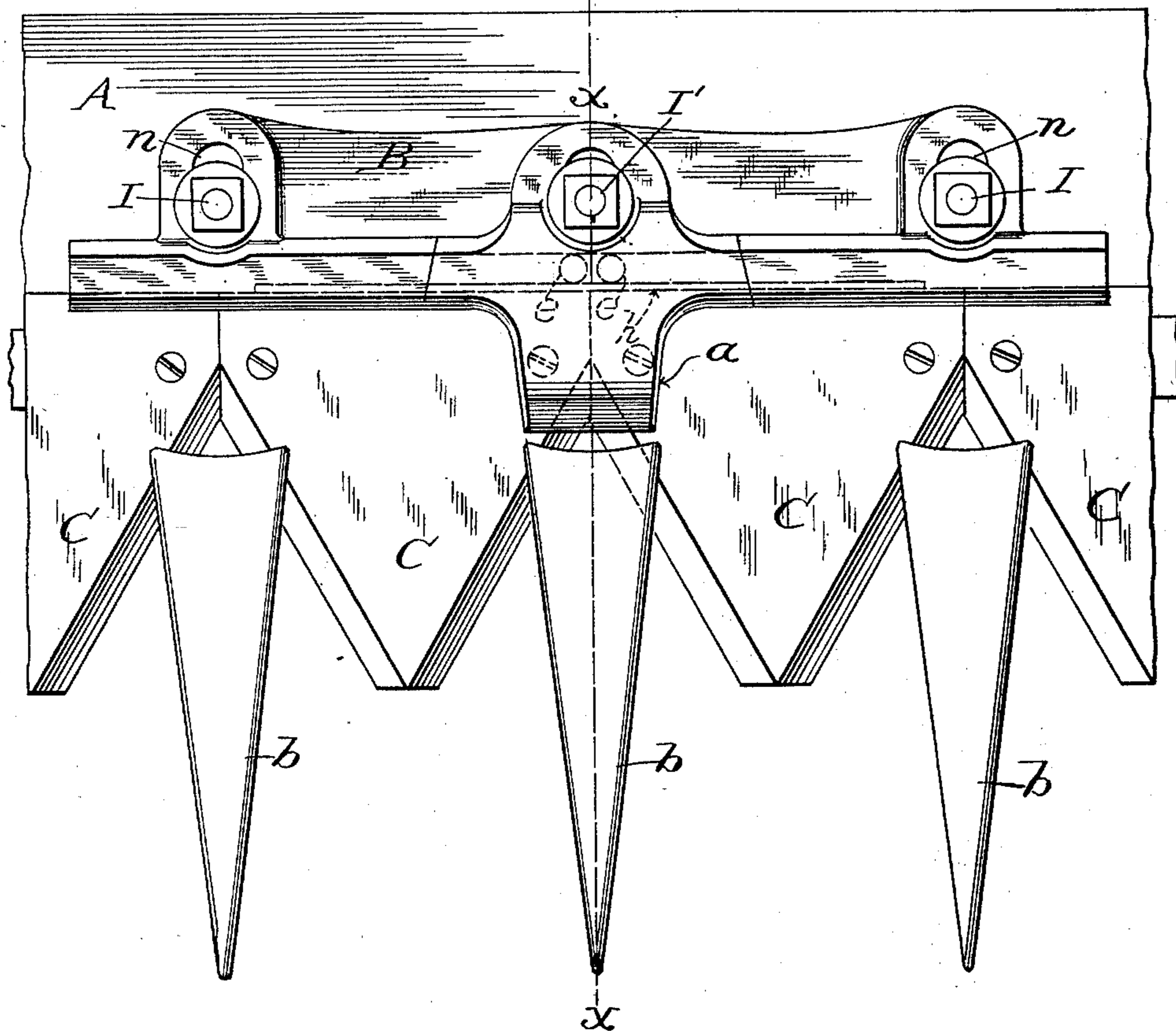


Fig. 2.

