June 2, 1942. F. H. DENNER 2,284,642

SUPPORT FOR PROJECTILES

Filed June 25, 1940

Fig. 1.

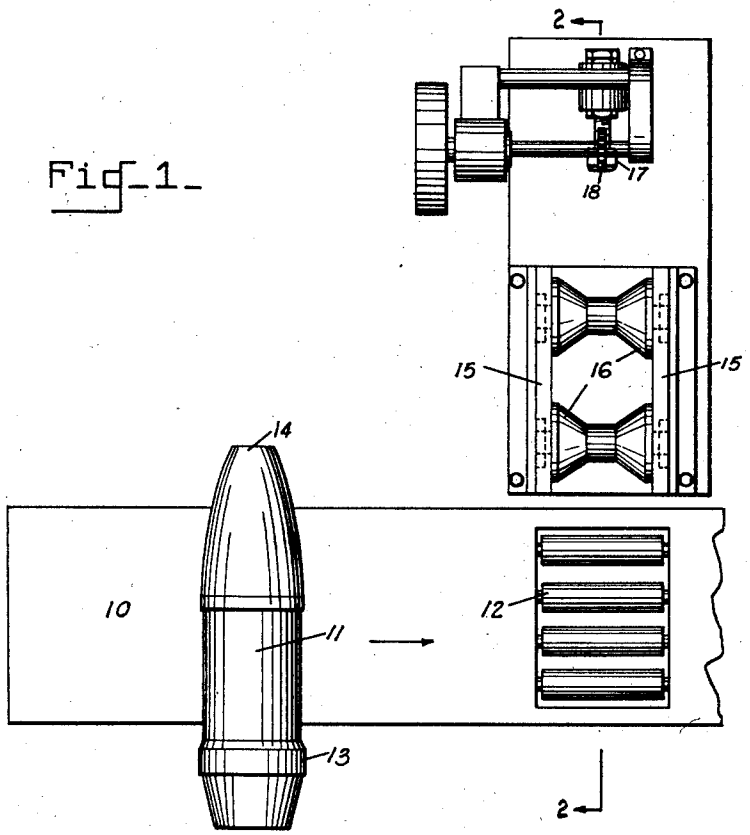
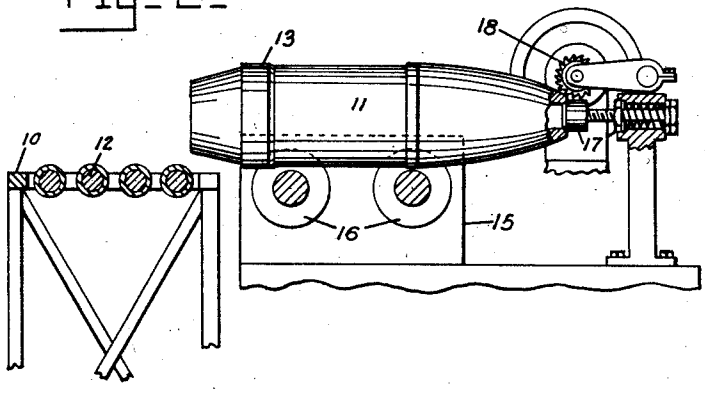


Fig. 2.



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SUPPORT FOR PROJECTILES

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Application June 25, 1940, Serial No. 342,272

3 Claims. (Cl. 90—21)

(Granted under the act of March 3, 1883, as amended April 30, 1928; 370 O. G. 757)

The invention described herein may be manufactured and used by or for the Government for governmental purposes, without the payment to me of any royalty thereon.

This invention relates to a support for projectiles which is adapted for use during the operation of cutting a staking notch in the nose of a projectile to be armed with a nose fuse which is staked in position.

It is an object of the invention to provide a simple, compactly organized support, particularly adapted to be inserted in the production line for projectiles to be armed with nose fuses, for use in cutting a staking notch in the nose of a projectile.

The specific nature of the invention as well as other objects and advantages thereof will clearly appear from a description of a preferred embodiment as shown in the accompanying drawing in which:

Fig. 1 is a plan view of the support of this invention disposed in operative relation to a staking notch cutter and showing a projectile on the work table movable in the direction of the arrow toward the support;

Fig. 2 is a view partially in elevation and partially in section taken on the line 2—2 of Fig. 1 looking in the direction of the arrows.

Referring now to the drawing by characters of reference, there is shown in Fig. 1 a work table 10 arranged in the production line for projectiles 11 and adapted to receive the projectiles 11 in any convenient manner after certain prior operations thereon in the course of production.

The table 10 may be suitably inclined to provide for movement of the projectiles from left to right, as viewed in Fig. 1, under the influence of gravity or otherwise arranged to facilitate movement of the projectiles as desired.

