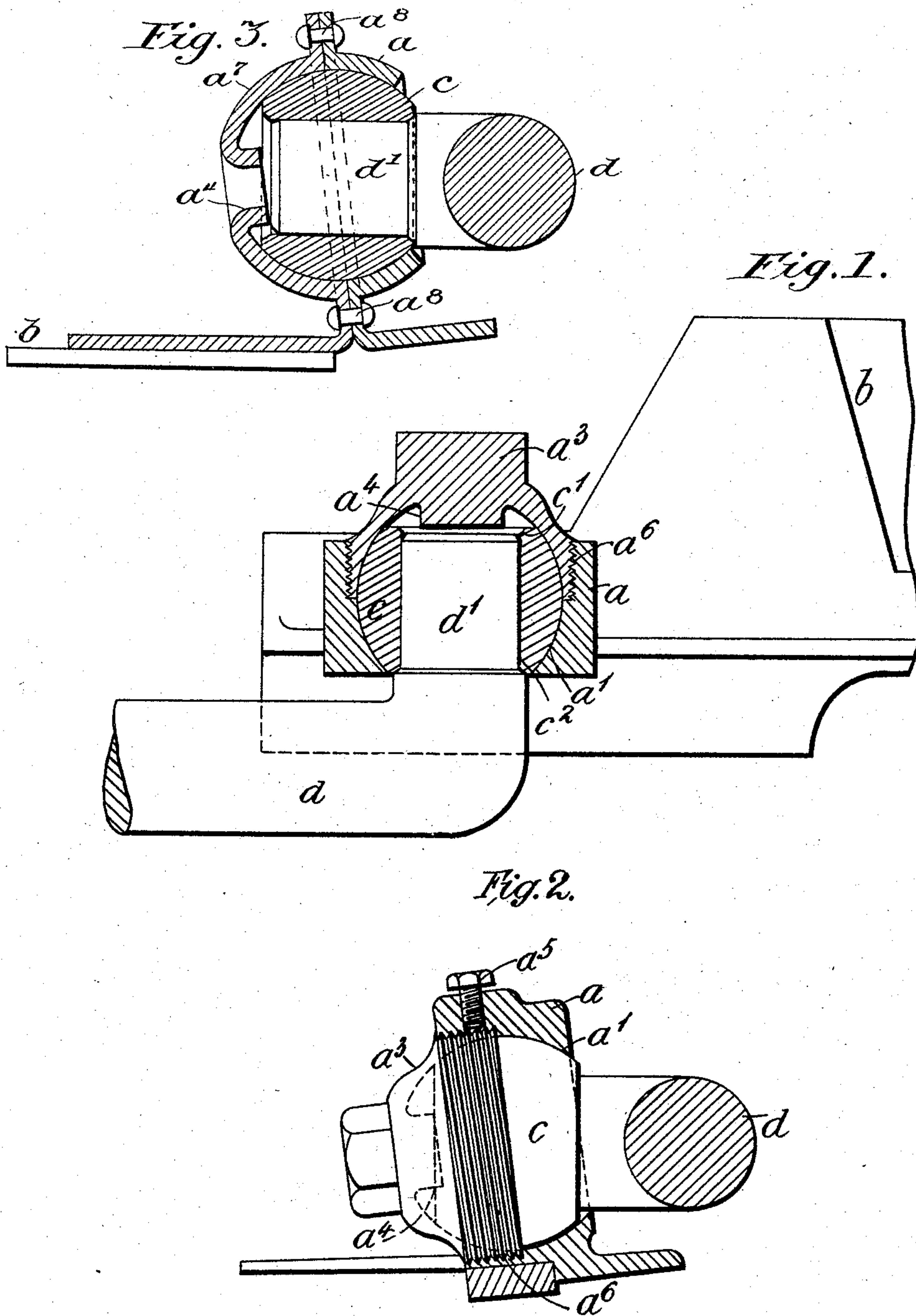


No. 782,330.

