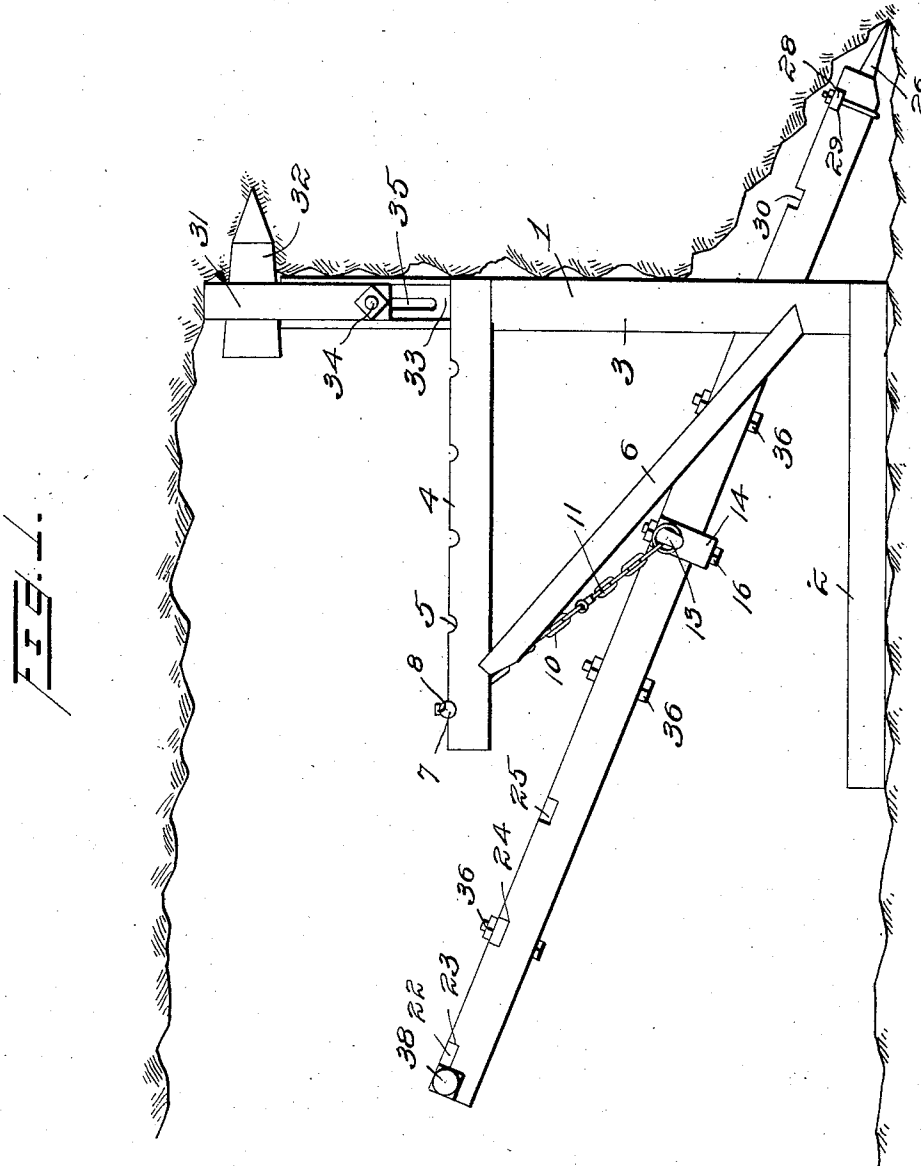


A. ROE.
 HAND MACHINE TO UNDERMINE COAL.
 APPLICATION FILED JUNE 18, 1912.

1,062,854.

Patented May 27, 1913.

