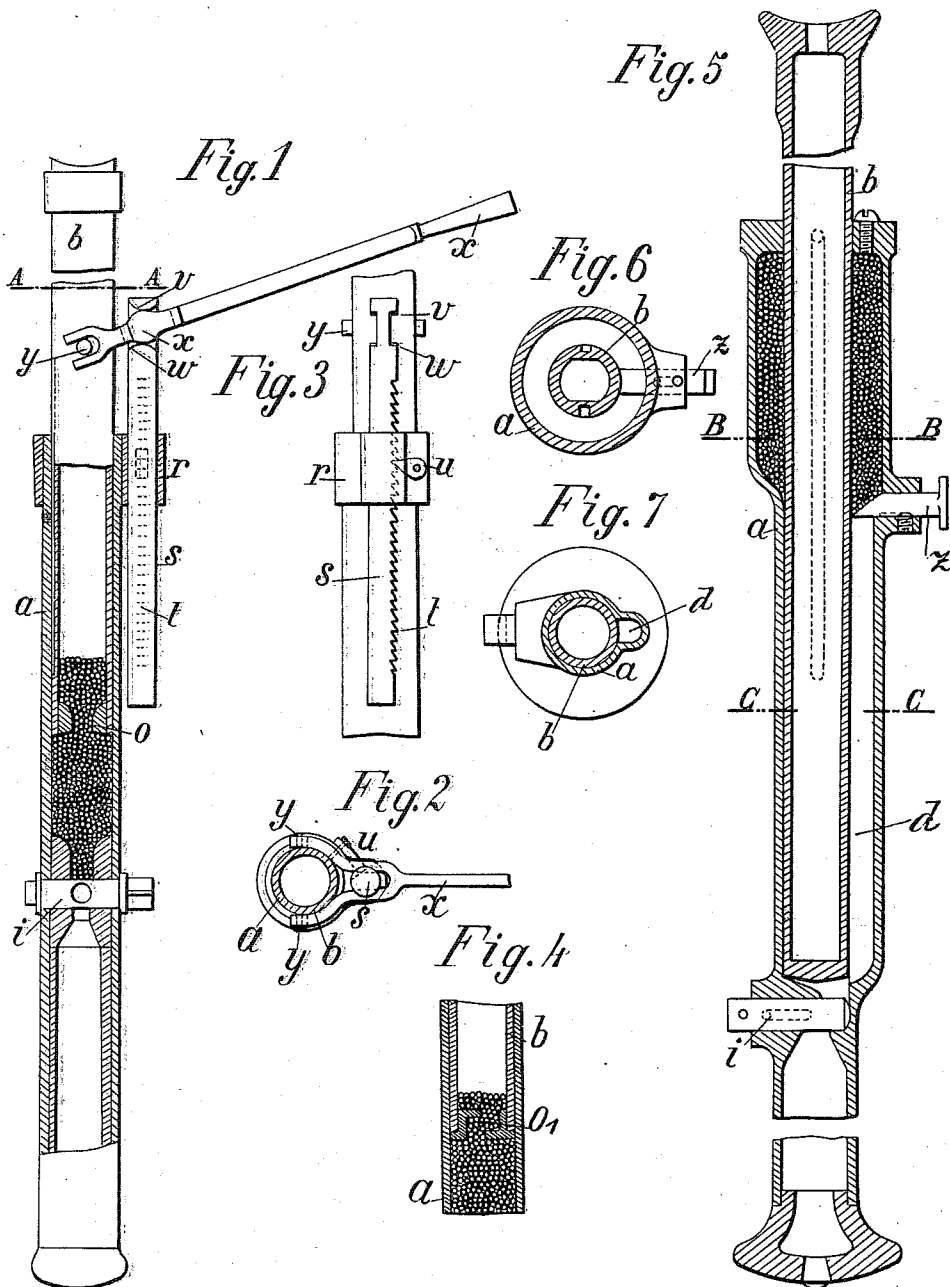


J. MOUNIER.
PROP.

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UNITED STATES PATENT OFFICE.

JOSEPH MOUNIER, OF ST. ETIENNE, LOIRE, FRANCE.

PROP.

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To all whom it may concern:

Be it known that I, JOSEPH MOUNIER, of 68 Rue Michelet, St. Etienne, Loire, France, engineer, have invented a new and useful
5 Improvement in Props, which improvement is fully set forth in the following specification.

This invention has for its object a metal post which is capable of resisting considerable pressure and is constructed in such a manner that it can be transported in light parts which can be easily put together on the spot at which it is to be used. Furthermore it can be easily adjusted to the height desired and as easily removed, whatever may be the pressure it supports.

Figure 1 shows a sectional elevation taken through the center of a post; Fig. 2 is a transverse-sectional view on line A—A of Fig. 1; Fig. 3 is a view at a right angle to Fig. 1 of parts of the lifting device of the upper part of the post; Fig. 4 is a longitudinal section of a modification of the channel for the shot; Fig. 5 is a longitudinal
20 section of a modification in the construction of the post; Fig. 6 is a transverse section through the line B—B of Fig. 5; and Fig. 7 is a transverse section through the line C—C of Fig. 5.