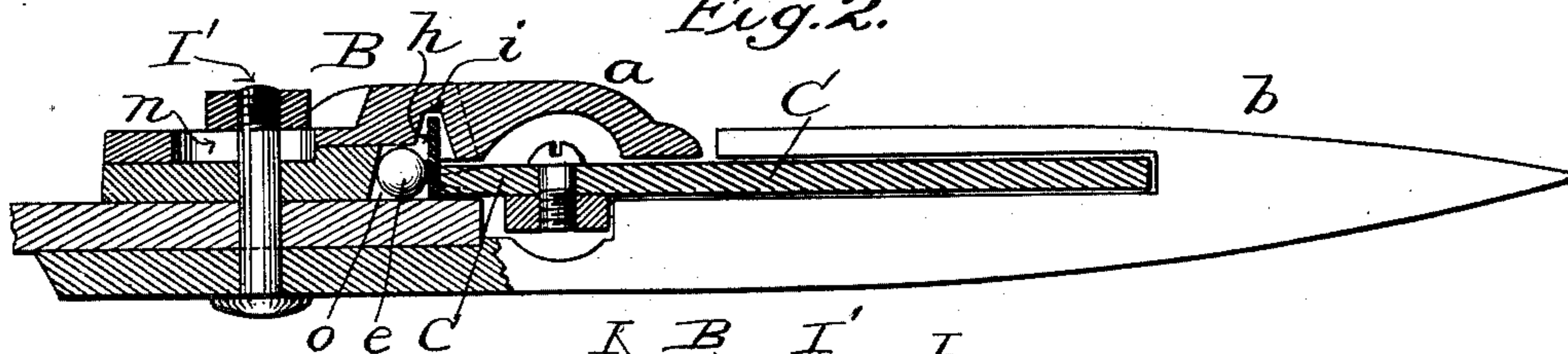
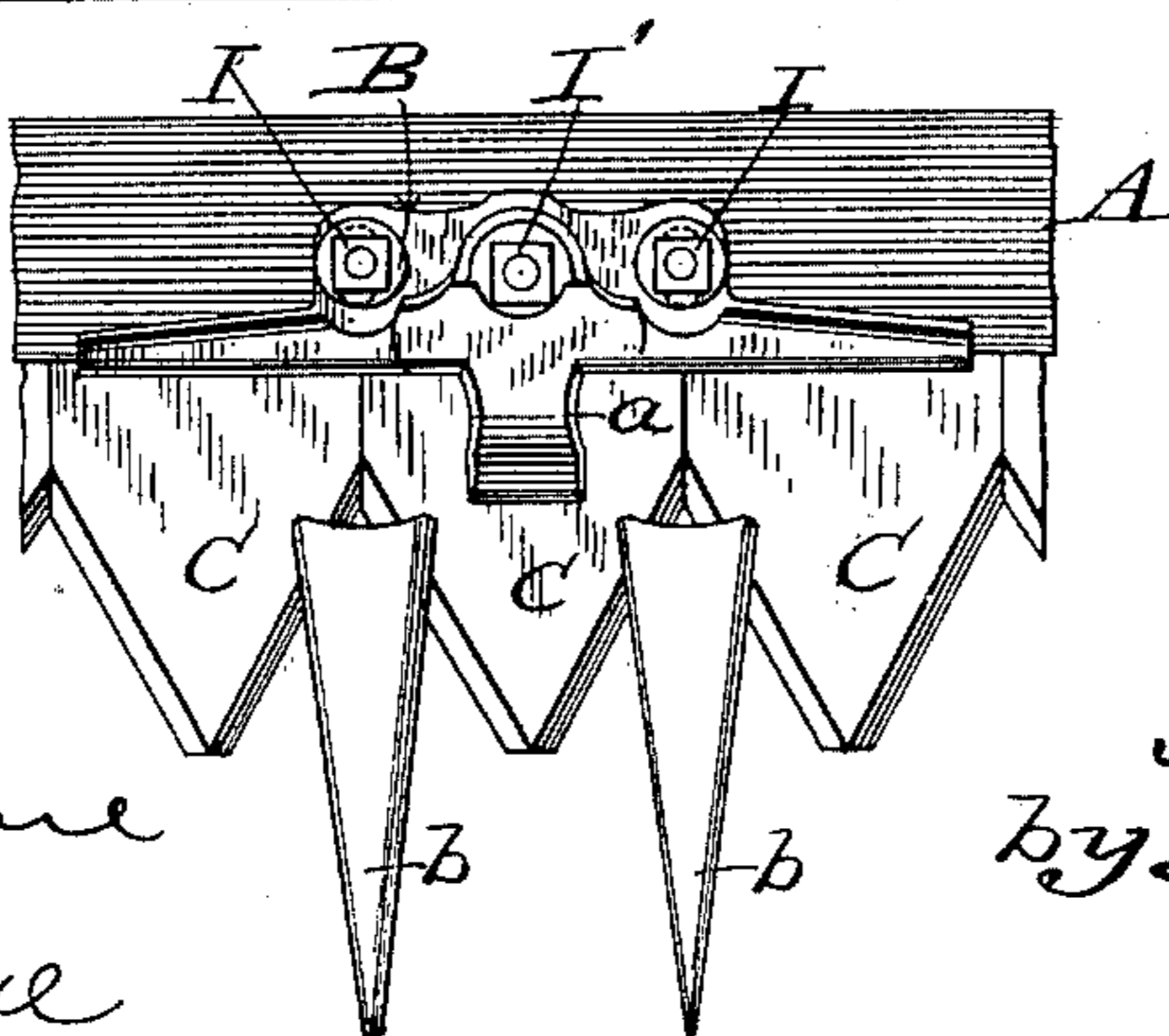