3 SHEETS—SHEET 1.



WITNESSES

W. B. Duffie
R. A. Duffie

INVENTOR

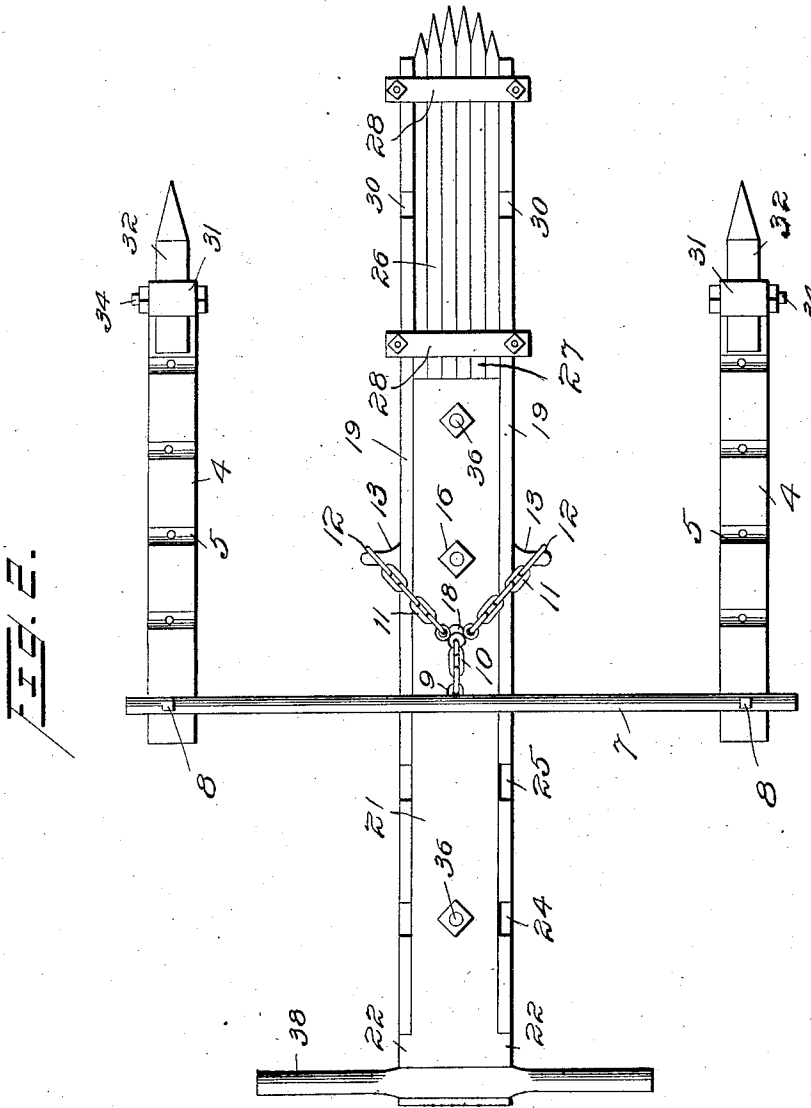
Albert Roe
By John D. Duffie
 Attorney

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WITNESSES

R. B. Duffie
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INVENTOR

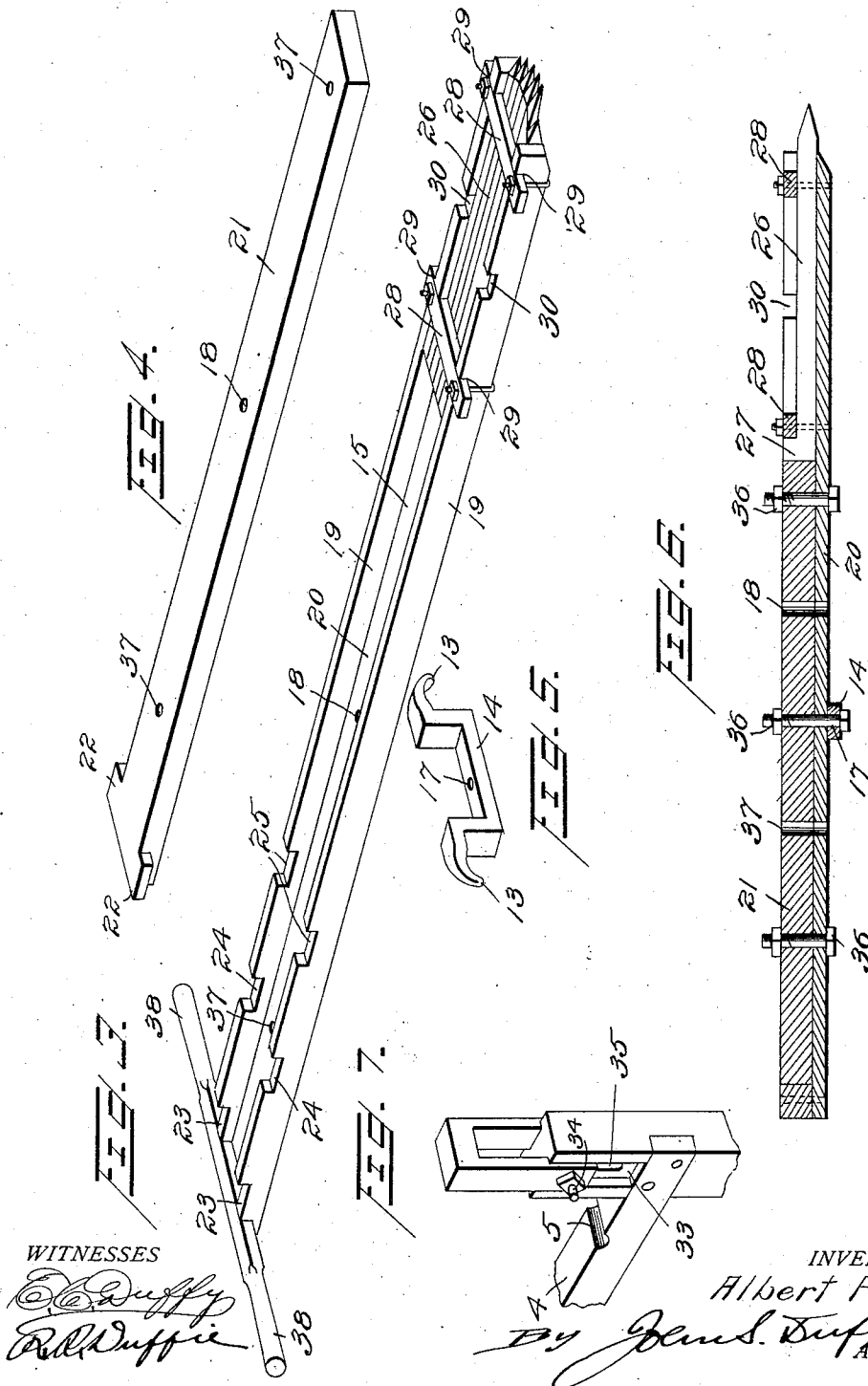
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WITNESSES

W. Duffie
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UNITED STATES PATENT OFFICE.

ALBERT ROE, OF BEAVER TOWNSHIP, NOBLE COUNTY, OHIO.

HAND-MACHINE TO UNDERMINE COAL.

1,062,854.

Specification of Letters Patent.

Patented May 27, 1913.

Application filed June 18, 1912. Serial No. 704,286.

To all whom it may concern:

Be it known that I, ALBERT ROE, a citizen of the United States, residing at Beaver township, in the county of Noble and State of Ohio, have invented certain new and useful Improvements in Hand-Machines to Undermine Coal, of which the following is a specification.

My invention has relation to new and useful improvements in undermining machines for use in coal mines and the main object of my invention is to provide a machine of this nature that is easily operated.

A further object of my invention is to overcome the splashing of the water so that it will not come in contact with the light carried.

A further object of my invention is to provide a device so that with its use a miner is not exposed to the water and dust of the mine and in addition he is not scarring his hands by beating them against the coal as is the case in the event that a pick is employed.

A further feature of my invention is that in driving into a passage that is narrow while only one man can work with a pick two machines can be employed in its stead.

A further object of my invention is to provide a machine of the nature above set forth that will be efficient in operation, comparatively cheap to manufacture and comparatively simple in construction.

With the foregoing and other objects in view, my invention consists of the novel features of construction, combination and arrangements of parts as are described in this specification, illustrated in the accompanying drawings forming a part thereof, and particularly pointed out in the appended claims.

Reference being had to the drawings: Figure 1, is a side elevational view of the device as it appears when in operation, Fig. 2, is a top plan view of the same, Fig. 3, is a perspective view of the rammer or digger employed, with a part of the same removed, Fig. 4, is a perspective view of the board or center piece employed, Fig. 5, is a detail of the support for the rammer, Fig. 6, is a longitudinal vertical sectional view of the rammer or digger, and Fig. 7, is a perspective view of the upper portion of the framework, illustrating the manner in which the same may be adjusted.

