

(12) United States Patent **Dallas**

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(45) Date of Patent: *Sep. 18, 2001

| (54) | BLOWOUT PREVENTER PROTECTOR AND | | | |
|------|---------------------------------|--|--|--|
| | SETTING TOOL | | | |

Inventor: L. Murray Dallas, 790 River Oaks Dr.,

Fairview, TX (US) 75069

(*) Notice: Subject to any disclaimer, the term of this

patent is extended or adjusted under 35

U.S.C. 154(b) by 0 days.

This patent is subject to a terminal dis-

claimer.

| | (21) | Appl. | No.: | 09/338,752 |
|--|------|-------|------|------------|
|--|------|-------|------|------------|

| (22) |) Filed: | Jun. | 23. | 1999 |
|------|----------|------|-----|------|
| | | | | |

| (51) | Int. Cl. ⁷ | E21B 33/068 |
|------|-----------------------|------------------------------|
| (52) | U.S. Cl. | 166/386; 166/77.51; 166/85.4 |

Field of Search 166/379, 380, (58)

 $166/386,\,382,\,77.1,\,88.1,\,97.1,\,77.4,\,85.4,$

(56)References Cited

U.S. PATENT DOCUMENTS

| 4,241,786 | 12/1980 | Bullen | 166/77 |
|-----------|---------|--------------|--------|
| 4,632,183 | 12/1986 | McLeod | 166/77 |
| 4,867,243 | 9/1989 | Garner et al | 66/379 |

| 5,332,044 | * | 7/1994 | Dallas et al 166/386 |
|-----------|---|---------|----------------------|
| 5,372,202 | * | 12/1994 | Dallas 166/386 |
| 5,785,121 | | 7/1998 | Dallas 166/90.1 |
| 5,819,851 | | 10/1998 | Dallas 166/308 |
| 5,927,403 | | 7/1999 | Dallas 166/77.51 |
| 6,009,941 | | 1/2000 | Haynes 166/72 |
| 6,019,175 | | 2/2000 | Haynes 166/382 |
| 6,220,363 | * | 4/2001 | Dallas 166/382 |

^{*} cited by examiner

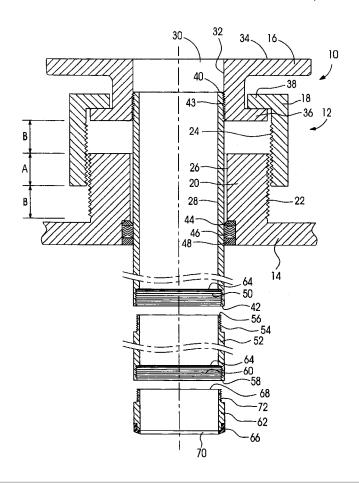
Primary Examiner—William Neuder

(74) Attorney, Agent, or Firm-Nelson Mullins Riley & Scarborough, LLP

(57)**ABSTRACT**

A blowout preventer (BOP) protector featuring a low profile and a mechanical lockdown mechanism is described. The BOP protector includes a mandrel having an annular sealing body bonded to its bottom end for sealing engagement with a bit guide which protects a top of a casing of a well to be stimulated with acidifying or fracturing fluids. The mandrel is locked down with a mechanical lockdown mechanism having a broad range of adjustment. The advantages include a low profile, the security of a mechanical lockdown mechanism, and full access to the casing with downhole tools.

