Oct. 21, 1941. E. G. EDISON 2,259,742

DEVICE FOR SECURING TEETH ON BUCKETS

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FIG. 2.

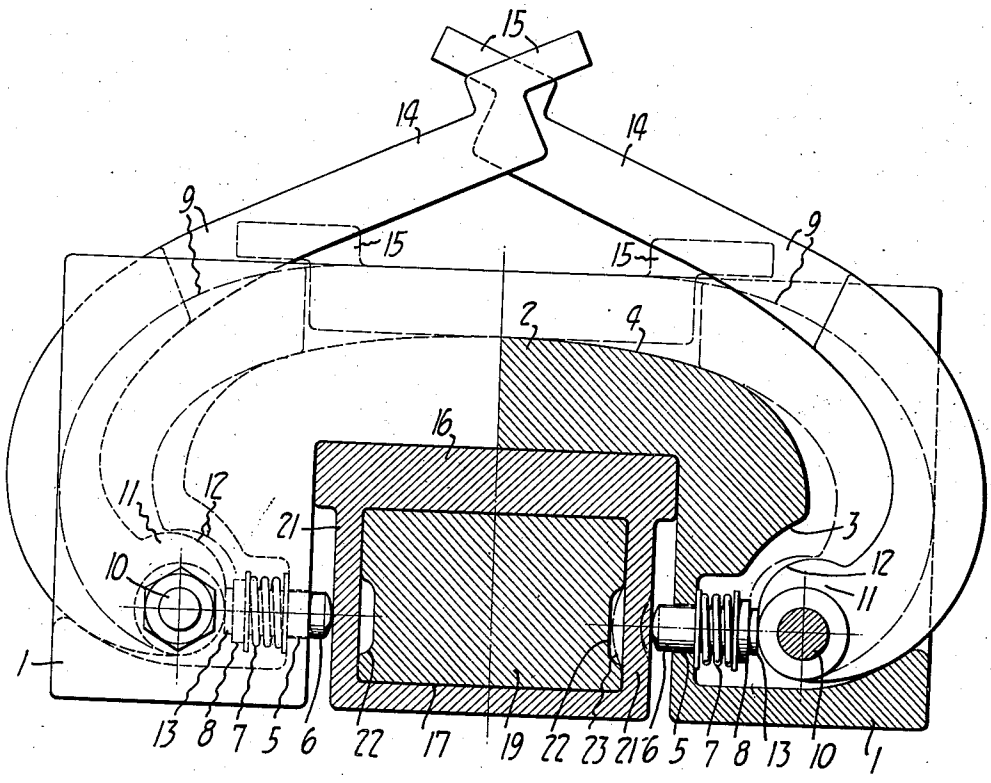
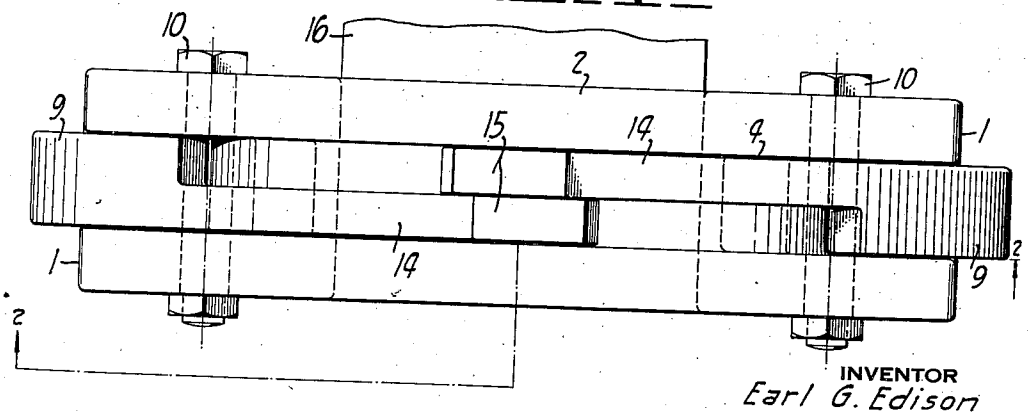


FIG. 1.



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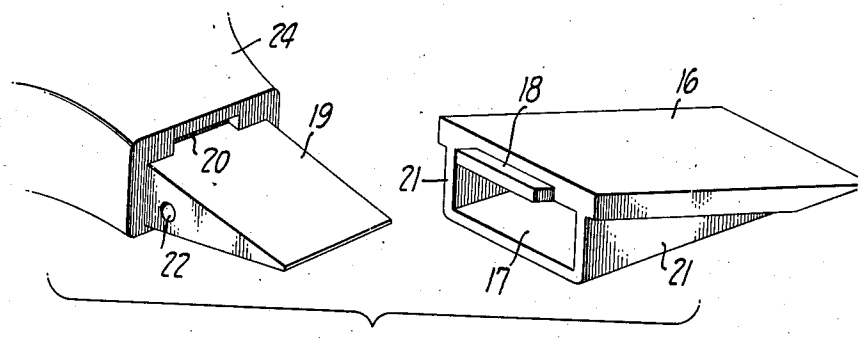