The post, as shown in Figs. 1 and 2, consists of two metal tubes *a* and *b*, sliding one within the other. The outer member or tube *a* is provided in its base with a cavity *a'* and with a valve or cock *i* controlling a
35 channel *a''* leading to said cavity from the interspace *a'''* beneath the lower end of the inner member or tube *b*. The tube *b* is provided in its upper portion with an interior chamber *b'* adapted to contain a resistance mass *m* composed of mobile units such as cast iron shot or steel balls, and in its lower end with a channel *o* which is formed so as to allow the shot or balls to pass freely by gravity from the chamber in the tube *b*,
40 under this tube into the interspace *a'''* comprised between said tube and the cock *i* but not to pass in the reverse direction against gravity. The inner tube, *b*, is supported by the balls or shot and the height of the prop will be determined, of course, by admitting a greater or less quantity of the shot under the lower end of the said inner tube which will rest on the shot as shown in Fig. 1. The shot is caused to pass under the lower
55 end of the inner tube by merely lifting the

tube, whereupon it will flow by gravity to the space below the tube. When the post is to be removed, the cock *i* is turned so as to permit the balls or shot to flow to the lower end of the outer tube. The inner tube will be thereby caused to descend within the outer tube thus shortening the post to a convenient length for transportation. The lengthening of the post may be effected by means of the lever *x* pivotally mounted on the upper part of the bar *s* between the shoulders *v w*. The bar *s* preferably slides in a collar or sleeve *r*, and is provided with a rack *t* engaging with a pawl *u* arranged on said collar or sleeve *r*. When the outer or free end of the lever *x* is swung upward, the inner forked end of the same rocks on the pins *y* on the tube *b* as a fulcrum so that the rack *s* is raised and it will be held in its raised position by the pawl *u*. Consequently, on the down stroke of the lever the rack *s* will constitute the fulcrum and the tube *b* will be lifted.

Instead of forming the channel *o* as in Fig. 1, it may be formed as in *o'*, Fig. 4.

A modification of the post is shown in Figs. 5 to 7. The balls in this form of the invention are not contained in the tube *b* but are disposed in an enlargement of the upper part of the tube *a*. A channel *d* is provided in the wall of said tube communicating with the chamber below the end of the tube *b*. A sliding cock *z* is arranged across the channel and has a beveled end so as to allow the balls to fall easily but not to pass when the cock is pushed in. The cock *i* in this instance is also slidably arranged.

The forms of construction illustrated in the drawings are only intended to give an idea in what manner my invention may be realized, but I do not limit myself to these forms.

Having thus fully described my invention, what I claim is:—

1. A mine prop comprising a lower tubular member, an inclosed granular charge, an upper tubular member telescoped by the lower member, and a brace in the upper member adapted to be sunk into the granular charge, the area of pressure bearing surface of said brace being adapted to increase proportionately to the sinking of the upper member into the lower member.

2. A mine prop comprising a lower tubular member, an inclosed granular charge,

an upper tubular member telescoped by the lower member, and a series of superposed braces within the upper member adapted to successively enter the charge.

3. A mine prop comprising a lower tubular member, an inclosed granular charge, an upper telescoped tubular member adapted to be sustained by said charge, a hollow foot supporting the lower member, and means for establishing communication between the lower member and said foot.

4. A mine prop comprising a lower tubular member having lower outlet openings, a granular charge within said member, an upper telescoped tubular member adapted to be sustained by said charge, a hollow foot supporting the lower member and having inlet openings, and a valve adapted to establish communication between the outlet openings and the inlet openings.

5. A post comprising two relatively movable members separated by an interspace, one of the members containing a chamber above the interspace and connected therewith by an open channel, and a resistance mass composed of hard mobile units within the chamber, whereby as the members are separated the resistance mass will flow by gravity to the interspace and hold the members apart.

6. A post comprising two relatively movable members separated by an interspace, one of the members containing a chamber above the interspace and connected therewith by a channel, a resistance mass composed of hard mobile units within the chamber, whereby as the members are separated the resistance mass will flow by gravity to the interspace and hold the members apart, and an open valved outlet channel extending downward from the interspace.

7. A post comprising a pair of telescoping members separated by an interspace beneath the lower end of the inner member, one of the members containing a chamber above the interspace and connected therewith by an open channel, and a resistance mass composed of hard mobile units within the chamber, whereby as the inner member is lifted the resistance mass will flow by gravity to the interspace and support the inner member, and a valved outlet channel extending downwardly from the interspace

whereby the interspace may be freed of the resistance mass to lower the inner member. 55

8. A post comprising a pair of telescoping members separated by an interspace below the lower end of the inner member, the inner member chambered out internally and having a constricted open channel leading through its lower end to the interspace, and a resistance mass composed of hard mobile units within the chamber in the inner member. 60

9. A post comprising a pair of telescoping members separated by an interspace below the lower end of the inner member, the inner member chambered out internally and having a restricted open channel leading through its lower end to the interspace, and the outer member provided with a valved channel leading downward from the interspace, and a resistance mass composed of hard mobile units within the chamber in the inner member. 65 70 75

10. A post comprising a pair of telescoping members separated by an interspace below the lower end of the inner member, the inner member chambered out internally and having a constricted open channel leading through its lower end to the interspace, a resistance mass composed of hard mobile units within the chamber in the inner member, and means to lift the inner member relative to the outer member. 80 85 90 95

11. A post comprising a pair of telescoping members separated by an interspace below the lower end of the inner member, the inner member chambered out internally and having a restricted open channel leading through its lower end to the interspace, a resistance mass composed of hard mobile units within the chamber in the inner member, in combination with a rack slidably mounted on the outer member, a pawl on the said member engaging the rack, and a lever pivotally mounted on the rack and pivotally engaging the inner member. 95

In testimony whereof I have signed this specification in the presence of two subscribing witnesses. 100

JH. MOUNIER.

Witnesses:

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