A plurality of rollers 12 are journaled in the table 10 adjacent its rightmost end as viewed in Fig. 1, with their axes disposed in parallelism with the direction of normal travel of the projectiles upon the table. Each of the rollers 12 is so journaled in the table 10 that its upper surface projects a sufficient distance above the surface of the table 10 as to support a projectile 11 resting on the rollers with its rotating band or bands 13 clear of the table in order to prevent injury thereto in movement transversely of the table. To further ensure preventing injury to the rotating bands 13 of the projectiles the rollers 12 are suitably covered with any desirable material softer than the material of the rotating bands.

In alignment with the rollers 12 and disposed on the same side of table 10 as the noses 14 of the projectiles 11 is arranged a conveyor roller frame comprising spaced parallel side plates 15 secured to the bed frame of the staking notch cutter 18 or to any other suitable support, and having a plurality of hardened rollers 16 journaled therebetween in such manner as to receive a projectile 11 from the rollers 12 and convey it in line forwardly. Movement of a projectile 11 forwardly on the rollers 16 is limited by an adjustable stop plunger 17, suitably secured to the bed frame of the staking notch cutter or other support, which engages the nose bore of the projectile to limit the forward movement of the projectile on the rollers 16. In the instance illustrated two hardened rollers 16 are employed, which are so arranged as to engage the bourrelet and body of a projectile, respectively, in such manner as to support the latter with its axis in a horizontal plane. Moreover, the adjustable stop 17 is so positioned relative to the rollers 16 as to prevent forward movement of a projectile 11 thereonto an extent that will permit engagement of the rotating bands 13 with the rearmost of the hardened rollers 16. The stop 17 also, in addition to limiting forward movement of a projectile on the rollers 16, serves to rigidly support the nose of the projectile during the staking notch cutting operation to next be described.

The staking notch cutter 18 supported by its bed frame is arranged to cut a staking notch in the nose of the projectile in a plane of its axis as the projectile is urged forwardly on the rollers 16 against the cutter and adjustable stop 17.

After a staking notch is cut in the nose of the projectile it is withdrawn from the hardened rollers 16 to a position upon the rollers 12 with its rotating bands 13 clear of the rear end of the work table 10 and transferred by means of a table, which may be a continuation of work table 10, to another work station.

Having now described a present preferred embodiment of the invention I claim:

1. In a support for projectiles in combination, a work table arranged for movement of a projectile thereon transversely of its axis, a plurality of rollers journaled in the table with their axes disposed in parallelism with the direction of said transverse movement adapted to receive and convey a projectile longitudinally of its axis, a plurality of conveyor rollers disposed on one side of said work table in alignment with said work table rollers adapted to receive a projectile from the latter for continued axial movement, a stop

supporting member provided forwardly of said conveyor rollers in alignment therewith, and a longitudinally movable stop mounted on said stop supporting member arranged to be engaged by and support the nose of said projectile for limiting axial movement thereof on said conveyor rollers.

2. In a support for projectiles in combination, a work table arranged for movement of a projectile thereon transversely of its axis with its rotating bands unsupported by the table, a plurality of rollers covered with a material softer than said rotating bands journaled in the table with their axes disposed in parallelism with the direction of said transverse movement adapted to receive and convey a projectile longitudinally of its axis, a pair of hardened rollers disposed on one side of said work table in alignment with said work table rollers adapted to receive a projectile from the latter for continued axial movement, a stop supporting member provided forwardly of said conveyor rollers in alignment therewith, and a longitudinally movable stop mounted on said stop supporting member arranged to be engaged by and support the nose of said projectile to limit its axial movement upon the hardened rollers to a position where the rotating bands of the projectile do not engage the rollers.

3. In a support for projectiles in combination, a work table arranged for movement of a projectile thereon transversely of its axis with its rotating bands unsupported by the table, a plurality of rollers covered with a material softer than said rotating bands journaled in the table with their axes disposed in parallelism with the direction of said transverse movement and their upper surfaces projecting above the upper surface of the work table a distance greater than the depth of the exposed parts of said rotating bands adapted to receive and convey a projectile longitudinally of its axis, a pair of hardened rollers disposed on one side of said work table in alignment with said work table rollers adapted to receive a projectile from the latter for continued axial movement, said hardened rollers being arranged to support the projectile with its axis in a horizontal plane, a stop supporting member provided forwardly of said conveyor rollers in alignment therewith, and a longitudinally adjustable stop mounted on said stop supporting member arranged to be engaged by and support the nose of said projectile to limit its axial movement upon the hardened rollers to a position where the latter only engage the bourrelet and body of the projectile forwardly of the rotating bands, respectively.

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