(No Model.)

M. J. MAGUIRE.

BLASTING SHIELD.

No. 547,172. Patented Oct. 1, 1895.

Fig: 1.

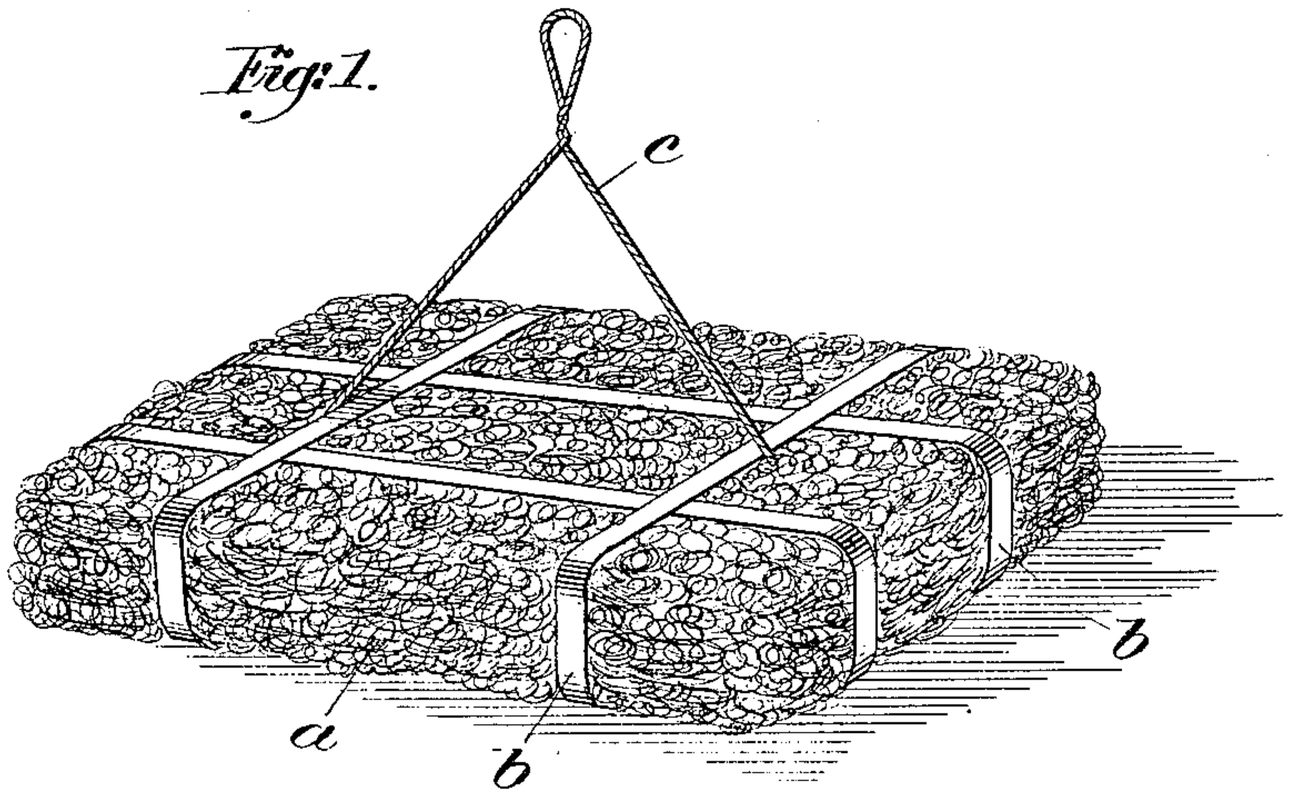


Fig: 2.