PATENTED FEB. 14, 1905.

C. J. FOSTER.  
KNIFE HEAD.

APPLICATION FILED OCT. 19, 1903.



Witnesses.  
Percy Woodward  
Percy Morgan Goodwin.

Inventor Chas Jos Foster  
by His Attorney Wm. J. King.

# UNITED STATES PATENT OFFICE.

CHARLES JOSEPH FOSTER, OF EXETER, ENGLAND.

## KNIFE-HEAD.

SPECIFICATION forming part of Letters Patent No. 782,330, dated February 14, 1905.

Application filed October 19, 1903. Serial No. 177,691.

*To all whom it may concern:*

Be it known that I, CHARLES JOSEPH FOSTER, a subject of the King of Great Britain and Ireland, residing at 68 Park road, Polsloe Park, Heavitree, Exeter, county of Devon, England, have invented a certain new and useful Improved Knife-Head, of which the following is a specification.

This invention relates to an improved ball-socketed head or driving end, and is designed more especially for the knives or sickles of grass or corn cutting machines, but is also applicable to the moving parts of other agricultural machines.

It consists of a ball of suitable material contained in a globular space in the head or driving end of the sickle, knife, or other moving part, the said ball being provided with a hole for the ready reception of the L or hooked end of the pitman or connecting-rod, so that the pitman or connecting-rod may, using the ball as a center, automatically adjust itself to the angle required.

In order that my said invention may be readily understood, reference is to be had to the following description and accompanying drawings, in which—

Figure 1 is a sectional plan view of my improved connection. Fig. 2 is a vertical section thereof. Fig. 3 illustrates a modified form of the invention.

Like letters of reference indicate corresponding parts in the several figures.

Referring to Figs. 1 and 2 of the accompanying drawings,  $a$  represents the sickle or knife head, and  $b$  the sickle or knife. In said head is provided a spherical recess  $a'$ , adapted to receive the ball or sphere  $c$ , which takes the end  $d'$  of the pitman or connecting-rod  $d$ . To insert and retain the ball in position, the head  $a$  is screw-threaded at  $a^6$ , as shown, for the reception of the cap  $a^3$ , said cap forming the completion of a ball-and-socket joint. Although I have only described and shown the socketed joint as on one side, yet I may readily apply the same in four ways—viz., the two sides and top and bottom—without departing from the spirit of my invention. The end  $d'$  of the pit-

man having been inserted into the hole or recess  $c^2$  in the sphere  $c$ , this requiring no skill, it can now, using the ball or sphere as a center, adjust itself to any required angle; but to prevent the ball from turning too far round the cap  $a^3$  is provided with a projecting center  $a^4$ , which restricts the movement of the ball by engaging with the face  $c'$  and keeps it ready at all times to receive the end  $d'$  of the pitman  $d$ . A clamping-screw  $a^5$  is provided, (see Fig. 2,) adapted when required to engage with the screw-thread  $a^6$  of the cap  $a^3$  to prevent the same working loose.

In Fig. 3, which illustrates a modification, the socket-head is formed of pressed or stamped steel or other suitable material, the cap  $a^7$  (likewise of pressed or stamped steel or other material) being riveted or otherwise secured at  $a^8$  to said head, the cap being dished to form the projection or center  $a^4$ .

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a knife-head, a spherical recessed head open at one side and having an internal projection opposite the opening, a hollow ball in the head and means for connecting a knife to the ball.

2. In a knife-head, a spherical recessed head open at one side and having an internal projection opposite the opening, a hollow ball in the head having the hollow portion in line with the projection and means for connecting a knife to the ball.

3. In a knife-head, a spherical recessed head open at one side and having an internal projection opposite the opening, a hollow ball in the head having the hollow portion in line with the projection and the end of the projection extending slightly within said opening to engage its wall and means for connecting a knife to the ball.

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

CHARLES JOSEPH FOSTER.

Witnesses:

J. ISAAC PENGELLY,  
WM. KERSLAKE.