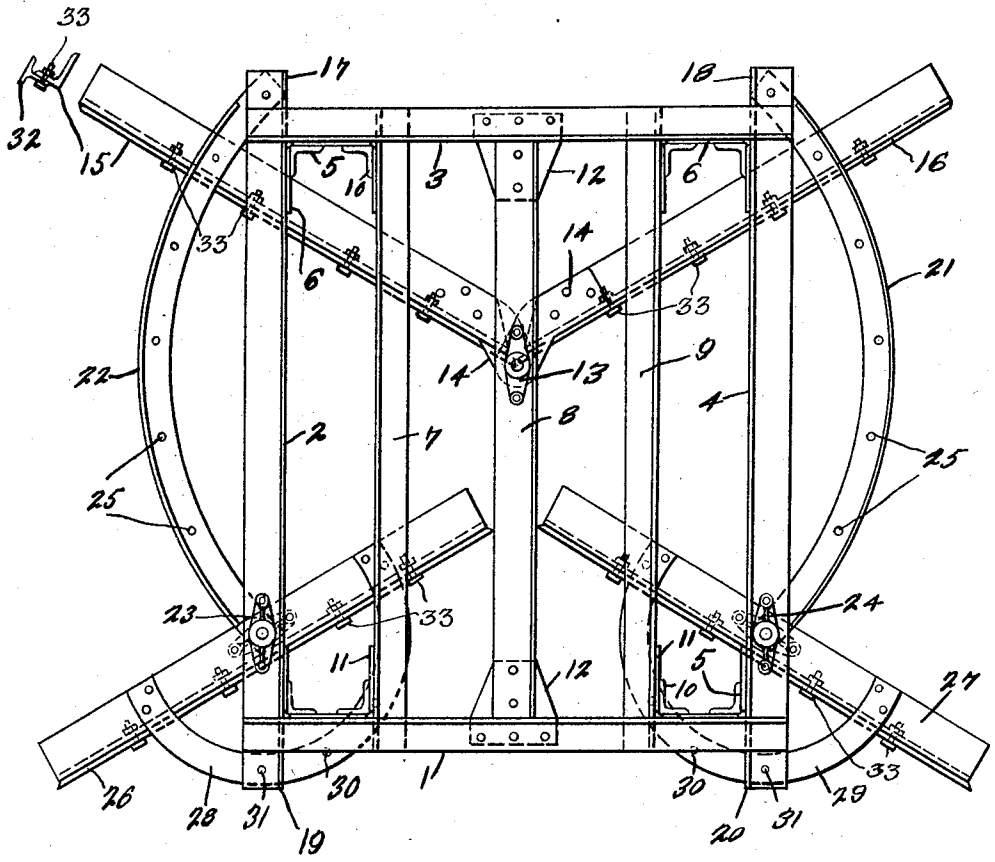
April 7, 1931. N. E. JERSEY 1,799,424

DRAG

Filed Aug. 29, 1928



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UNITED STATES PATENT OFFICE

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DRAG

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The present invention, relating, as indicated, to drags, has more particular reference to equipment of the type employed for levelling dirt and like surfaces, and its primary object is to provide a drag having, among other improved and advantageous features, a system of relatively adjustable blades or scrapers which are mounted in such a way as to adapt the apparatus to effectual use upon surfaces in a great variety of conditions.

More specifically, my invention contemplates providing a drag which is well suited to performing a particular surfacing operation, irrespective of whether such operation be essentially levelling, filling, or the removing of material. If the surface under consideration is only slightly and fairly uniformly rough, a simple reduction of elevations and filling of depressions may be sufficient to put such surface in the desired condition of smoothness, but if the particular area is traversed by small gullies or covered by débris, it then becomes necessary to fill such gullies or remove débris in order to obtain the desired regularity. As before intimated, the improved drag provided by this invention makes it possible to effect any of the above operations alone or in combination by appropriately positioning the adjustable blades or scrapers; these being preferably disposed in positions substantially transverse to the direction of travel when a simple levelling effect is wanted, or in positions of angularity when one of the objects is to fill holes or gullies or laterally remove surface material such as rocks, etc.

To the accomplishment of the foregoing and related ends, said invention, then, consists of the means hereinafter fully described and particularly pointed out in the claims; the annexed drawing and the following description setting forth in detail certain structure embodying the invention, such disclosed means, constituting, however, but one of various mechanical forms in which the principle of the invention may be used.