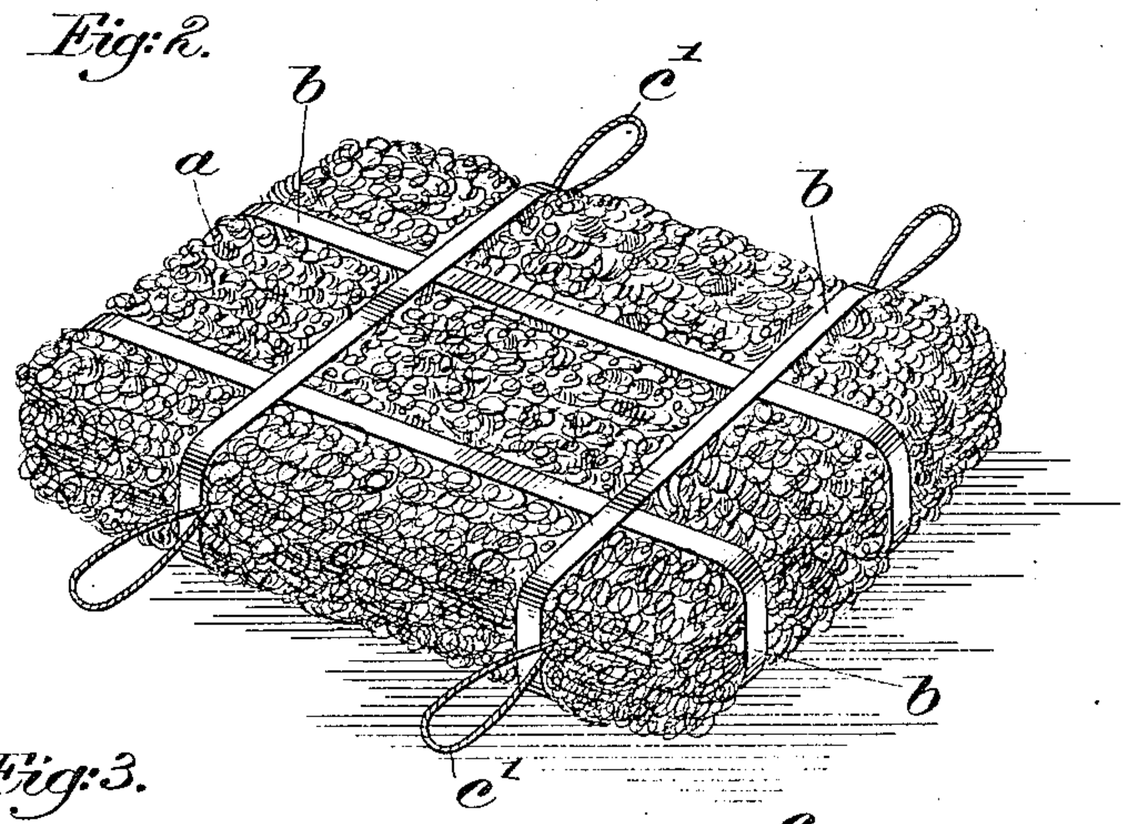
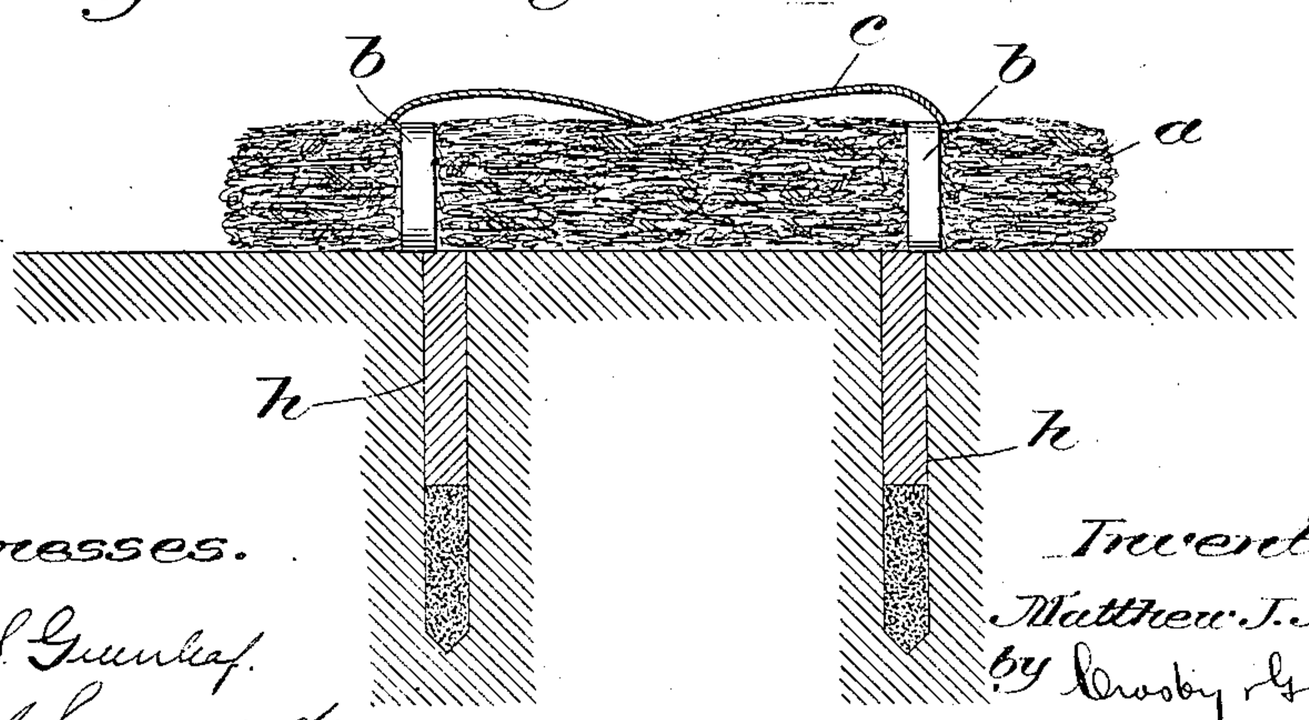


Fig: 3.