Referring more particularly to the drawings in which like numerals designate like parts throughout, my invention is described as follows:

The device primarily consists of a framework or support 1, which framework comprises two horizontal beams 2, resting upon the ground, a vertical beam 3, extending up from each of said horizontal beams 2, and a horizontal beam 4, extending outward from each vertical beam 3, said horizontal beams 4, being provided with corresponding notches 5, arranged in spaced relation in the upper edge thereof. Braces 6, are provided extending from each horizontal beam 4, to its respective vertical beam 3.

Extending from one beam 4, to the opposite beam 4, and resting in corresponding notches 5 is a rod 7, held against movement by means of pins 8, extending therethrough and into the beams. Extending from a ring 9, at the center of said rod is a chain 10, which chain has two separate extensions 11, said extensions provided with rings 12 at their outer ends, each of said rings engaging a projection 13 formed upon the ends of the support 14 of the rammer or digger 15. Said support is held to the rammer or digger 15 by means of nut and bolt connection 16, extending through a perforation 17 in the support and a perforation 18 in the rammer or digger.

The rammer or digger is provided with longitudinal side pieces 19, forming to or integral with the base 20 thereof. The board or center piece 21, is received by the recess formed by the base 20 and the side pieces 19, said center piece being provided with a head 22, the outer ends of which head are received by any of the corresponding notches 23, 24 and 25 provided in the longitudinal walls 19, of the digger. The spikes 26 which do the actual cutting are arranged beyond the forward end of the centerpiece 21, and are held against rearward movement by the latter. Said spikes are provided with heads 27 at their rear ends and are held against forward movement by means of the cross bars 28 received by corresponding notches 29 or corresponding notches 30. If the spikes wear off they are slid forward, the rear cross bar 28 being removed from the notches 29, and received by the notches 30, the center piece 21 also being slid forward the ends of the head

22 thereof engaging notches 24, or 25 as
the case may be. The spikes may be ar-
ranged as is desired for the purpose, that
is, the long spikes may be at the center or
5 at the ends as is desired.

The entire frame 1, is made of wood ex-
cept the sliding cap 31, which cap is for the
purpose of wedging to the wall according to
the variations in height of the coal. Taper-
ing spikes 32 are driven between the upper
10 end of the vertical posts 3 and their re-
spective caps, which action presses the cap
upward against the coal and drives the spike
horizontally into the vertical wall of coal
15 securing the device firmly in position. Said
caps slide in recesses 33 in the side walls
and their respective posts, and they are se-
cured to said posts by means of nut and
bolt connections 34 extending through
20 their lower ends and vertical slots 35 of
the posts 3.

It will be seen that the center piece 21 is
held in position to the rammer or digger
by means of a plurality of nut and bolt con-
25 nections 36 extending through registering
perforations 37 in the base 20 of the ram-
mer and of the centerpiece. At its rear end
the rammer or digger is provided a cross
handle 38, for the purpose of operating the
30 same. One man is sufficient to operate the
device by gripping said handle, but two
men may operate the device if desired.

Although I have specifically described the
novel features of construction, combination
35 and arrangement of the several parts of my
invention, yet I do not confine myself to
such novel features of construction, com-
bination and arrangement of parts but re-
serve and may exercise the right to make
40 such changes therein that do not depart

from the spirit of the invention or scope of
the appended claims.

Having described my invention what I
claim as new, is:

1. In a device of the kind described, a 45
rammer said rammer consisting of a base
and longitudinal side portions, a center-
piece received by the recess formed by the
base and side portions, spikes received by
that portion of the recess near the forward 50
end of the rammer, said spikes having a
head, a plurality of notches cut in the longi-
tudinal walls of the rammer, and said center
piece provided with a cross head, the spikes
55 held against rearward movement by abut-
ting against the center piece and held
against forward movement by means of a
cross piece engaging notches in the longi-
tudinal side pieces of the rammer and the
60 heads of the spikes, said center piece held
against movement by engaging correspond-
ing notches in the side walls of the rammer,
substantially as shown and described.

2. In a device of the kind described com- 65
prising a frame, said frame comprising ver-
tical uprights, sliding caps fitting over the
upper ends of the uprights and sliding in
recesses therein, slots in each upright, nut
and bolt connections, entering through the
70 lower ends of the caps and said slots, taper-
ing spikes or wedges extending through the
space between the upper ends of the up-
rights and said caps, substantially as shown
and described.

In testimony whereof I affix signature in 75
presence of two witnesses.

ALBERT ROE.

Witnesses:

MARY E. STARR,
ROSS S. ROE.