Fig. 7.



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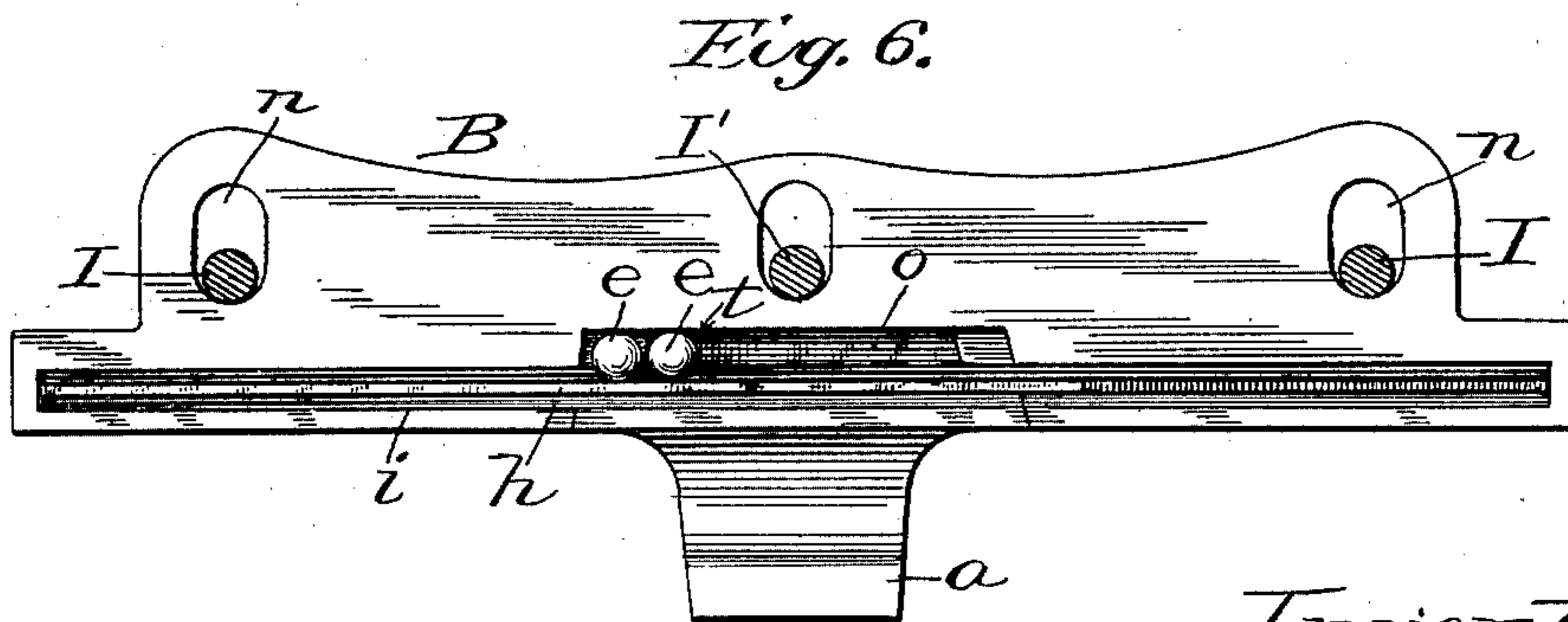
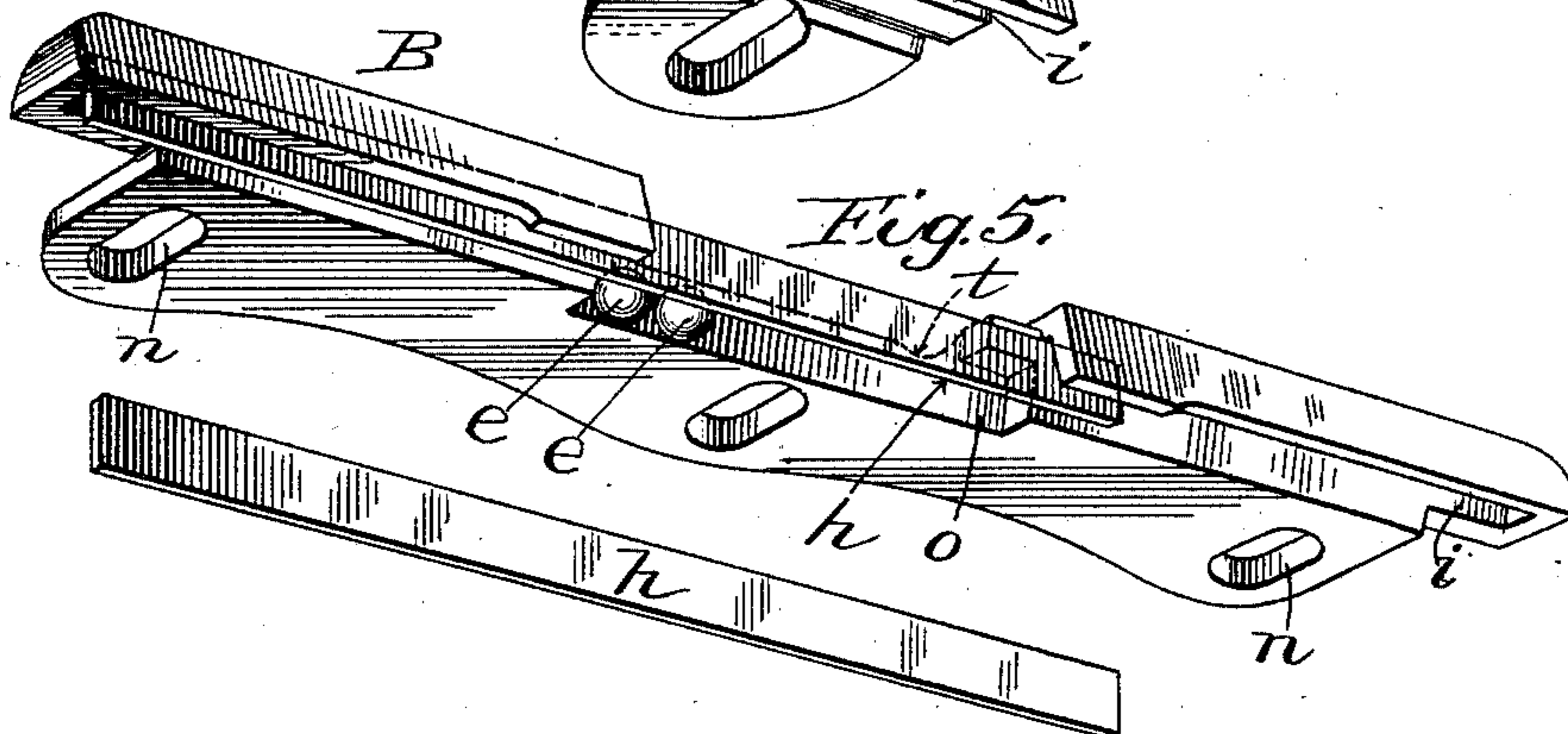
