

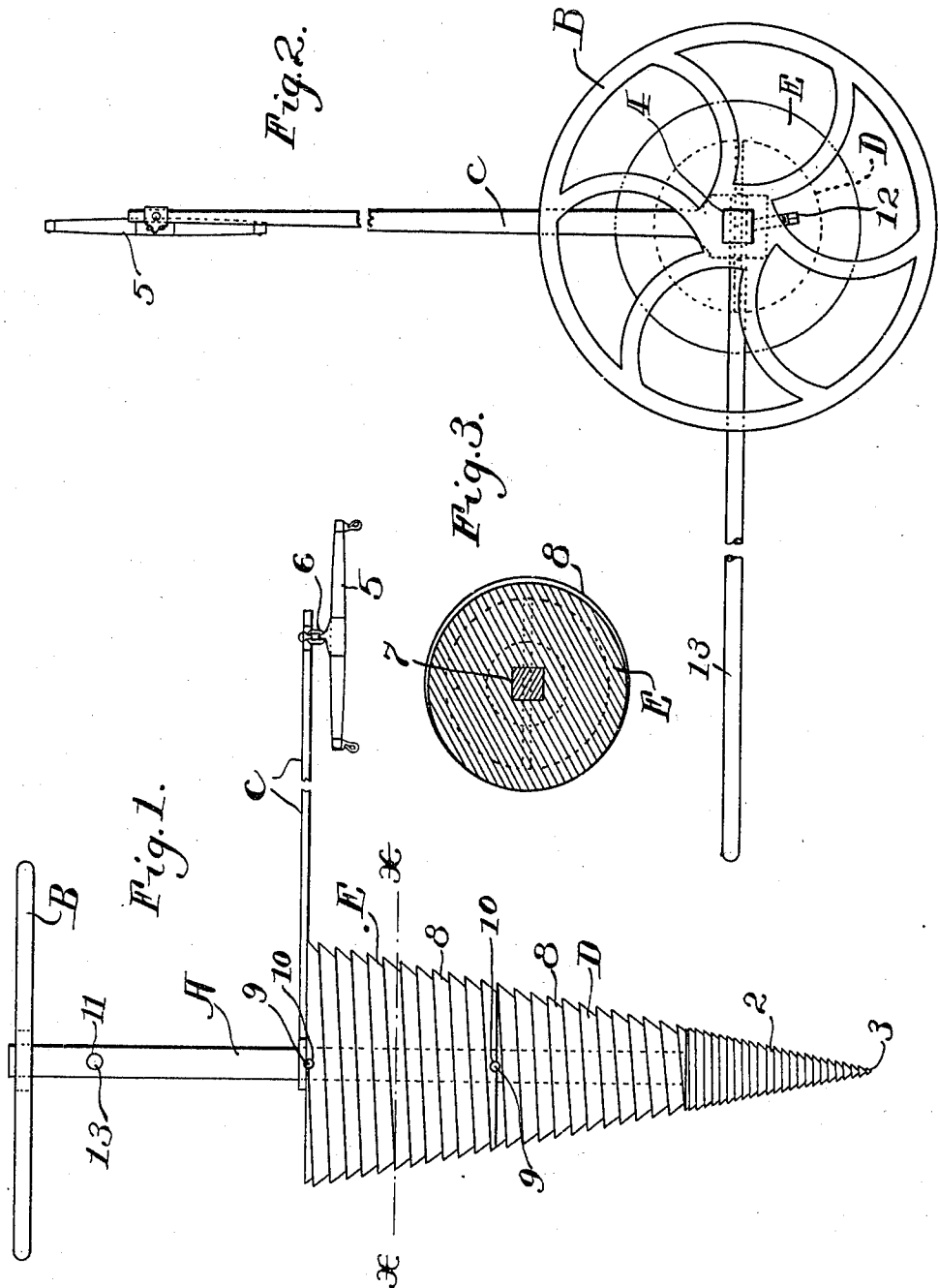
J. WEINBERG.

STUMP SPLITTER.

APPLICATION FILED SEPT. 22, 1909.

953,162.

Patented Mar. 29, 1910.



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UNITED STATES PATENT OFFICE.

JOSEPH WEINBERG, OF DULUTH, MINNESOTA.

STUMP-SPLITTER.

953,162.

Specification of Letters Patent. **Patented Mar. 29, 1910.**

Application filed September 22, 1909. Serial No. 518,991.

To all whom it may concern:

Be it known that I, JOSEPH WEINBERG, a citizen of the United States, residing at Duluth, in the county of St. Louis and State of Minnesota, have invented a new and useful Improvement in Stump-Splitters, of which the following is a specification.

My invention relates to an improved stump splitter and has among its objects a device of its kind which is simple in construction and effective in operation.

Prior to my invention it has been customary in removing the stumps of trees from the ground to split them by the use of a wedge or a blast of dynamite. The former use requires a large amount of labor and is seldom fully effective. When applied to large stumps it will not usually split them sufficiently to be of service. The latter use is dangerous and therefore not desirable.

