June 3, 1930. E. G. CHAPPELOW ET AL 1,761,465

CULTIVATOR BLADE

Filed March 19, 1929

Fig. 1.

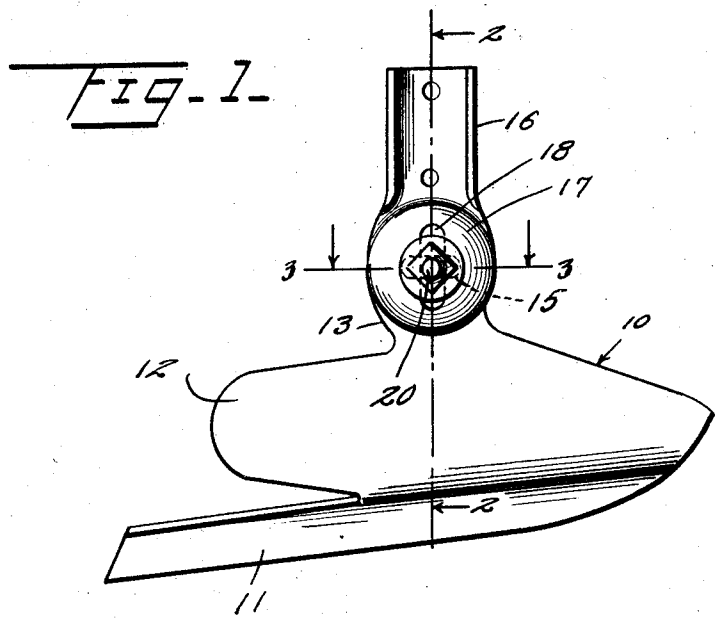



Fig. 2.

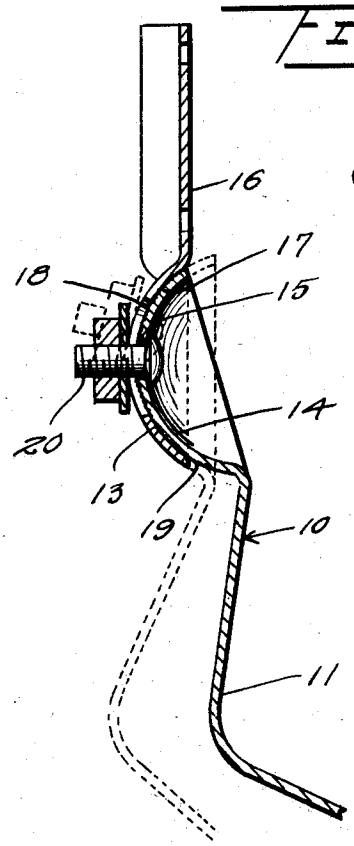
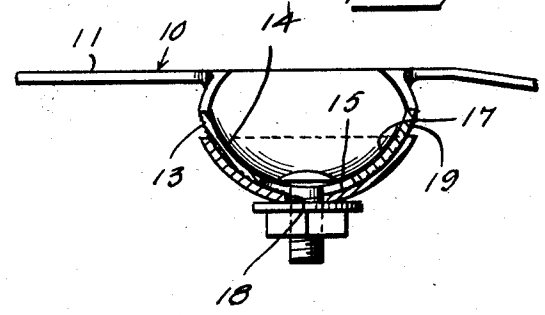



Fig. 3.




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# UNITED STATES PATENT OFFICE

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## CULTIVATOR BLADE

Application filed March 19, 1929. Serial No. 348,275.

This invention relates to cultivator blades and more particularly to a means for attaching said blades to the standard of the cultivator.

An important object of the invention is the provision of a shiftable connection for use in attaching the blades or steels of the cultivator to the standards thereof, permitting a substantially universal adjustment of the blade with relation to the standard so that a relatively long blade may be employed and adjusted for use in narrow middles, may be tilted longitudinally to regulate the depth of cultivation, and may be, furthermore, so tilted that a substantial plowing effect may be obtained therewith for use in breaking up crusty or baked soil.

A further object of the invention is the production of a structure permitting all or any combination of these adjustments to be obtained.