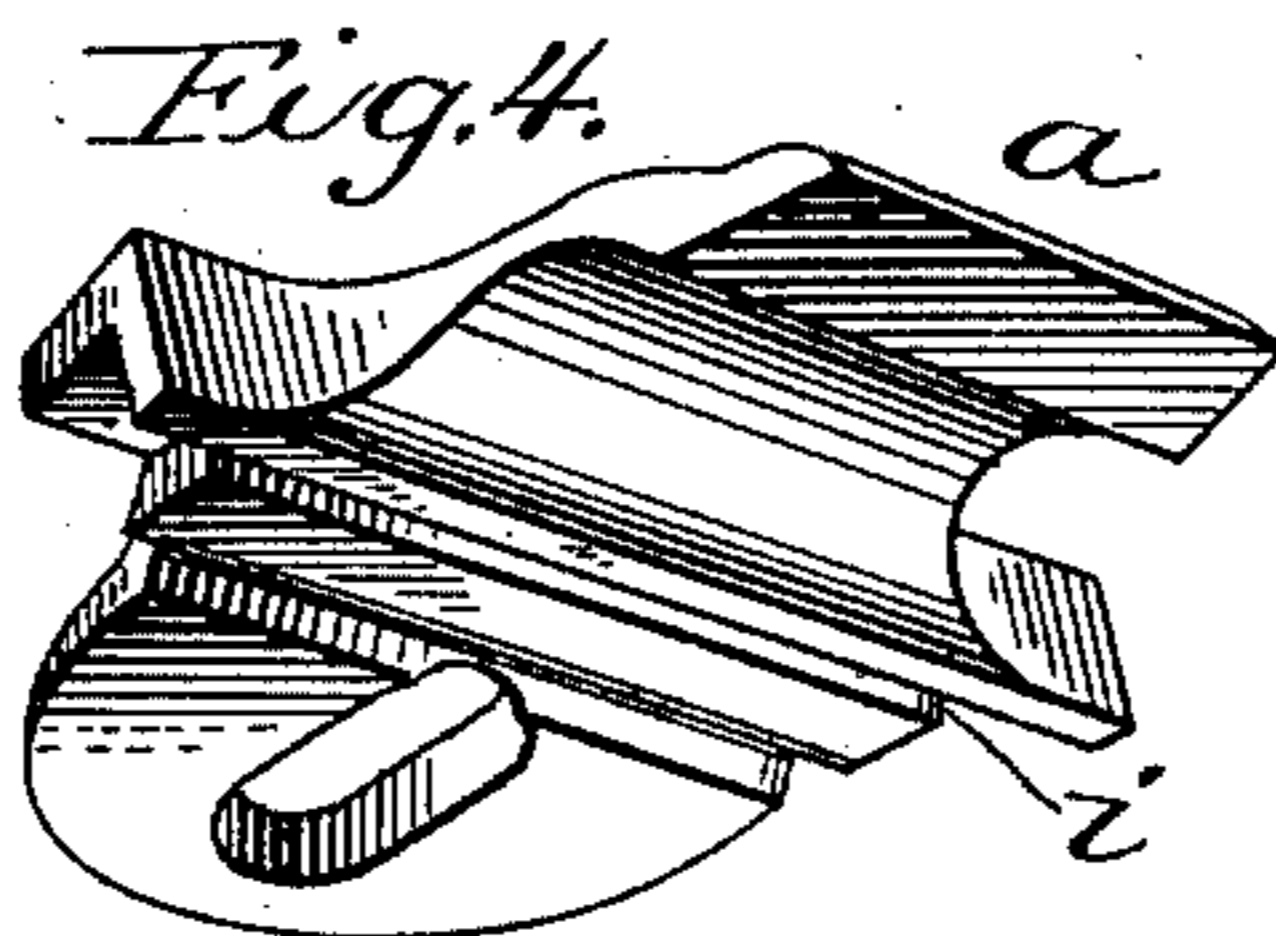
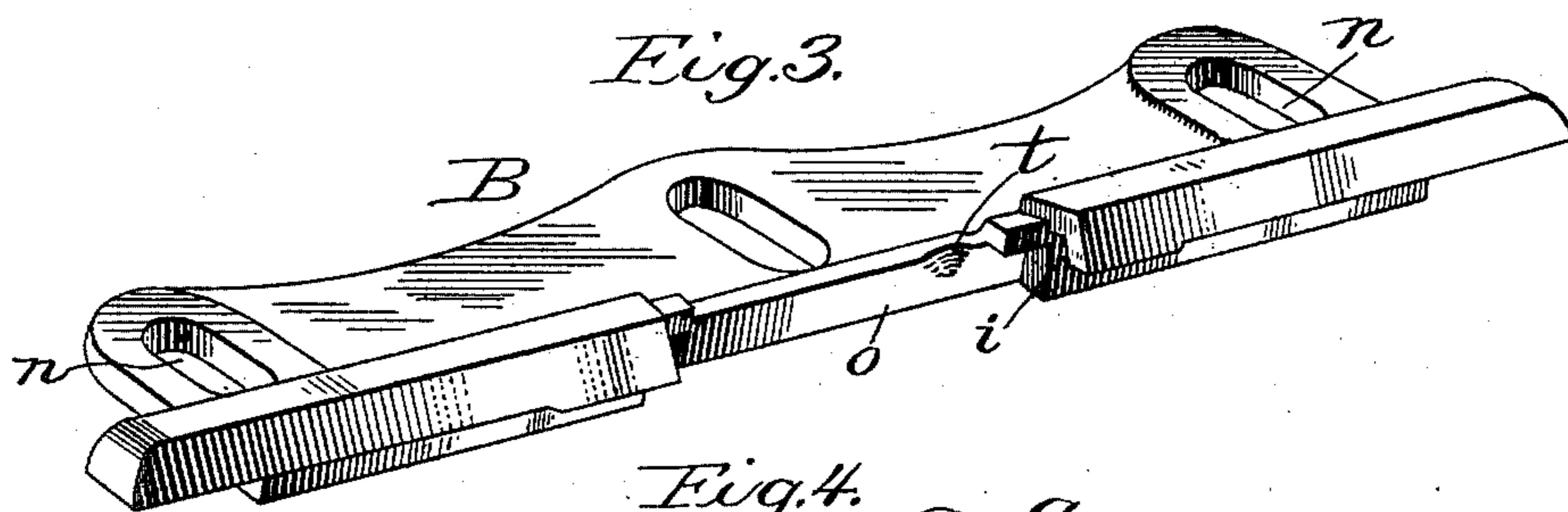
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UNITED STATES PATENT OFFICE.