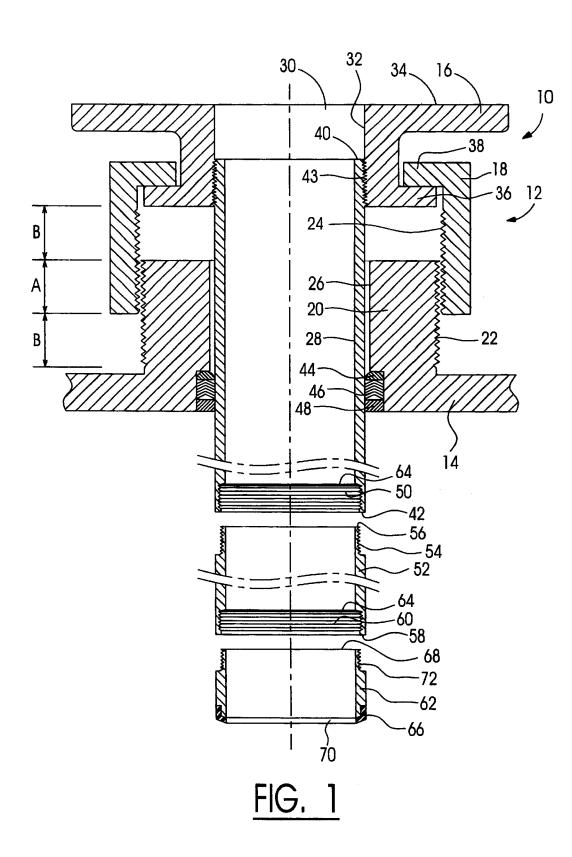
32 Claims, 4 Drawing Sheets





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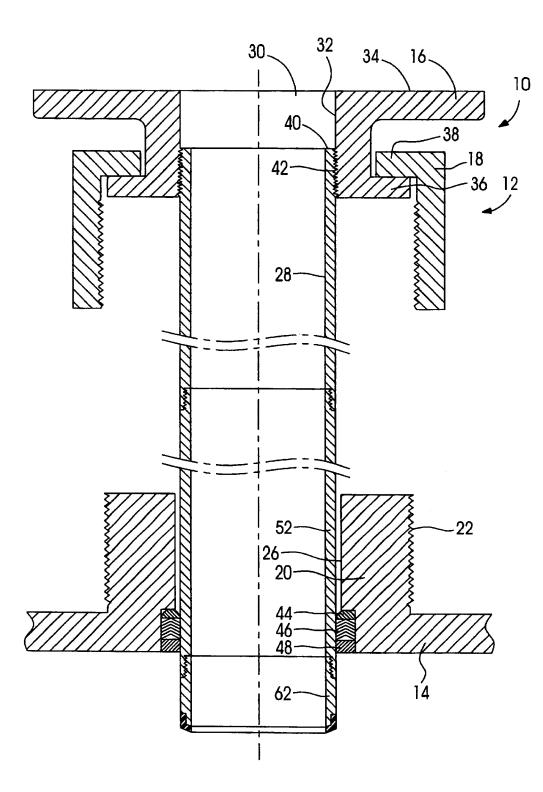
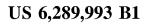
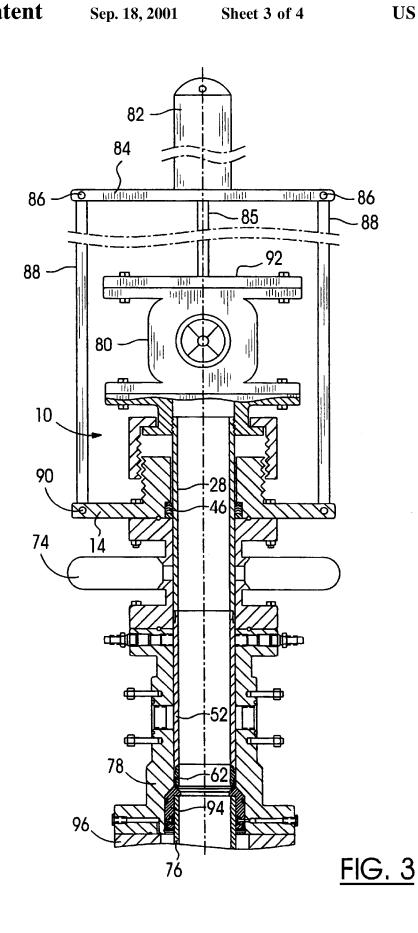
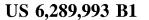


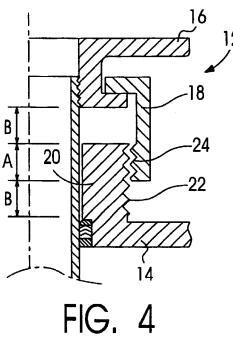
FIG. 2











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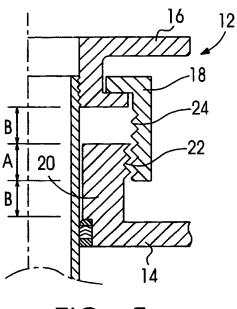
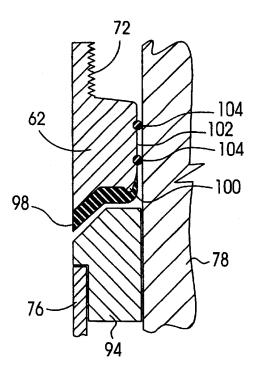


FIG. 5



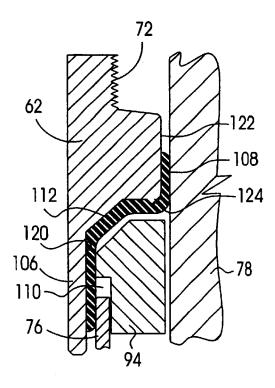


FIG. 6

FIG. 7

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