FIG_3_

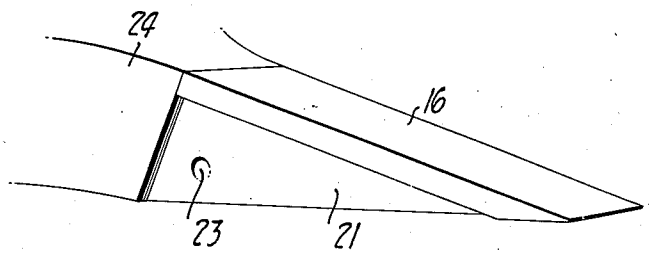
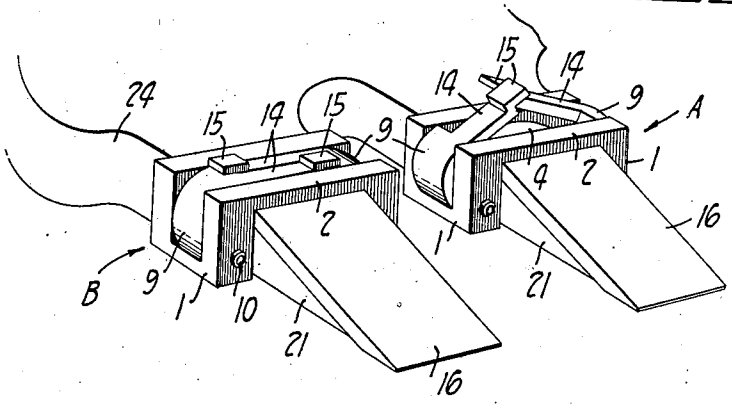


FIG_4_

FIG_5_



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spectively, are against the outer ends of the pins 6, and said low sides are slightly flattened, with the contour of the cams between the low sides 13, and the high sides 12 being curved, and of progressively increasing distance from pivot 10.

By the above structure, the springs 7 reacting against shoulders 8 of pins 6, force the outer flat ends of said pins against the relatively flattened low sides of the cams 11, thus yieldably holding the cams against rotation, and the pins themselves yieldably held against the cams at their maximum distance apart.

The ends of the arms 9 opposite the cams 11, are designated 14, and said ends are normally disposed out of, but over the recess 4 that connects between recesses 3. These ends 14 cross each other in a plane disposed centrally between the legs 1 of the block, and are cut away on their adjacent sides for equal lengths extending from their outer ends so as to permit simultaneous movement of the arms in side by side relation into recess 4, as indicated best in Fig. 1. Since arms 9 are integral with the cams, upon movement of said arms into recess 4, it will be seen that the cams 11 will be rotated to force pins 6 inwardly toward each other by reason of the shape of each cam, already described. The arms 9 may each be formed with a hook member 15 formed at the outer ends of end portions 13 of the latter which members will enable the operator to engage the ends of the arms for pulling them out of the recesses and for restoring the arms and pins 6 to their normal, inoperative positions.

Figs. 3, 4 show one form of conventional tooth and bucket construction with which my device is adapted to be used. The tooth 16 is formed on one side to provide a socket 17, and said tooth carries a tongue 18 at its inner end. The bucket carries a male member 19 adapted to fit in socket 17, and a recess 20 for tongue 18. The two opposite lateral sides 21 of the walls of socket 17 are distortable under appreciable localized pressure, and the corresponding outwardly facing sides of member 19 are formed with recesses 22 that are covered by walls 21 of the socket when the member is fitted into said socket.

In operation, the tooth is first slipped in position over the member 19 and then my block is placed over the tooth as indicated in position A in Fig. 5. In this position the pins are over the localized points on walls 21 that extend over recesses 20 in the member 19. Upon forcing the arms 9 into the recess 4 in the block, as by a sharp blow on said arms at the point where they cross each other the pins 6 will engage walls 21 and force the metal of said walls into the recesses 22, as indicated in position B in Fig. 5. The arms are then lifted back to inoperative position, whereupon pins 6 will automatically move outwardly, freeing the block for removal from the tooth, leaving the tooth firmly secured on the bucket 24. In Fig. 4 is indicated the indentation 23 caused by forcing the metal of one of the walls 21 into recess 22 therebeneath.

The foregoing operation is thus accomplished in a few seconds time, as compared with the many minutes heretofore required in the use of screws for causing the same general result.

The term "excavator bucket" used in the claims, is intended to cover buckets used in connection with drag lines, power shovels, earth movers and other devices where removable teeth are secured thereto by means of either forcing opposed walls on the tooth into tooth supporting members on the buckets, or wherever pressure of the type produced by my device is applicable in securing the teeth in place against accidental removal.

Having described my invention, I claim:

1. An indenting machine for indenting the opposite surfaces of an article comprising a generally U-shaped block providing legs and a body portion connecting the legs, said legs being spaced apart to provide an opening to receive that portion of the article to be indented, with the opposite surfaces of the article adapted to lie closely adjacent the inside surfaces of said legs, transverse guides in said legs opening through the inside surfaces of said legs, plungers slidable in said guides and projectable from the inside surfaces of said legs into said opening and toward each other, each of said plungers having surfaces, situated at the projecting ends thereof, for indenting the sides of an article when so projected, hand operated levers pivoted to said legs and extending upwardly beyond the said body of said block, cams operated by said levers for projecting said plungers and means for urging said plungers to retracted position in opposition to the action of said levers.

2. In the machine described in claim 1, grooves in said block for receiving said levers when said levers are in inoperative position.

3. In the machine described in claim 1, said means for urging said plungers constituting coil springs surrounding said plungers and bearing at opposite ends against said plungers and said block.

4. In the machine described in claim 1, said means for urging said plungers constituting coil springs surrounding said plungers and bearing at opposite ends against said plungers and said block, and grooves in said block for receiving said levers when said levers are in inoperative position.

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