FRANK BARCLAY, OF BEATRICE, NEBRASKA.

ANTIFRICTION-CLIP FOR REAPERS OR MOWERS.

SPECIFICATION forming part of Letters Patent No. 592,557, dated October 26, 1897.

Application filed May 6, 1897. Serial No. 635,395. (No model.)

To all whom it may concern:

Be it known that I, FRANK BARCLAY, a citizen of the United States, residing at Beatrice, in the county of Gage and State of Nebraska, have invented certain new and useful Improvements in Antifric-tion-Clips for Reapers or Mowers, of which the following is a specification.

My present invention relates to antifric-tion-clips for reapers and mowers, it being an improvement on the clip for which Patent No. 572,402 was issued to me December 1, 1896; and the invention consists, primarily, in the insertion of a steel plate between the balls and the rear edge of the sickle and in so constructing the clip as to hold this plate in place and permit a free movement of the finger of the clip separate and detachable to enable the balls to be removed and replaced without detaching the clip, all as hereinafter set forth.

Figure 1 is a top plan view, and Fig. 2 is a transverse vertical section on the line $x x$ of Fig. 1. Fig. 3 is a perspective view of the clip with the finger detached, and Fig. 4 is a similar view of the finger shown detached. Fig. 5 is a perspective view of the clip, looking from below, showing the balls and plate in position, with plate also shown detached. Fig. 6 is a bottom plan view of the clip with the balls, plate, and finger in position. Fig. 7 is a top plan view of a modification of the clip shown on a reduced scale.

In practice I have found that in applying my clip as formerly constructed to reapers and mowers certain difficulties were encountered which the present improvements are designed to remedy. It frequently happens that where the machine has been used for a considerable time the rear edge of the sickle is worn so as to form an edge more or less beveled, as indicated by the dotted lines in Fig. 2, which wedges in under or over the balls, thereby producing more or less friction; also, that particles of straw, grass, or dirt occasionally get into the pocket or recess which contains the balls and tend to interfere with their free movement, and that it was difficult to remove the same, and, further, that the balls could not be removed and replaced when broken or when for any reason it was desir-

able so to do without removing the clip, all of which difficulties my present invention remedies.

I construct and apply the clip B to the cutter-bar A on the same general plan shown and described in my former patent. The body B of the clip is, however, made longer in order to hold the plate and afford room for its movement to and fro with the sickle-bar, as hereinafter described.

The projecting finger a of the clip may be made integral with the body, as in my former patent, but I prefer to make it in a separate piece, as shown in Figs. 1, 3, 4, and 7, the body of the clip being made with a suitable recess to receive and hold the finger a , which when inserted therein is firmly secured in place by the bolt I' .

In Fig. 1 I have shown the clip with three bolt-holes or slots n , arranged to adapt it to be held by three of the bolts which fasten the finger-guards b to the cutter-bar A, in which case the finger a is brought opposite one of the finger-guards, as there shown.

In some cases it is desirable to so locate the clip as to bring the finger a midway between the finger-guards, as shown in Fig. 7, and to do that I make the body B with but two slots n , they being so located as to adapt them to the bolts I of two adjoining finger-guards, as shown in Fig. 7. In that case the bolt I' , which holds the finger a , only extends through the body of the clip and not through the cutter-bar, there being a recess for the head of this bolt in the under side of the clip, so as to permit the clip to fit down flat upon the cutter-bar.

Either form of clip may be used and applied with equal facility to machines already in use. By arranging the finger a midway between the finger-guards, as shown in Fig. 7, the liability of grass or weeds wedging or being caught between the finger a and the finger-guard b is lessened.