The primary object of my invention is to overcome the above defects and to this end consists of a tapering screw which is adapted to be turned into the stump until the stump is split and the parts separated and loosened. Thus in this invention a simultaneous twisting and thrust movement of the splitting element occurs whereas in prior devices a single thrust or twisting movement is employed. By this combined action of two movements, my invention is capable of producing highly effective results on small or large stumps of any kind of trees and may be constructed with a fewer number of parts which are stronger and more durable than with prior devices. After the stump is split and spread into a number of parts by my invention, said parts can be easily excavated and removed.

In the accompanying drawings forming part of this specification Figure 1 is a side elevation of my invention; Fig. 2 is a plan view and Fig. 3 is a section of Fig. 1 taken on the line X—X.

In the drawings A represents a shaft which is preferably angular in cross-section although this construction is not essential within the spirit of my invention. As illustrated the outline of the cross-section of the shaft is square. At the lower end of and integral with the shaft is an outwardly tapering threaded cone 2 the apex 3 of which is adapted to be started and the body then screwed into the top of a stump to split and

spread the same. For the purpose of turning and steadying the shaft a hand wheel B may be employed, a square opening 4 being provided near its center into which the shaft is received. The shaft may also be turned by means of a lever C the inner end of which being fastened over the shaft like a wrench and the outer end provided with a whiffle-tree 5 secured thereto by the coupling 6. A horse may be hitched to the whiffle-tree to propel the shaft when desired and turn the screw into the stump. While I have illustrated two power elements for driving the shaft, yet it is obvious that any suitable actuating mechanism may be employed for accomplishing the results attained. When the stump is larger than the threaded cone on the end of the shaft is capable of splitting effectively, supplementary screw elements may be secured to the shaft to form substantially a larger size cone. These elements two of which are illustrated in the drawings, are frustums D and E of cones each of which having a central square opening 7 fitting over the shaft so that the latter may be employed to turn them. The sides of the frustums are threaded at 8 the pitch of the threads being coarser than the pitch of the threads on the cone 2. The frustums are held vertically in place upon the shaft by means of transverse pins 9 passing through said shaft and seated in openings 10 in the ends of the frustums. When the frustums are assembled on the shaft, the exterior surfaces resemble a single threaded cone from apex to base, the apex having threads finer than those at the base portion.

In use the apex of the cone on the shaft is started into the stump either downwardly into its center or as desired and its body screwed inwardly until the stump is split and the parts spread. When desired to assist in the twisting operation, a hand lever 13 may be inserted in the side of the shaft through the opening 11 which is provided for that purpose. A set screw 12 may also be employed to hold the hand wheel upon the shaft for convenience although this feature is not essential. It is obvious that the cone 2 may be employed alone as the splitting element and that as many threaded frustums may be added to increase the size of the cone, as are necessary to split a stump.

Should one of the frustums break it can be easily replaced by a new one. The threads being coarser near the base of the splitting element than near the apex a stronger engagement is produced with the stump.

In accordance with the patent statutes I have described the principles of operation of my invention together with apparatus which I now consider to represent the best embodiment thereof but I desire to have it understood that the construction shown is only illustrative and that the invention can be carried out by other means and applied to uses other than those above set forth within the scope of the following claims.

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

1. A stump splitter, comprising, a wedging element threaded to screw into a stump with its point in advance, and a twisting shaft applied to said wedging element by which the latter is adapted to be turned.
2. A stump splitter, comprising, a wedging element threaded to screw into a stump with its point in advance, a twisting shaft applied to said wedging element by which the latter is adapted to be turned and means for turning said shaft.
3. A stump splitter, comprising, a cone threaded to form a tapering screw to be started with its apex first and turned into the stump to be split, and means for steady- ing said cone in upright position while it is being turned.
4. A stump splitter, consisting of a shaft having a threaded cone upon one end adapt-

ed to be screwed into a stump with its apex in advance, for the purposes specified.

5. A splitting device, comprising, an element substantially in the form of a cone having threads on its outer surface to engage the material being split, and means for screwing said cone with its apex in advance into said material.

6. A splitting device, comprising, in combination, a shaft, a cone threaded from its apex toward its base integral with said shaft and a threaded frustum detachably mounted upon said shaft with its upper base adjacent to the base of said cone, for the purposes specified.

7. A splitting device, comprising, a shaft and a cone threaded from its apex to its base on said shaft, the apex of said cone being integral with the shaft and the portion below said apex consisting of frustums detachably mounted upon the shaft.

8. A stump splitter, consisting of a wedging element formed by a threaded cone, the threads near its apex being finer than those near its base, for the purposes specified.

9. A stump splitter, comprising, a wedging element threaded to screw into a stump with its point in advance, the threads near its point being finer than those near its opposite end.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

JOSEPH WEINBERG.

Witnesses:

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E. P. TOWNE.