A still further object of the invention is to provide a connection of this character which will permit its use with practically any type of blade.

These and other objects we attain by the construction shown in the accompanying drawing wherein for the purpose of illustration we have shown a preferred embodiment of our invention and wherein:—

Figure 1 is a side elevation of a cultivator blade attachment constructed in accordance with my invention;

Figure 2 is a section on line 2—2 of Figure 1, the dotted lines indicated one of the adjusted positions of the cultivator blade;

Figure 3 is a section on line 3—3 of Figure 1.

Referring now more particularly to the drawing, the numeral 10 generally designates a cultivator blade which may be of any usual ordinary construction, but as at present disclosed is provided upon the body 11 thereof, and at the rear edge of this body with an extension 12, preventing dirt raised by the cultivator blade from being thrown against and covering young plants.

In accordance with our invention, the upper portion of this body is formed with a boss having a convexed outer face 13. This boss and the blade may be readily and cheaply produced in manufacture thereof by employing the sheet of material of uniform width which is formed to produce the blade and which is pressed outwardly to form the boss, so that the inner face of this boss is concave as indicated at 14 and the extension is actually concavo-convex. This boss has formed therethrough a substantially diametrically extending slot 15. A shank element 16 is provided having a concave socket 17 formed therein, this socket having the same radius as the convexed boss of the blade and being adapted to receive this convexed boss. As in the case of the boss of the blade, the socket of the shank element may be conveniently produced by stamping so that the walls of this socket are concavo-convex. This socket wall has formed therethrough a diametrically extending slot 18, which is perpendicularly related to the slot 15 of the boss when the shank element and blade are in their normal positions with relation to one another, that is to say, if the slot or blade in the normal or usual position of this blade is horizontal, the slot of the socket in its normal position will be vertically disposed.

Coacting faces of the socket and boss are slightly roughed or scored, as indicated at 19, and a bolt 20 is directed through the slots 15 and 18 for securing the boss in position in the socket. It will be obvious that since the coacting faces are spherical, a ball and socket adjustment is provided which is facilitated by the perpendicular relation of slots 18 and 19.

The bolt may act as a pivot upon which the blade may be adjusted as to its general horizontal arrangement to determine the inclination thereof, and by movement of this bolt in slots 15 and 18, the transverse inclination and the angle to the line of movement may be regulated.

Shank element 16 may constitute the complete shank but it is preferred that this shank element comprise merely a member for engagement with the lower end of a standard cultivator shank, since by this arrangement the blades may be employed with a great number of cultivator shanks now in common

use and thus may be used without in any manner changing the present structure of the cultivator.

While we have above referred to the boss as formed upon the blade and as the socket is formed above the shank element, it will, of course, be quite obvious that the position of these elements might be reversed. Other changes being possible without in any manner departing from the spirit of our invention, we do not limit ourselves to the particular construction hereinbefore set forth except as hereinafter claimed.

We claim:—

1. A blade of the character described comprising a cultivator blade, a ball-shaped boss upstanding from said blade and integrally formed therewith, an apertured shank adapted to be secured to a cultivator standard, a socket member secured to the lower end portion of said shank and integrally formed therewith, and means for securing said boss to said socket.

2. An adjustable blade member of the character described comprising a cultivator blade having an upstanding concavo-convex boss formed integrally therewith, said boss having a horizontally disposed slot therethrough, an apertured shank adapted to be mounted on a cultivator standard, a concavo-convex socket member depending from said shank and integrally formed therewith, and means for adjustably securing said boss to said socket member.

3. An adjustable blade of the character described comprising a cultivator blade having an upstanding ball-shaped boss formed integrally therewith, said boss having a serrated outer face, said boss also having a horizontally positioned elongated slot therethrough, an apertured shank, a ball-shaped socket member integrally formed with said shank, said socket member having a serrated inner face, said socket member also having a vertically disposed elongated slot therethrough, and bolt means for adjustably securing said boss to said socket.

In testimony whereof we hereunto affix our signatures.

EARL G. CHAPPELOW.
FRED L. BRYANT.