At its center the body B is provided with a pocket or recess o , as shown in Figs. 2, 3, 5, and 6, for the reception of the balls e , the rear wall of this recess being slightly undercut or inclined, as shown in Fig. 2, to prevent the balls from working out when the finger a is removed for any purpose. To enable the balls to be removed or replaced when desired,

I form a slight groove *t*, as shown in Fig. 3, in the upper part of the rear wall of the pocket *o*, so that when the finger *a* is removed the balls can be lifted out or dropped in at that point. I also provide a narrow steel plate *h* (shown detached in Fig. 5) to be inserted between the rear edge of the sickle *C* and the balls, as shown in Fig. 2, the object being to prevent the rear edge of sickles which have been worn thin by use from wedging in above or below the balls. This plate *h* is made long enough to at all times close the front of the recess or pocket which contains the balls, even when moved to and fro by the movements of the sickle, the friction between the sickle and the plate being enough greater than the friction between the plate and the balls to cause the plate to move with the sickle. By thus covering the pocket this plate also serves to prevent particles of straw, grass, dirt, &c., from entering the pocket and interfering with the free movement of the balls. In order to provide means for holding this plate *h* in position and preventing it from being displaced or working out, I make a groove *i* in the under front portion of the body, as shown in Figs. 2, 3, 5, and 6, this groove stopping just short of the ends of the body *B*, thereby leaving the ends of the groove closed, as shown in Figs. 5 and 6, whereby the plate is prevented from working out endwise. This groove *i*, as shown in Figs. 5 and 6, is made enough longer than the plate *h* to permit the latter to move freely to and fro therein as it is carried by the sickle.

It will readily be seen that by this construction the ball-bearing clip can be applied to old machines in which the rear edge of the sickle is worn by use as well as to new machines and that the wedging or jamming of the sickle on the balls is entirely prevented.

It will also be seen that the recess or pocket is kept covered or closed, so as to exclude extraneous matter, thereby keeping the balls free from obstruction, and that by simply removing the finger the balls can be removed and replaced without removing the clip itself. This is important for two reasons: first, because occasionally one or more of the balls split or break, and this enables the broken balls to be removed and perfect balls substituted while in the field and with but a few minutes' delay, and, second, because it is desirable when the machine is laid aside after the season's work is finished to remove the balls and store them where they will not rust.

It will further be seen that in case any foreign material should by any means get into the pocket or recess the removal of the finger will enable the operator to get at and remove it without removing or loosening the clip.

It will of course be understood that so far as the use of the plate *h* is concerned the clip may have the finger *a* formed integral with its body and operate the same; but I prefer to make the finger separate or detachable, as by so doing access is given to the pocket and the balls without removing or loosening the clip. The importance of being able to accomplish these results without moving or loosening any of the clips will be apparent when it is understood that there must necessarily be quite a number of them placed at intervals the whole length of the cutter-bar, and that in order to give a proper and uniform bearing on the balls they must all be adjusted so as to make a perfect alinement of the balls, which requires time and care. With the present construction, when once the alinement is effected, the clips need not be loosened or removed at all.

Having thus described my invention, what I claim is—

1. In a reaper or mower provided with ball-bearings for the rear edge of the sickle, a loose plate inserted between the balls and the rear edge of the sickle, substantially as and for the purpose set forth.

2. In a reaper or mower, in combination with the sickle, a clip provided with a pocket or recess containing antifriction-balls, and a loose plate inserted between the rear edge of the sickle and the balls, substantially as shown and described.

3. A clip for reapers and mowers, provided with a pocket or recess for the reception of antifriction-balls, and a groove *i* for holding a loose plate in place in front of the balls, substantially as described.

4. In combination with the cutter-bar *A*, finger-guards *b*, and bolts *I I'* for securing the finger-guards to said bar; clip *B* provided with detachable finger *a*, the clip and the finger being slotted substantially as shown; whereby the clip with its finger may be held by the same bolts that hold the finger-guards, without interfering with adjustment of the parts.

5. The clip *B* provided with the pocket or recess *o*, having its rear wall projected at the top sufficiently to prevent the escape of the balls, and having a groove *t* formed therein to enable the balls to be inserted or removed when desired, as specified.

In witness whereof I hereunto set my hand in the presence of three witnesses.

FRANK BARCLAY.

Witnesses:

E. G. DRAKE,
G. H. FROLICK,
A. T. COLE.