In said annexed drawing, the single figure is a plan view which shows an illustrative embodiment of my invention as comprising a generally rectangular framework constituted of the desirably structural shapes 1, 2, 3 and 4. At their corner intersections or junctions, these members are securely fastened together and braced by the angles 5 and plates 6, while between the end members 1 and 3 extend a plurality of cross pieces 7, 8 and 9. The cross pieces 7 and 9 are secured in place by angles 10 which rest upon some of the plates 6 and similar plates 11, and the central cross piece 8 is securely held in position by suitable plates 12.

On the central or middle cross piece 8 is mounted a boss 13 which is adapted to receive a suitable pin for pivotally connecting the hinge members 14, these members being attached to the radially extending blades or scrapers 15 and 16. The side frame members 2 and 4 have projecting portions 17 and 18 at one end and similar projecting portions 19 and 20 at their opposite ends. To each of the projections 17 and 18 is attached one end of the respectively adjacent supporting members 21 and 22, these members being arcuate in shape and having their other ends secured to pins or the like, passing through openings in the bosses 23 and 24. Intermediate their ends, the members 21 and 22 are provided with openings 25 which are adapted to register with openings in the scrapers 15 and 16, a bolt being employed for holding such scrapers in any selected position. Pivotally mounted on the same pins which retain the members 21 and 22 in the above described manner, are additional scraping blades 26 and 27 to which are connected the segmental members 28 and 29, these members being provided with holes 30 which may be brought into register with the holes 31 formed in the projections 19 and 20 whereby a bolt or the like, may be used for maintaining the blades 26 and 27 in any desired position. For some purposes the blades or scrapers may be provided with "shoes" 32, these being attached by bolts 33 or the like in the manner indicated and being readily replaceable by others of different shape or length.

In use, my improved drag is pulled over the surface being worked in any desired manner, one or the other of the frame members 1

and 3 (the former preferably) being attached to the source of power such as a tractor, and the scrapers being set according to the condition of the surface. If it is desired to simply level such surface without removing material, the scrapers may advantageously be set in parallel relation to the end members 1 and 3 but, if it is desired to laterally remove some of the surface material or direct such material into depressions in the path of the drag, the blades may be angularly disposed in the manner required to move the dirt or other material to the selected area. Levelling, filling and removing, or these in any combination can be effected simultaneously by appropriately setting the scrapers to predetermine their action.

From the above description, it will be apparent that this invention provides a drag which makes it possible to: work a particular surface in the desired manner, vary the width of the path affected, level a surface without removing appreciable material, direct removed material into some selected part of the path of the drag, or to remove the scrapings to either side of the path. It will also be apparent that its design permits of fabrication from standard steel shapes, that it can be cheaply constructed, that the scrapers can be re-shod or provided with differently shaped blades, and that, when used in the indicated manner, will produce results quickly and with a minimum of applied power.

Other modes of applying the principles of my invention may be employed instead of the one explained, change being made as regards the mechanism herein disclosed, provided the means stated by any of the following claims or the equivalent of such stated means be employed.

I therefore particularly point out and distinctly claim as my invention:

1. A drag comprising a substantially rectangular framework, a plurality of scrapers pivoted at a common point centrally of said framework, and a plurality of other scrapers pivoted near some of the corners of said framework, said scrapers being independently adjustable.

2. A drag comprising a frame; a plurality of scrapers adjustably pivoted at a point adjacent the center of said frame, arcuate supports for said scrapers; other scrapers adjustably pivoted at points near some of the corners of said frame, segmental supports for said last named scraper; and means for holding said first named scrapers in predetermined relation to said first named supports and said second named supports in predetermined relation to said frame.

3. A drag having in combination, a frame, a supporting member extending longitudinally of such frame, means attached to such supporting member intermediately of its ends for pivotally securing one end of a pair of blades, arcuate supporting members attached to the sides of said frame and extending laterally therefrom, and means for adjustably securing said blades to said arcuate members.

4. A drag having in combination, a frame comprising, in part, side and end elements, the side elements of which have ends projecting beyond such end elements; means attached to such side elements intermediately of their ends for pivotally supporting scraper blades; segmental rings attached to such blades; and means for adjustably securing such rings to said projecting ends of said side elements.

5. A drag having in combination, a substantially rectangular frame, comprising, in part, side and end elements, longitudinal supporting members attached at their ends to such end elements; means attached to one of such longitudinal members for pivotally supporting one end of a pair of scraper blades; arcuate supporting members attached to the sides of said frame and extending laterally therefrom; means for adjustably securing said blades to said arcuate members; means attached to said side elements for pivotally supporting other scraper blades; segmental rings attached to such blades; and means for adjustably securing such rings to the said side members.

Signed by me, this 21 day of August, 1928.

NEIL E. JERSEY.