Witnesses.

Fred S. Gunnison.

Thomas J. Drummond.

Inventor:

Matthew J. Maguire.

by Crosby Gregory & Perley's.

UNITED STATES PATENT OFFICE.

MATTHEW J. MAGUIRE, OF BOSTON, MASSACHUSETTS.

BLASTING-SHIELD.

SPECIFICATION forming part of Letters Patent No. 547,172, dated October 1, 1895.

Application filed June 10, 1895. Serial No. 552,211. (No model.)

To all whom it may concern:

Be it known that I, MATTHEW J. MAGUIRE, of Boston, county of Suffolk, State of Massachusetts, have invented an Improvement in Blast Confiners or Shields, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

In blasting rock and other refractory material it is usual to pile heavy logs, sometimes chained together, over the mouths of the holes after the latter are charged in order to prevent the force of the explosion from scattering bits of rock and débris about. This is cumbersome and inconvenient, and frequently the force of the blast will separate the protecting material and scatter bits of rock around, with great danger to persons or property in the vicinity, and if the charge blows out the wood is generally splintered and often set on fire.

This invention has for its object the production of a blast confiner or shield of compact yet elastic nature, which may be readily transported from one place to another, as needed, and which will effectively protect surrounding objects from flying débris.

Figure 1 is a perspective view of a blast confiner or shield embodying my invention. Fig. 2 is a similar view of a modified form of confiner to be described; and Fig. 3, in elevation and section, represents my invention in position ready for use.

In constructing my improved confiner or shield I take a quantity of scrap wire, the more interlaced and twisted or tangled the better, and compress it by suitable power in a mold or die into preferably a substantially rectangular mat, as at *a*, Fig. 1. For use in quarries or where a large amount of blasting is being done the thickness of the compressed mass or mat may be about eighteen inches and about six feet wide by eight feet long and weighing in the neighborhood of two thousand pounds, the amount of compression determining the density of the mat.

To maintain the shape of the compressed mat of wire I preferably place retaining-bands *b* of strap-iron about it, which will prevent distortion to any great extent when in use.

For convenience in transporting from place to place I partially embed in the mass of wire a loop *c* of wire cable or chain prior to compression, and the hook of a tackle may be inserted in the loop to move the confiner from one place to another by derricks or other suitable means.

When smaller confiners or shields are employed, I prefer to incorporate in the mass of wire short lifting loops or handles *c'*, of wire cable, as shown in Fig. 2, projecting from the sides of the mat, by which the confiner can be lifted by the workmen and carried about.

After a hole has been charged and tamped, or a series of holes, as shown at *h* in Fig. 3, the confiner or shield is laid upon the ground, covering the mouth of the hole or holes, and the blast fired. The weight of the confiner is amply sufficient to prevent any scattering of rocks, &c., as it will be lifted from the ground but a few inches by the force of the blast, and the elasticity inherent in the interlaced and compressed mass of wire prevents its distortion or breakage.

Owing to the porous nature, as it were, of the confiner the gases can readily escape, and in event of a charge blowing out the products of combustion pass readily therethrough.

I thus obtain a cheap, compact, and efficient confiner or shield, ready for instant use at all times, easily transportable and very tenacious and elastic in its nature, and consequently possessing great durability.

The confiner may be of any convenient shape and size, according to the nature of the work being done, and it is particularly useful in blasting trenches, as one or more of the confiners can be lowered into the trench right over the charges and after the blast can be lifted out of the way with no loss of time.

I claim—

1. A blast confiner or shield, consisting of a mat of interlaced and compressed wire, and metallic retaining bands therefor, substantially as described.

2. A blast confiner or shield, consisting of a mat of interlaced and compressed wire, metallic retaining bands therefor, and a lifting loop partially embedded in the compressed mass, substantially as described.

3. A blast confiner or shield, consisting of a mat of interlaced and compressed wire, and

one or more lifting loops partially embedded in the compressed mass, substantially as described.

4. An elastic blast confiner or shield, consisting of a mat of interlaced and compressed wire, and a lifting loop secured thereto, substantially as described.

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

MATTHEW J. MAGUIRE.

Witnesses:

JOHN C. EDWARDS,

AUGUSTA E. DEAN.